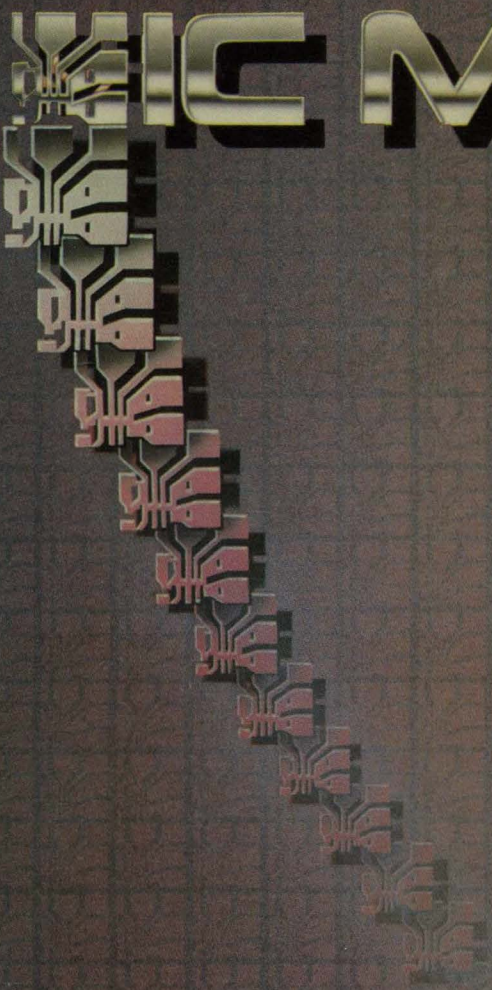


1989

IC MASTER



1 Integrated Circuit
Selection Guides,
Indexes & Directories

IC MASTER

Volume 1

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HOW TO USE THE IC MASTER

The 1989 edition of the IC MASTER is arranged in three volumes. Each volume serves a specific purpose to help you find the integrated circuit or related product you need. The table of contents on page 1 describes what is in each volume. The table also includes the starting page number for each advertiser.

The IC MASTER is a functional work. You know what you need. The MASTER helps you find it.

Here are typical problems.

Q. What kinds of functions does the MASTER cover?

A. Turn to page 10 in **Volume One**. Here is a complete list of the devices covered. The page and line numbers refer you to the beginning of the Section in which a particular function appears.

Q. Who makes a 16384 x 1 static RAM with an access time of 70 ns or faster? What are my technology choices?

A. Pick up Volume 1. Turn to the MEMORY section. The first page of the section tells you where the listings of your device begins. See this under:

RAMS
Bubble
Dynamic
Static

Turn to the first page of static RAMs. In the first column you see the **Organization**. Browse through the pages until you reach the **16384 x 1** listings. Now look through the listings until you find the access time and characteristics you need. Device numbers are shown by manufacturer. The device numbers of advertisers in the 1989 IC MASTER appear in **bold face**. The page number following the device number is where additional information may be found in **Volume Two**. At the extreme right you will see line numbers. These are the specific lines where a device appears.

Q. Which microprocessors are listed in the MASTER? How do I find the microprocessor I need?

A. All commercially available microprocessors are listed in the MASTER. Start with the **microprocessor** listing in the **Master Selection Guide Index** (starts on page 10). Here you will find the various kinds of products you will need listed according to function and bit size. Turn to the various pages shown and then to the advertiser's page where more detail may be available.

Q. Who makes a Dual, Low Offset Voltage Op Amp?

A. This is a **LINEAR** device. Turn to the LINEAR section in Volume One. The first page of the section shows the starting page for each type of device. Turn to the page where **Dual Units** appear. Look down the list for the device you need. Advertisers' devices are listed in **bold face**. Turn to the page in Volume Two where more information may be available.

Q. I need an IC with Music capability. Which Master Selection Guide should I use?

A. Turn to the **Master Selection Guide Index** starting on page 10. Look through the list until you find **Music**. The page numbers for each kind of device are shown.

Q. I plan to use a digital gate array or some other semicustom ASIC in my next project. Where do I find it in the MASTER? Who makes these things?

A. Turn to Volume Three. Turn to the first page of **ASICs/Custom**. Find Gate Arrays and all of the other devices listed here. Now you can find the device you need. After you find the type of device you need, turn to the proper page and find the manufacturer. Advertisers' pages follow the selection guides in Volume three.

Q. I know the digital IC I need is available. Is it available in a surface mount package?

A. There are two ways to solve this problem. If you know the manufacturer's device number, turn to the Part Number Index in Volume One. Find the basic number and the page number and line where that device is listed in the MASTER. Turn to that page. If the device is available for surface mounting, an open diamond symbol will appear. You can also turn directly to the DIGITAL section and turn to the function of the device you want. The symbol will indicate an SMD is available.

Q. I am looking for an application note on a specific device. Where can I find out if one is currently available?

A. Pick up Volume One. Turn to the Application Note Directory. Here you will find app notes arranged by **function**. Find the function involved and turn to the page where the app note is listed.

IC MASTER

Q. We need a device that meets MIL standards. Where do I look in the MASTER?

A. Turn to the MILITARY Section in Volume One. The Military Device Testing table shows which manufacturers do what kinds of MIL work. Followed by the MIL-STD-1562R directories for microcircuits which contains six tables relating to various standards of classification. The next list is a QPL listing based on the latest Defense Electronics Supply Center (DESC) Qualified Product Listing. Additional Information is often supplied by the advertisers' pages in Volume Two.

Q. I know the basic part number is 2502 and that's all I know. Where do I look?

A. That's easy in the MASTER. Turn to the Part Number Index. All prefixes and suffixes have been stripped away. Turn to the page where 2502 appears. All manufacturers with that kind of number appear in order along with the page and line number where the device is described.

Q. How many manufacturers claim to make a pin-for-pin function-for-function equivalent to a Motorola MC68000?

A. Turn to the Alternate Source Directory in the back of Volume One. Turn to Motorola. Those manufacturers who claim to be equivalent are listed in order. If you have an MS-DOS computer with a hard drive, you can get the 1989 IC MASTER **Alternate Source Directory** on a disk. The disk is Clipper compiled from dBase III + and is delivered compressed by PKARC. This is the complete list of alternate sources and allows you to add notes such as your own part numbers, prices, sources and the like. Call Hearst (516) 227-1300 and ask for Book Sales for further information.

Q. I looked in the Alternate Source Directory. The part I want an alternate source for isn't listed. Why not?

A. Are you sure you looked through the entire listing for the original manufacturer? Some devices may be listed in odd ways depending on how the MASTER's editors receive the information. Then there is the probability that no other manufacturer makes an exact replacement for your part. It is important for you to understand how the Alternate Source Directory is compiled. Manufacturers supply the information that **their** part is an exact replacement for **another** part. The original manufacturer does **not** tell us his part can be replaced by those listed.

Q. I need an 8/16-bit microcomputer board with an 8 MHz clock frequency and a Multibus support system. Can I find this in the MASTER?

A. Yes! Pick up Volume Three. Turn to the MICRO-COMPUTER BOARD Section. Continue to turn pages until the 8/16 appears in the first column. Then look at all of the available boards to find the board you can use.

 The logo for IC MASTER features a stylized graphic of an integrated circuit (IC) on the left, with the letters 'IC' in a bold, blocky font. To the right of the graphic, the word 'MASTER' is written in a large, bold, sans-serif font.

Q. I have a Valid Logic's "Summary" workstation. Which front end tools are compatible? Can I get one with circuit simulation? What capabilities does it have? Who makes it?

A. Pick up Volume Three. Turn to the Design Automation Section. Check the first page. You will see what is available in the Section. Under Design Tools you will find Front End Tools and Circuit Simulators. Read down for your parameters and across for the vendor.

Q. What do the manufacturers' part numbers mean? I have a Signetics N8X02N. What do all the letters and numbers mean?

A. Look in Volume One for the Part Number Guide. Turn to the Signetics portion. Now you know the **N** prefix means, zero to plus seventy degrees Centigrade. The **N** suffix indicates the package style. The numbers and letters in the middle are the device type. Each manufacturer has a different code system. Understanding the system is a great help in comparing devices.

Q. I found the device I want in the MASTER. What are the pinouts? Where can I get more details? Where can I get a price? What is the delivery time?

A. You have just defined exactly what the IC MASTER does. The MASTER is a guide to tell you which devices are available on a commercial basis. After you know this, the next step is to contact the manufacturer, a local sales office or a distributor.

Q. Where can I find the addresses and telephone numbers of manufacturers, local sales offices and distributors?

A. Pick up Volume Two. Turn to the Manufacturers and Distributors Directory. Read the first page. The information on this page will help you understand why the information in the Directory is so important. It will save you time and aggravation.

Q. I just saw a new device advertised in Electronic Products magazine. It isn't listed in the MASTER. Why not? When will it be listed?

A. Preparing the information for the annual IC MASTER is a tremendous undertaking. It requires the cooperation of every single manufacturer. All of the material must be organized, cross referenced and placed in the data base. This data base must be closed off in November in order to meet the publishing date of late January. That is why some devices are not listed. They came on the market too late for the deadline. There are two updates to the annual MASTER. They are called the **IC MASTER UPDATE**. One is issued in the late Spring and the other in early Fall. Be sure to sign up for copies when you get your new IC MASTER. If you are not sure whether or not you have requested the updates, please write to the Circulation Department at the address shown on page 2 of this MASTER. Be sure to indicate which edition of the MASTER you are using.

ABBREVIATIONS OF COMPANY NAMES

AB Assoc
ABB HAF0
Abionics
ACASI

Actel
AD
Adams-Russell
Adv Analog
AdvControl
AdvDigital
AdvLinear
AdvMicroSys
AI Architects
AjidaTech
Alcyon
Aldec
AllenSys
Alloy
AlpsAmerica
Altera
AMA
AMCC

AMD
AmerMicro
Amperex
Ampro
Ametelco
Anadigics
AnalDesTools
Analogic
AnalogSys
Analogy
Anasco
Antona
Apex
ApplSys
AppMicroSys
Aptek
Aptos
ArrayTech
Aspen
Astro
AT&T
ATD
Atec
Atlanta
Atmel
Augat
AutoDesk
AutoSys

B&C Micro
Barvon
Basicon
Bedford
Berne
BICC-VERO
BinaryTech
Bipolar

A.B. Associates, Inc.
ABB HAF0 Inc.
Abionics Inc.
American Computer Automated Systems, Inc.
Actel Corporation
Analog Devices
Adams-Russell Electronics Co., Inc.
Advanced Analog
Advanced Control Systems
Advanced Digital Corporation
Advanced Linear Devices
ADVANCED MICRO SYSTEMS, INC.
A. I. Architects, Inc.
Ajida Technologies, Inc.
Alcyon Corporation
Aldec - Automated Logic Design Co.
Allen Systems
Alloy Computer Products
Alps America
Altera Corporation
American Automation
AMCC (Applied Micro Circuits Corporation)
Advanced Micro Devices, Inc.
American Micronics, Inc.
Amperex Electronic Company
Ampro Computers, Inc.
Ametelco
Anadigics
Analog Design Tools, Inc.
Analogic Corporation
Analog Systems
Analogy Inc.
Anasco Corp.
Antona Corporation
Apex Microtechnology Corporation
Applied Systems Corporation
Applied Microsystems Corporation
Aptek Microsystems
Aptos Systems
Array Technology
Aspen Semiconductor Corp.
Astrosystems, Inc.
AT&T Technologies, Dept. LT
Advanced Transducer Devices, Inc.
Atec, Inc.
Atlanta Signal Processors, Inc.
Atmel Corporation
Augat Inc.
AutoDesk
Automated Systems Inc.

Bishop
Bit3 Comp
Brainpower
Brooktree
Buckminster
Bummer
Burr-Brown

CAD Group
Cadam
Cadence
Cadmic
Cadisys
Cadnetix
Cadre
CAECO
Calay
CalDevices
Calmos
Calos
Can-Tron
CaseTech
Catalyst
CentData
Cermetek
CharlesRiver
Cherry Semi
Chips&Tech
Chrislin
Ciprico
Cirrus
Clearpoint
CMC Intl

CMD ASIC
CMD Micro
Codar
Comark
Comlinear
Commodore
Compact
Compass
CompDyn
CompModules
Computrol
CompVision
ConnMicro
Contemporary
Context
ControlData
Controlex
Conway
CreMicro
Crystal
CTI
Cubit
CustomArrays
Cyberchron
Cybernetic
Cypress

Bishop Inc.
Bit 3 Computer Corporation
BrainPower, Inc.
Brooktree Corporation
Buckminster Corp.
Bummer Electronics
Burr-Brown Corporation

CAD Group Inc.
CADAM Inc.
Cadence Design Systems, Inc.
Cadic, Inc.
Cadisys Corp.
Cadnetix Corporation
Cadre Technologies, Inc.
Caeco
Calay Systems, Inc.
California Devices Inc.
Calmos Semiconductor Inc.
Calos, Inc.
Can-Tron
Case Technology
Catalyst Research
Central Data Corporation
Cermetek Microelectronics, Inc.
Charles River Data Systems
Cherry Semiconductor Corporation
Chips and Technologies, Incorporated
Chrislin Industries, Inc.
Ciprico Inc.
Cirrus Logic, Inc.
Clearpoint, Inc.
Communication Machinery Corporation (CMC)
California Micro Devices Corporation
California Micro Devices Corporation
Codar Technology, Inc.
Comark Corporation
Comlinear Corporation
Commodore Semiconductor Group
Compact Software
Compass Development, Inc.
Computer Dynamics Sales
Computer Modules Inc.
Computrol Inc.
Computervision
Connecticut MicroComputer, Inc.
Contemporary Control Systems, Inc.
Context Corp.
Control Data
Controlex Corporation
Conway Engineering, Inc.
Creative Micro Systems
Crystal Semiconductor Corp.
Circuit Technology Inc.
Cubit Inc.
Custom Arrays Corp.
Cyberchron Corporation
Cybernetic Micro Systems
Cypress Semiconductor Corp.

Daisy
Dallas
Dasoft
dataCon
Datacube
DataGen
Data/O
DataLinear
Dataram
DataTrans
Datel
Datricon
Davidge
Den/Pas
Dense-Pac
Descartes
DesignComp
Devtek
Dexter
Digital RF
Digitronics
Dionics
DistComp
DKL
Douglas
DSB Systems
DSP-Systems
Dual

ECI Semi
EDA Systems
EDI
EdsunLabs
EES
EESof
EG G-Reticon
Elantec
ElecConServ
ElecDesign
Electrologic
Elxsi
Enterprise
EPIC
Ericsson
ESP
Essex
Exar
Excelan
EXEL

Faraday
Ferranti
Force
Ford
Fujitsu
Fujitsu A
FutureNet

Daisy Systems
Dallas Semiconductor
Dasoft Designs Systems, Inc.
Datacon
Datacube Inc.
Data General
Data I/O FutureNet
DataLinear
Dataram Corp.
Data Translation, Inc.
Datel, Inc.
Datricon Corporation
Davidge Corporation
Densan/Pascot
Dense-Pac Microsystems, Inc.
Descartes Automation Systems, Inc.
Design Computation
Devtek Systems
Dexter Research Center, Inc.
Digital RF Solutions Corp.
Digitronics Sixnet
Dionics Inc.
Distributed Computer Systems
DKL Technology, Inc.
Douglas Electronics
DSB Systems
DSP Systems Corporation
Dual Systems Corporation

ECI Semiconductor
EDA Systems
Electronic Designs Inc.
Edsun Laboratories, Inc.
Electrical Engineering Software, Inc.
EESof Inc.
EG&G Reticon Corporation
Elantec, Inc.
Electronics Consulting Service
Electro Design, Inc.
Electrologic, Inc.
Elxsi
Enterprise Systems Corp.
EPIC Design Technology, Inc.
Ericsson Components
Electronic Software Products
Essex
Exar Corporation
Excelan, Inc.
EXEL Microelectronics, Inc.

GainElec	Gain Electronics Corp.	InrVision	Innervision Computers	Micro-Link	Micro-Link Corp.
Gail	Gail Motion Control	IntCirSys	Integrated Circuit Systems, Inc.	Micro-Rel	Micro-Rel
Gateway	Gateway Design Automation Corp.	Intel	Intel Corporation	MicroAide	Micro-Aide Corporation
Gazelle	Gazelle Microcircuits, Inc.	Interactive	Interactive Circuits and Systems, Ltd.	Microbar	Microbar Systems Inc.
GE/Intersil	GE/Intersil, Inc.	Intercept	Intercept Microelectronics	Microchip	Microchip Technology, Inc.
GE/RCA	GE/RCA	InterconMicro	Intercontinental Microsystems	MicroCompSys	Microcomputer Systems Inc.
GenMicro	General Micro Systems Inc.	Interdesign	Ferranti Interdesign, Inc.	Microcosm	Microcosm Inc.
Gennum	Gennum Corporation	Intergraph	Intergraph	MicroDesigns	Microdesigns, Inc.
Genoa	Genoa Systems Corp.	Interphase	Interphase Corp.	MicroElec	Micro Electronic Technologies, Inc.
GenRad	GenRad Inc.	IntMeasSys	Integrated Measurement Systems	Microlnds	Micro Industries Corp.
GENROCO	GENROCO	Intronics	Intronics, Inc.	MicrolNet	Micro Linear
Gerber	Gerber Scientific Instrument	Intusoft	Intusoft	MicroNet	Micro Networks Company
GigaBit	GigaBit Logic	Inventive	Inventive Systems, Inc.	Micronix	Micronix Integrated Systems Inc.
Golden	Golden Electronics Inc.	Io Inc	Io Incorporated	MicronTech	Micron Technology
GoldStar	GoldStar Semiconductor Ltd.	IPS	Integrated Power Semiconductors, Ltd.	Micropac	Micropac Industries, Inc.
Gordos	Gordos Arkansas	Ironics	Ironics Inc.	MicroPwr	Micro Power Systems, Inc.
Gould/AMI	Gould/AMI	Isocom	Isocom Inc.	Microssim	MicroSim Corporation
GTSys	GT Systems, Ltd.	ITT	ITT Semiconductors	MicroSys	MICRO/SYS
GW-Three	GW Three Inc.	IXYS	IXYS Corporation	Microvoice	Microvoice Corp.
				Mikros	Mikros Systems Corp.
Harris	Harris Semiconductor	Kern	Kern Systems	Miler	Miller Technology Inc.
Harris/SciCal	Harris/Scientific Calculations	Konan	Konan Corporation	Mimic	Mimic, Inc.
HEI	HEI Corporation	Kontron	Kontron Electronics, Inc.	Minc	MINC Incorporated
Hercules	Hercules Computer Technology	Krueger	Krueger Company	MiniCompTech	Mini Computer Technology
Heurikon	Heurikon Corporation	KSystems	K-Systems of Texas, Inc.	Minntronics	Minntronics Corporation
HHB-Sys	HHB Systems			Mitchell	Mitchell Electronics
HiLevel	Hilevel Technology, Inc.	Lambda	Lambda Semiconductors	Mitel	Mitel Semiconductor
Hitachi	Hitachi America, Ltd.	Lansdale	Lansdale Semiconductor	Mitsubishi	Mitsubishi Electronics America, Inc.
HiTech	HiTech Equipment Corp.	Laserpath	Laserpath Corp.	MMI	Monolithic Memories, Inc.
Holt	Holt, Integrated Circuits, Inc.	Latlice	Latlice Semiconductor Corp.	Modula	Modula Corp.
Honeywell	Honeywell	LinearTech	Linear Technology Corporation	MonSys	Monolithic Systems Corporation
Honeywell SPT	Signal Processing Technologies	LitMach	Little Machines Inc.	Morrow Tech	Morrow Technologies Corp.
HP	Hewlett-Packard-Logic Systems Division	LMS	LMS Electronics	Mosaid	Mosaid Inc.
Hughes	Hughes Aircraft Co.	Logic Model	Logic Modeling Systems Inc.	Motorola	Motorola Semiconductor Products
HybridSys	Hybrid Systems Corporation	LogicalDes	Logical Design Group Inc.	MTC	Mesa Technology Corp.
HyComp	Hy Comp Inc.	LogicAuto	Logic Automation Incorporated	Multewire	Multewire
Hytek	Hytek Microsystems, Inc.	LogicDev	Logic Devices Inc.	Mylex	Mylex Corporation
Hyundai	Hyundai Electronics America	Logicraft	Logicraft		
		Lomas	Lomas Data Products, Inc.	National	National Semiconductor Corporation
IBC	IBC	LPKF-Pacific	LPKF Pacific	National Inst	National Instruments
IBM	IBM	LSI Comp	LSI Computer Systems, Inc.	NCAI	North Coast Automation Inc.
IC Designs	IC Designs	LSI Logic	LSI Logic Corporation	NCM	NCM Corporation
IC Editors	IC Editors, Inc.	LSTI	Logical Solutions Technology Inc.	NCR	NCR Corporation
IC Options	IC Options, Inc.	LupiData	Lupi Data, Inc.	NCUBE	NCUBE
IC Technology	Integrated Circuit Technology			NEC	NEC Electronics Inc.
ICDC	Integrated Circuit Design Centre (PTY) Ltd.	M2M	M2M Robotics	NMB	NMB Semiconductor Corporation
ICI	Integrated Circuits Inc.	Magnum	Magnum Opus	Northern	Northern Precision Labs
ICT	International CMOS Technology	Marconi	Marconi Electronic Devices Inc.	Novix	Novix Inc.
ICT Comp	ICT Computer Drafting Systems, Inc.	Marinco	Marinco Computer Products	NthGraphics	Nth Graphics
IDT	Integrated Device Technology, Inc.	Massteck	Massteck Ltd.	NTI Group	The NTI Group
IIC	Industrial Information Controls	Matra	Matra Design Systems		
Ikon	IKON Corp.	Matra-Harris	Matra-Harris Semiconductors	Octagon	Octagon Systems Corporation
Ikos	IKOS Systems, Inc.	Matrix	Matrix Corporation	Octal	Octal
ILC-DDC	ILC Data Device Corp.	Maxim	Maxim Integrated Products	OEI	Optical Electronics Inc.
ILSI	Integrated Logic Systems Inc.	MCE	MCE Semiconductor	OKI	OKI Semiconductor, Inc.
Imaging	Imaging Technology Inc.	Mentor	Mentor Graphics Corporation	Omaton	Omaton, Inc.
IMI	International Microcircuits, Inc.	MetaSoft	Meta-Software, Inc.	Omnibyte	Omnibyte Corporation
IMP	International Microelectronic Products	Metatek	Metatek, Inc.	Onset	Onset Computer Corporation
IndComp	Industrial Computer Designs	MetraByte	Metra Byte Corporation	Optek	Optek Technology, Inc.
IndTech	IndeTech, Inc.	Micom Int	Micom-Interlan, Inc.	OrCad	OrCad
Info Research	Information Research Associates	MiconSys	Micon Systems Co.	Orion	Orion Instruments
Inmos	Inmos	Micra	Micra Corporation	OwlComp	Owl Computers Inc.
InnovRes	Innovative Research, Inc.	Micrel	Micrel	Oxford	Oxford Computer
Inova	Inova Microelectronics Corp.				

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Quadtree Qualcomm Qualogy Quantic	Quadtree Qualcomm Incorporated Qualogy Corp. Quantic Laboratories, Inc.	STC STI Sunshine Supertex Synergy Sys Datar SysCalc Syscon Systech Systek	STC Semiconductors (Previously Stantel-STC) Stanford Telecommunications Inc. Sunshine Semiconductor Inc. Supertex, Inc. Synergy Microsystems Inc. Systems Datar Systems Calculations, Inc. Syscon Corporation Systech Corporation Systek	Valid Validyne VAMP Vantage VDA VersaLogic Vesta ViewLogic Visionics VisionsUnlim Vitelc Vitesse VLSI Tech VME Microsys VMI Votrax VTC Vutek	Valid Logic Systems Validyne Engineering VAMP Vantage Analysis Systems, Inc. VLSI Design Associates VersaLogic Corp. Vesta Technology, Inc. Viewlogic Systems Inc. Visionics Corp. Visions Un-Limited Vitelc Vitesse Semiconductor Corp. VLSI Technology Inc. (VLSI) VME Microsystems Int'l Corp. VLSI Microsystems, Inc. Votrax VTC Inc. Vutek Systems, Inc.
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S-MOS Samsung Sanyo Saratoga SATCOM SBE Schlumberger SeattleSi SEDCO SEEQ Semicon Sensoray SerialLab Sertek SGS-Thomson SharedRes Sharp	S-MOS Systems, Inc. Samsung Semiconductor, Inc. Sanyo Semiconductor Corporation Saratoga Semiconductor SATCOM Technologies Corp. SBE, Inc. Schlumberger Seattle Silicon Corporation Standard Engineering Data Company SEEQ Technology, Incorporated Semicon, Inc. Sensoray Corporation Serial Lab Products, Inc. Sertek, Inc. SGS-THOMSON Microelectronics, Inc. Shared Resources Inc. Sharp Electronics Corporation	TLIndustries TLSi	TL Industries, Inc. TLSi, Inc.	XCAT Xecom Xicor Xilinx Xycom Xylogics	XCAT, Inc. Xecom Incorporated Xicor, Inc. Xilinx Corp. Xycom Xylogics, Inc.
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MASTER SELECTION GUIDE INDEX

(Guide to Product Categories)

When you know the desired function and need specific devices that perform this function, use this Index first. It is organized by functions and by key words. It leads to the beginning of the section containing not only the specified topic but also related devices. The Master Selection Guides that follow in volumes One and Three provide sufficient information to help you make an initial product selection, or to lead you to a group of device numbers and their manufacturers. They enable you to find the products most likely to satisfy your needs for a particular application.

All devices that appear in a selection guide are included in the **Part Number Index**. If you know the part number for a device, by referring to the Part Number Index, you can see the page and line number for data on that device. If the manufacturer of the device has included a data sheet in IC MASTER, the location of this data sheet is also shown in **boldface** type.

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The Index is arranged in alphanumeric sequence, ignoring the manufacturers' prefixes and suffixes and using the basic part numbers.

The numbers are sequenced by reading the digits from left to right, assuming that letters come before numbers. (As an example, these numbers would appear in the following order: 5301, 531, 54LS01, 54139, 555.)

After each base number, manufacturers' names and full part numbers are listed. This arrangement allows you to find a device whether or not you know the name of the manufacturer or the manufacturer's prefixes. The page references in **BOLD FACE** lead to manufacturers' data pages in Volumes Two and Three.

This is an Index of all parts with identical basic part numbers, regardless of their function. **It is not an Alternate Source Directory.**

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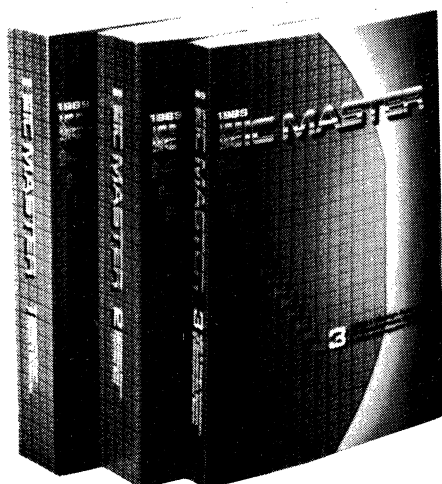
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PART NUMBER GUIDE

Each IC manufacturer has his own special method of identifying products, usually through a system of logos, device number prefixes and suffixes. This Part Number Guide is arranged alphabetically by manufacturer and describes each company's part number system. JAN nomenclature is also covered.

Manufacturer Device Identification	Part Number		Example
	Prefix	Suffix	
ADVANCED ANALOG  Advanced Analog a division of Intech		Temperature Range J 0°C to 70°C K 0°C to 70°C S -55°C to 125°C T -55°C to 125°C	Prefix Device Suffix DAC 390 XD/B Temperature Range ——— Military Screening ———

ADVANCED LINEAR DEVICES, INC.	ALD	Package P PDIP C Side-Brazed Ceramic Z Dice in Waffle Pack D Cerdip L Leadless Chip Carrier S Small Outline M TO Metal Can Number of Pins A 8 H 28 B 14 I 36 C 16 J 40 D 18 K 44 E 20 L 48 F 22 M 64 G 24 N 68	Prefix Device Suffix ALD 555 P A Type _____ Package _____ Number of Pins _____
	ADVANCED LINEAR DEVICES, INC.		

Manufacturer Device Identification	Part Number		Example
	Prefix	Suffix	
ADVANCED MICRO DEVICES  Note: Alternate source devices follow original manufacturer's part number and marking system.	Functional Group 21 MOS Memory 25 MSI 26 Computer Interface 27 Bipolar Memory & EPROM 28 MOS Memory 29 Bipolar Microprocessor 57/74 Same as 25 60 Analog, bipolar 61 Analog, bipolar 66 Analog, bipolar 79 Telecommunications 80 MOS Microprocessor 81 MOS and Bipolar Peripherals 82 MOS and Bipolar Peripherals 90 MOS 91 MOS RAM 92 MOS 93 Bipolar Logic, Memory 94 MOS 95 MOS Peripherals 1004 ECL Memory 104 ECL Memory PAL Program Logic 98 EEPROM 99 CMOS Memory Type L Low Power S Schottky LS Low Power Schottky (Blank) Standard	Package D Hermetic DIP P Molded F Flat X Dice L Leadless chip-carrier Temperature Range C Commercial M Military	Prefix Device Suffix AM25 S 05 D M Functional Group ——— Type ——— Device Number ——— Package ——— Temperature Range ———

ANALOG DEVICES  ANALOG DEVICES	AD Analog Devices HA Hybrid A/D HD Hybrid D/A	General Information A Second Generation DI Dielectrically Isolated Z Operation on $\pm 12V$ Temperature Range A,B,C Industrial J,K,L,M Commercial S,T,U Military Package D Hermetically Sealed DIP, ceramic or metal	Monolithic and Hybrid ICs <table><tr><th>Prefix</th><th>Device</th><th>Suffix</th></tr><tr><td>AD</td><td>7516</td><td>AJN</td></tr></table> General Information ——— Temperature ——— Package ———	Prefix	Device	Suffix	AD	7516	AJN
	Prefix	Device	Suffix						
AD	7516	AJN							

IC MASTER

Manufacturer Device Identification	Part Number Prefix	Suffix	Example
ANALOG DEVICES (continued)		E Leadless chip carrier F Ceramic Flatpack G Pin grid array H Metal can, hermetically sealed M Metal can DIP, hermetically sealed—computer labs N Plastic DIP P Plastic leaded chip carrier Q Cerdip CHIPS Monolithic chip	Video Hybrid Products Prefix Device Suffix HAS 1015 EMB ECL _____ Package _____ MIL Screening _____

ANALOG SYSTEMS



M Analog Systems Monolithic Product
Family
A Operational Amplifier
D Power Driver
K Comparator
Z Current Booster

Package
D Ceramic DIP
H Metal Can
P Plastic DIP
T Power Package with Heat Sink Tab
Temperature Range
C Commercial 0°C to 70°C
I Industrial -25°C to 85°C
M Military -55°C to 125°C

Prefix	Device	Suffix
MA	332	C P
Temperature Range		
Package		

AT&T



BIPOLAR INTEGRATED TECHNOLOGY



B Interface Family
2 TTL
3 ECL 10KH
Product Type
0 Integer
1 Floating Point
2 Storage

Package/Screening
Blank Standard Heatsink Attached
S No Heatsink Attached
B Standard Heatsink Attached with Burn-in
E No Heatsink Attached with Burn-in

Prefix	Device	Suffix
B X X	XXX	X
Interface Family		
Product Type		
Package/Screening		

BROOKTREE



Family
100-199 D/A Converters
200-299 A/D Converters
400-449 Peripherals
450-499 RAMDACs
600-699 ATE

Package
C Ceramic DIP
P Plastic DIP
L Leadless chip carrier
G Pin grid array
F Flat package
PJ PLCC
CJ Cerguad
Temperature Range and Grade
J High grade
K Middle grade 0°C to 70°C
L Low grade
A High grade
B Middle grade -25°C to +85°C
C Low grade
R High grade
S Middle grade -55°C to +125°C
T Low grade

Prefix	Device	Suffix
Bt	100	K C XXX
Family		
Temperature Range and Grade		
Package		
Speed/Grade		

BURR-BROWN



General Information
A Improved Performance
L Latched
Z ±12V supply
HT Wide Temp Range
Temperature
J,K,L 0°C to +70°C
A,B,C -25°C to +85°C
R,S,T,V -55°C to +125°C

Package
M Metal Can, Hermetic
L Leadless Chip carrier
P Molded Plastic
H Ceramic, Hermetic
G General Ceramic
Screening
Q Enhanced Reliability
IQM MIL-STD 883 Screening Methods

Prefix	Device	Suffix
ADC	803	XXXX
General Information		
Temperature Range		
Package		
Screening		

PART NUMBER GUIDE

Manufacturer Device Identification	Part Number		Example		
	Prefix	Suffix	Prefix	Device	Suffix
BURR-BROWN (continued)	Temperature Range H,J,K,L 0°C to 70°C A,B,C -25°C to +85°C R,S,T,V -55°C to +125°C	Package M Metal Can, Hermetic P Plastic G Ceramic U Small Outline Screening Q Enhanced Reliability IQM MIL-STD-883 Screening Methods	OPA	111	XXX
			Temperature Range		
			Package		
(Military Products Division)	Temperature Range V -55°C to +125°C U -25°C to +85°C W -55°C to +125°C (None)	Package M Metal L Chip Carrier HiRel Designation Mil 883/B (None)	Amplifiers/Multipliers ADC's/VFC's: Prefix Device Suffix		
			OPA	105	XM /XXX
			Temperature Range		
	Temperature Range V -55°C to +125°C U -25°C to +85°C (None)	HiRel Designation Mil 883/B (None)	DAC's: Prefix Device Suffix		
	Input Coding CBI COB		DAC	87	X-XXX-X/XXX
	Output V Voltage I Current		Range °C		
CALIFORNIA MICRO DEVICES MICROCIRCUITS DIVISION	Description C Special G Standard	Temperature Range None 0°C to +70°C I -40°C to +85°C	Prefix	Device	Suffix
	Package P Plastic C Ceramic D Cerdip E Leaded Chip Carrier L Leadless Chip Carrier		G	65SCXXX	APL12
			Description		
CALMOS SEMICONDUCTOR INC. 	CS Calmos	Temperature C Commercial (0°C to 70°C) I Industrial (-40°C to 85°C) E Extended Temp (-55°C to 125°C) M Military (-55°C to 125°C) (Screened to MIL STD 883 Equivalent)	CMOS Products Prefix Device Suffix		
			CA	80C85B	XXX
			Speed		
		Package D Ceramic (side brazed) J Cerdip L Leadless Chip Carrier (Ceramic) M Slim Outline (Plastic) N Plastic Leaded Chip Carrier (PLCC) P Plastic DIP	Bipolar Products Prefix Device Suffix		
			CA	2854	L 24
			Package		
CHERRY SEMICONDUCTOR 	CS Cherry Semiconductor	Package O Loose Component D Dual-In-Line P "Pill," Small Round Package T TO-Can 4 4 Leads 8 8 Leads	Prefix	Device	Suffix
	D Diode Flip Chip N NPN Flip Chip P PNP Flip Chip	Circuit Style B National Dual Source S Signetics Dual Source	CS	122	0D8
			CS	555	B
			D	823	
			Package/Circuit		

IC MASTER

Manufacturer Device Identification	Prefix	Part Number	Suffix	Example
CIRCUIT TECHNOLOGY				
	CT	3078	A	
	Company ID			
			Modification (if used)	

CYBERNETIC MICRO SYSTEMS



(CMS may be used instead of logo)

CY Chip
CYP IC programmer
CYB Development board
CYS Interface software

no suffix NMOS, Commercial
C CMOS/ML Military 883B

Prefix	Device	Suffix
CY	600	C ML
IC		
Data Acquisition		
CMOS		
Military		

CYPRESS SEMICONDUCTOR



Processing
B Hi Rel
Temperature Range
C Commercial (0-70°C)
M Military (-55 to +125°C)
Package
P Plastic
D Cerdip
G Pin Grid Array
L LCC
J PLCC
S SOIC
F Flatpack
K Cerpack
W Windowed Cerdip
Q Windowed LCC
T Windowed Cerpack
V SOJ

Prefix	Device	Suffix
CY	7C 128	-45DMB
Speed Selection		
Package		
Temperature		
Processing		

DALLAS SEMICONDUCTOR

DS



Package
Q Quad
S SOIC
K Application Kit
Voltage Range
AB 5V ±5%
AD 5V ±10%
Y 5V ±10%
Temperature Range
Blank 0°C to 70°C
IND -40°C to 85°C
N -40°C to 85°C

Prefix	Device	Suffix
DS	1225	AB-150
Voltage Range		
Access Time (ns)		
DS	5000	32- 12
Memory Size (kBytes)		
Performance (MHz)		
DS	1231	- 20
Hysteresis (mV)		
DS	1000	-500
Total Delay (ns)		
DS	1260	-250
Capacity (x10 mAHr)		

DATEL



Family
ADC A/D Converters
ADS Sampling A/D Converters
AM Amplifiers
DAC D/A Converters
DAS Data Acquisition System
FLJ, FLT Filters
MV, MX Multiplexer
SHM Sample-Hold
VF Voltage to Freq. Converters
VR Voltage Reference
VI Voltage Inverter

Package — Monolithic
1 14 Pin DIP
2 TO-99
Seal — Hybrid
G Epoxy
M Hermetic
Temperature
C 0°C to 70°C
M -55°C to 125°C
R -25°C to +85°C

Prefix	Device	Suffix
AM	490	2 A
Package		
Selection		
DAC	HZ12B	G C
Seal		
Temperature		

PART NUMBER GUIDE

Manufacturer Device Identification	Part Number		Example
	Prefix	Suffix	
DENSE-PAC MICROSYSTEMS, INC.	DP Type S SRAM D DRAM E EEPROM V NOVRAM O VIDEORAM P Dual Ported RAM Z Flash EEPROM F FIFO	Package G LCC * Vendor Specification V Versapac P Plastic Module Temperature/Screening C 0°C to 70°C I -40°C to 85°C plus Burn-In M -55°C to 125°C B -55°C to 125°C MIL Processed to Methods 5004/5	Prefix Device Suffix DP S 92256 G-85M Type Family Speed Temperature/Screening Semicustom-Versapac Prefix Device Suffix M0 M1 M2 M3 DP 0 0 0 4 1 7 1 V-M LCC Code Speed Code Temperature/Screening Versapac

Dense-Pac Microsystems, Inc.

EG & G RETICON

Type A Area L Linear O Circular C Evaluation Board Family D Delay Lines M Modem Filter F Switched Capacitor Filter U Universal Active Filter T Transversal Filter C Board Level Product	P Plastic C Cerdip B Sidebrazed L Leadless Hermetic S PLCC D Dice W Wafer E Epoxy	Analog Devices Prefix Device Suffix R M 5604 A N P-011 Reticon (always R) Family Version Analog, usually N Package Variations
--	--	--



Image Sensors Prefix Device Suffix R L 1234 C D E-567 Reticon Type Number of Elements Series, e.g., A,C,H Aperture Width Window Configuration Specific, e.g., standard, selected, etc.
--

ELANTEC

élantec
HIGH PERFORMANCE ANALOG INTEGRATED CIRCUITS

EL Linear EP PNP Array EN NPN Array *Note: Alternate source devices follow original manufacturers part number and marking system, with an "E" added in front of the part number.	Package J Ceramic DIP F Flat pack G TO-8 metal can H TO-97 or TO-99 metal can K TO-3 L Leadless chip carrier N Plastic DIP Die Tested in wafer pack Performance A Enhanced Temperature Ranges C -25°C to 85°C None -55°C to 125°C Screening -8 Military /E+ High-reliability commercial /883B MIL-STD-883 Class B, Revision C processing
---	--

Prefix Device Suffix EL 2006 A C G/E+ Performance Temperature Range Package Reliability Program

Manufacturer Device Identification		Part Number		Example
		Prefix	Suffix	
ELECTRONICS DESIGNS INCORPORATED 		Original Numbering System (Products Introduced Before 1/87)		Original System (prior to 1/87) Prefix Device Suffix EDH 8 C 10 LP J M
		Family 4 DRAM 5 EEPROM 6 μ PAK 7 UVEPROM 8 SRAM Word Width 1 1 bit wide, etc. Word Depth 01 1K 32 32K 128 128K	Technology C CMOS, 4T HC High Speed CMOS CL Full CMOS, 6T N Nibble Mode (DRAM) Speed 70 70 ns 10 100 ns Power (8K $\times$ 8 family only) Blank Standard Power LP Low Power Package C Ceramic LCC on ceramic substrate P Plastic CC on ceramic substrate J Ceramic LCC K Ceramic sidebrazed Temperature Range C Commercial I Industrial M Military Screening Blank Commercial HR High Reliability	Prefix Product Group Technology Speed Power (8K $\times$ 8 family only) Packaging Temperature Range
		New Numbering System (Products Introduced After 1/87)		New System (after 1/87) Prefix Device Suffix EDI 8 M C 100 C B
		Family 4 DRAM 5 EEPROM 6 μ PAK 7 UVEPROM 8 SRAM 9 Special Product Type Blank Monolithic M Module (Ceramic) F Module (FR4) Word Width 1 1 bit wide 8 8 bits wide Word Depth 01 1K 32 32K 128 128K 1M 1M	Technology B Bipolar N NMOS C CMOS, 4T STD Power P CMOS, 4T Low Power H CMOS, 6T STD Power L CMOS, 6T Low Power Speed 20 20 ns 200 200 ns Package P Monolithic/plastic DIP C Monolithic/ceramic DIP D CERDIP (600 mil) T Thin DIP (400 mil) L Leadless chip carrier J Ceramic leaded chip carrier Y Plastic leaded chip carrier G PGA (Pin grid array) F Flat Pack U Die S SIP Z Vertical DIP W SOIC Q Skinny DIP (300 mil) Ceramic R Skinny DIP (300 mil) Plastic Temperature Range C Commercial I Industrial B Military	Prefix Product Group Product Type Technology Speed Packaging Temperature Range

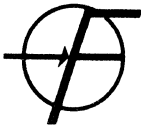
EXAR CORPORATION



XR Exar

Grade
 C Commercial
 M Military Ceramic package and -55°V to 125°C
 () The absence of C or M Indicates a Commercial Part with Tighter Specs
Package
 D Dice
 P Plastic
 N Ceramic

Prefix	Device	Suffix
XR	567	CP
Grade		
Package		

Manufacturer Device Identification	Part Number		Example
	Prefix	Suffix	
EXEL 	Exel Designator. All parts start with XL. Temperature Range S 0°C to +70°C E -40°C to +85°C A -40°C to +105°C M -55°C to +125°C Basic Part Number Memory Products start with either 2 or 4. Microperipheral Products start with 6 or 8. 'C' in the middle of the Part Number indicates a CMOS Device.	Package C Cerdip D Plastic Leaded CC L Ceramic Leaded CC P Plastic DIP P3 Skinny DIP (0.3") S Side Braze Ceramic DIP U Unpackaged (Die) Speed* Usually in nanoseconds for memories. See Data Sheet. Special Features* See Data Sheet. For Example: XLS2816AP-250/E2 2K×8 E ² PROM, 0°C to +70°C, Plastic, 250 nsec, 100 cycle endurance	Prefix Device Suffix XL T NNNNP -SSS/FFFF Temperature Package Type Speed Special Features
FAIRCHILD  (Current)  (Current)  (Discontinued) Note: Alternate source devices follow original manufacturer's part number and marking systems.	F Fairchild SH Hybrid μ A Linear F (Current) (Discontinued) FAIRCHILD A Schlumberger Company	Package D Ceramic DIP E Plastic Can F Flat Pack H Metal Can J Metal Power Package (TO-66) K Metal Power Package (TO-3) P Plastic DIP R Ceramic Mini DIP S Ceramic DIP (F6800 Family) T Mini DIP U Power Package (Molded, TO-220) W Plastic TO-92 Temperature— Check Device Data for Specific Values C 0°C to 70°C/75°C (CMOS -40°C to 85°C) L MOS -55°C to 85°C Hybrid -20°C to 85°C M -55°C to 125°C	Prefix Device Suffix μ A 741 AHM Electric Class (if used) Package Temperature
FUJITSU  (Current)  (Discontinued)	MB Micro Block MBM Micro Block Modified and Industry Standard Numbers	Performance Variation Y E H L Low Power Package C Ceramic P Plastic Z Cerdip	Prefix Device Suffix MB 8116 E P Speed or Performance Variation Package (Ordering purposes only)
MICROCHIP TECHNOLOGY INC. (Formerly GENERAL INSTRUMENT) 		Commercial/Industrial Package — Plastic P Plastic J Cerdip D Ceramic L PLCC (Plastic Leaded Chip Carrier) K LCC (Ceramic Leadless Chip Carrier) KA LCC-Thermally Unenhanced Pattern KB LCC-Thermally Enhanced Grid Pattern S Die in Wafer Pack W Die in Wafer Form Temperature Range — 0° to +70°C I -40°C to +85°C Access Time or Frequency — 45 45ns — 15 150ns — 20 MHz — 55 55ns — 17 170ns — 25 25 MHz — 70 70ns — 20 200ns — 32 32 MHz — 10 100ns — 25 250ns — 12 120ns	Prefix Device Suffix XX X /X Access Time Temperature Range Package

Manufacturer Device Identification	Part Number		Example		
	Prefix	Suffix	Prefix	Device	Suffix
GE/RCA SOLID STATE 	Description	Version	CD Version Package	4070	AD
	CA Linear ICs CD CMOS Digital ICs CDM CMOS—LSI CDP CMOS—LSI CMM CMOS—LSI MWS CMOS—LSI LM Linear ICs PA Gate Arrays SC Standard Cells CGA Gate Arrays RS ASIC—LSI CD54/74HC/HCT CMOS High-Speed Digital ICs CD54/74AC/ACT CMOS Advanced High-Speed Digital ICs	A Modified Version, Unilaterally Interchangeable with Prototype B Modified Version, Unilaterally Interchangeable with A Version, and with Prototype C Modified Version Package D Ceramic DIP E Plastic DIP EM Modified Dual-In-Line Plastic Package with "Power Slab" EN Narrow-Body Plastic DIP F Ceramic DIP, Frit Seal H Chip J 3-Layer Ceramic Leadless Chip Carrier K Ceramic Flat Package L Single Layer Ceramic Leadless Chip Carrier M Small-Outline Plastic Package Q Plastic-Chip-Carrier Package Q Modified Quad-In-Line Plastic Package QM Quad-In-Line Package with "Power Slab" S TO-5 Package with DIL-CAN T TO-5 Package with Straight Leads V1 TO-5 Package with Radial Formed Leads W Staggered Quad-In-Line Plastic Package			

GIGABIT LOGIC



Family
10G PicoLogic
12G NanoRam
14G NanoRom
16G Analog and Interface
80G ASIC
90G Prototyping and Support

Package
C1 Leaded Chip Carrier (68 I/O)
C C-Leaded Chip Carrier (40 I/O)
L Leadless Chip Carrier (40 I/O)
L36 Leadless Chip Carrier (36 I/O)
F Flat Package (36 I/O)
H Hybrid
X Unpackaged Die
Temperature Range
K -40°C to 100°C
M -55°C to 125°C

Prefix	Device	Suffix
XXG	XXXX A (B) - (Y) C	
Family		
Revision Level		
Temperature Range		
Speed		
Package		

GOLDSTAR



GS Transistor
GL Bipolar Linear IC
GLC CMOS Linear IC
GM MOS LSI
GD Bipolar TTL, HC/HCT, Digital MST

Package
P Plastic
C Ceramic
E CERDIP
FT Flat
PL LCC
SB Side Braze
G Pin Grid Array
S Surface Mount
X Dice
Temperature Range
M Military
I Industrial
C Commercial

Prefix	Device	Suffix
GLC	555	P C
Type		
Package		
Temperature Range		

GOULD/AMI SEMICONDUCTOR DIVISION



AMI Semiconductors
 (Discontinued)



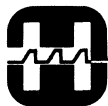
A Subsidiary of Gould Inc.
 (Discontinued)

Family
S Standard

Package
P Plastic
D Cerdip
C Ceramic
L Leadless Chip Carrier
Pins/Package
8 Plastic
14 Plastic, Ceramic
16 Plastic, DIP and SOIC, Cerdip, Ceramic
18 Plastic, Cerdip, Ceramic
22 Plastic, Cerdip, Ceramic
24 Plastic, Cerdip, Ceramic
28 Plastic, DIP and SOIC, Cerdip, Ceramic
40 Plastic, Cerdip, Ceramic
48 Plastic, Ceramic
64 Plastic, Ceramic

Prefix	Device	Suffix
S	68A00 5101L-1 2559A	P C P
Version		
Package Type		

Manufacturer Device Identification	Part Number	Example
GOULD/AMI SEMICONDUCTOR DIVISION (continued)	Prefix Suffix	
(Note: see latest Gould MOS PRODUCTS CATALOG)	20 Lead Chip Carrier 24 Lead Chip Carrier 28 Lead Chip Carrier 40 Lead Chip Carrier 44 Lead Chip Carrier — Plastic, Ceramic 48 Lead Chip Carrier 68 Lead Chip Carrier — Plastic, Ceramic, Pin Grid Array 84 Lead Chip Carrier — Plastic, Ceramic, Pin Grid Array 28 Lead Plastic Mini-Flat Package 44 Lead Plastic Mini-Flat Package 68 Lead Plastic Mini-Flat Package 100 Ceramic Pin Grid Array 124 Ceramic Pin Grid Array 144 Ceramic Pin Grid Array	

**HARRIS
SEMICONDUCTOR**


Family	Temperature	Prefix	Device	Suffix
A Analog C Communications D Digital I Interface M Memory PL Programmable Logic S CISC V High Voltage	1 -55°C to +200°C 2 -55°C to +125°C 4 -25°C to +85°C 5 0°C to +70°C 6 100% 25°C Probe (Dice Only) 7 Dash 7 Program, High Reliability -5 Temp. Range 8 Dash 8 Program; hi-rel processing with burn-in 9 -40°C to +85°C 9+ -40°C to +85°C with burn-in RH Radiation Hardened RRH Radiation Hardened with Severe Immunity /883 -55°C to +125°C: MIL-STD-883 compliant processing	HA1 Family Package Temperature	2425	5
Package 1 Ceramic DIP 1B Brazed Seal 2 TO-5 3 Epoxy DIP 4 Leadless Carriers 4P Plastic Leaded Chip Carrier 5 Ceramic Substrate 7 Mini DIP 9 Flat Pack 0 Chip Form				

80CXXX Family Product Number Temperature Range	SPEED	Prefix	Device	Suffix
C Commercial (0°C to +70°C) I Industrial (-40°C to +85°C) M Military (-55°C to +125°C) X 25°C	Peripherals 5 5 MHz Blank 8 MHz CPU Blank 5 MHz 2 8 MHz CPU (80C286) 12 12.5 MHz 16 16 MHz 20 20 MHz Hi-Rel Processing B Dash 8 Program; hi-rel processing with burn-in /883 -55°C to +125°C: MIL-STD-883 compliant processing	M D Temperature Package Speed (MHz) Hi-rel processing	82C59A — 5	/B
Package Type P Plastic D Ceramic DIP X Chip Form R Leadless Chip Carrier S Plastic Leaded Chip Carrier G Pin Grid Array				

Harris Microwave (Gallium Arsenide) Products Family	Package	Prefix	Device	Suffix
A Amplifiers (GaAs FETs) D Digital (GaAs) F Field Effect Transistors (GaAs) K Evaluation and Test Kits M Monolithic Microwave ICs (GaAs) P High Power FETs (GaAs) R RF/Analog MMICs	1 32-Pin Hermetic Metal Flat Pack 2 16-Pin Hermetic Metal Flat Pack 3 48-Pin Hermetic Metal Flat Pack	HM D Family Package	12141 —	I

HITACHI


Type	Package	Prefix	Device	Suffix
HA Analog HD Digital HM Memory (RAM) HN Memory (ROM) HG ASIC	P Plastic DIP C Ceramic DIP CP Plastic Leaded Chip Carrier FP Flat Plastic Package SO Small Outline Package PG Pin Grid Array S Shrink Type Plastic DIP CG Glass Sealed Ceramic Leadless Chip Carrier G CERDIP	HM Model No. Modification Package	472114	A P

PART NUMBER GUIDE

Manufacturer Device Identification	Part Number			Example
	Prefix		Suffix	
HOLT INTEGRATED CIRCUITS	HI Holt	Package S Ceramic Leadless Chip Carrier L Leaded Ceramic Chip Carrier P Plastic DIP J Plastic J-Lead (PLCC)	Processing M Military	Prefix Device Suffix
				HI 8010 X X - XX
				Package _____
				Temperature Range _____
				Version _____
HONEYWELL	Family HC High performance CMOS Gate Array HCT Tactical Radiation Tolerant CMOS Gate Array HCS Strategic Radiation Hardened CMOS Gate Array HE Bipolar Gate Array with ECL I/O HM Bipolar Gate Array with TTL/ECL I/O HVM Military Version of HM Array	Electrical Grade A, B, C Increasing Grade S Single Grade Temperature M -55°C to 125°C I -25°C to 85°C C 0 to 70°C Package J Ceramic Side Brazed D Cerdip C Leadless Chip Carrier G Pin Grid Array N Plastic DIP T Plastic Quad M Hybrid Metal H Hybrid Ceramic U Die Only L Leaded Chip Carrier S Small Outline X Special Package Options/Screening + Standard Burn-In H Standard Hi-Rel Screening G Special Electric	Prefix Device Suffix HC 9700 I D / ±	Family _____ Temperature Range _____ Package _____ Options/Screening _____
HUGHES AIRCRAFT 	Product Flow HC Commercial HI Industrial HB Class B HM Military	Package P Plastic D Ceramic H Dice L Leadless Chip Carrier Y Cerdip Q Quad Pack F Flat Pack	Prefix Device Suffix HC 0438A P	Package _____
HYBRID SYSTEMS 	Family ADC94 Commercial Analog to Digital Converter DAC3 Digital to Analog Converter DAC93 Commercial Digital to Analog Converter HS5 Analog to Digital Converter R6 Precision Voltage Reference HS97 Sample/Hold HS95 A/D Converter HS93 D/A Converter	Processing C Commercial Industrial Use B Per MIL-STD883B, Class B Resolution 8 8-Bits Binary 10 10-Bits Binary 11 11-Bits Binary 12 12-Bits Binary 14 14-Bits Binary 16 16-Bits Binary 18 18-Bits Binary 2D 2-Decade BCD 3D 3-Decade BCD 4D 4-Decade BCD	Prefix Device Suffix DAC3 31 C-14	Processing _____ Resolution _____
HYUNDAI	Family HY Hyundai 51 DRAM 53 DRAM 61 SRAM 62 SRAM 63 SRAM 27 EPROM 93 EEPROM (Serial I/O) 28 EEPROM (Parallel I/O) Process — NMOS C CMOS	Temperature Range — 0°C to 70°C E -40°C to 85°C M -55°C to 125°C L -0°C to 70°C I -40°C to 85°C O -55°C to 125°C Package S Plastic DIP, 300 mil M Plastic DIP, 400 mil P Plastic DIP, 600 mil F Plastic Leaded Chip Carrier, T-Form W Plastic Leaded Chip Carrier, Gulf Wing J SOIC	Prefix Device Suffix HY XX X XXXX X X X XX	Family _____ Process _____ Modification _____ Temperature Range _____ Package _____ Speed _____

IC MASTER

Manufacturer Device Identification	Prefix	Part Number	Suffix	Example
HYUNDAI (continued)		H	SQJ	
		Z	ZIP	
		K	Cerdip, 300 mil	
		R	Cerdip, 400 mil	
		D	Cerdip, 600 mil	
		T	Ceramic Side Brazed, 300 mil	
		U	Ceramic Side Brazed, 400 mil	
		C	Ceramic Side Brazed, 600 mil	
		G	PGA	
		N	LCC	
		X	Dice	

ILC DATA DEVICE



Family	Converter Resolution	Prefix	Device	Suffix
ADC Analog to Digital	-6 6-Bits	DAC	SL	1 883B
BUS Data Bus Device	-8 8-Bits	Family	Temperature	MIL-STD-883 Level B Processing
DAC Digital to Analog	-10 10-Bits			
DDAC Deglitched, Digital to Analog	-11 11-Bits			
DRC Digital to Resolver	-12 12-Bits			
DSC Digital to Synchro	-14 14-Bits			
HDSC Hybrid Digital to Synchro or Resolver	-16 16-Bits			
HDP Hybrid Data Processor	Temperature Range			
HMSDC Hybrid Multiplexed Synchro to Digital	1 -55°C to 125°C			
HSCT Hybrid Solid State Control Transformer	2 -25°C to 85°C			
HSDC Hybrid Synchro to Digital	3 0°C to 70°C			
IDC Inductosyn to Digital	Voltage Range (Synchro Converters Only)			
MSDC Multiplexed Synchro to Digital	-H 90V at 400Hz			
PWR Power	-M 26V at 400 Hz			
RDC Resolver to Digital	-L 11.8V at 400 Hz			
SBA Synchro Booster Amplifier	-6 90V at 60Hz			
SDC Synchro to Digital				
SH Sample and Hold				
TD Torque Driver				
TH Track and Hold				

PART NUMBER GUIDE

INMOS



Type	Option	Prefix	Device	Suffix
1 Static RAM	0 Standard	IMS	1420	S 45 M
2 Dynamic RAM	I Optional Function	Company	Type	Size
	Package	Organization	Option	Package
	S Ceramic DIP			
	K Ceramic DIP, Solder Dipped			
	W Ceramic LCC	Speed	Screening	
	N Ceramic LCC, Solder Dipped			
	P Plastic DIP			
	Speed			
	45 — 45ns Access Time			
	55 — 55ns Access Time			
	12 — 120ns Access Time			
	etc.....			
	Screening			
	(Blank) Commercial			
	M MIL-883C			
	E Extended Temperature			
	L Low Power			

INOVA

Family	Processing	Prefix	Device	Suffix
S Static RAM	C Commercial	S	128K 8	-55 M C
	M Hi Reliability	Static Ram	Number of Words	Bits per Word
	I Industrial			
	Package	Access/Cycle Time	Processing	Package
	C Ceramic Side Brazed			

Designator	Electrical	Package	Screening
XXX	XXXX	X	X
1535			

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IC MASTER

Manufacturer Device Identification	Part Number	Example
	Prefix Suffix	Prefix Device Suffix
INTERNATIONAL CMOS TECHNOLOGY	Package Type P Plastic DIP C Ceramic DIP S SO8 Temperature Range — Commercial 0°C to 70°C I Industrial -40°C to 85°C M Military -55°C to 125°C	PEEL 18CV8 P I - 25 Package _____ Temperature _____ Speed _____ 93C46 P I Package _____ Temperature _____ 27CX642C - 40 Package _____ Speed _____

INTERNATIONAL MICROCIRCUITS

Circuit Technology

- 4 Metal Gate CMOS, Single Metal, 8μ
- 70 Silicon Gate CMOS, Single Metal, 3.5μ
- 7 Silicon Gate CMOS, Double Metal, 1.5μ
- 6 Silicon Gate CMOS, Double Metal, 2μ

Revision Level—Serialized

- A First Design

Customer and Job Code—Serialized

- 00 Unassigned

Package Type

- P Plastic
- Q Cerdip
- R Chip Carrier
- S Special
- T No Package (Die)
- U Side Brazed
- X Prototype Part

Temperature Range

- V Special
- W 0°C to +70°C
- X Prototype Part
- Y -25°C to +85°C
- Z -55°C to +125°C

Assurance, Testing

- K Full Functional Test at 25°C
- L Special Test/Screen
- M MIL-STD-883B, 5004
- X Prototype

Prefix Device Suffix

G 7 1440 B 26 Q Y L

IMI Prefix _____
 Circuit Technology _____
 Available Logic Cells (3 or 4 Digits) _____
 Revision Level _____
 Customer and Job Code _____
 Package Type _____
 Temperature Range _____
 Assurance, Testing _____

JAN NOMENCLATURE

- J JAN Qualified Device
- M38510 Military Designation

Device

The "Slash" numbering signifies the specification and specifies the device type. See Military Parts Directory.
Note: The J or JAN prefix is very important. If it is not there it is not a JAN device.

Processing

- S
- B

Package

- A 1/4" × 1/4" Flat Pack, 14-Pin
- B 1/8" × 1/4" Flat Pack, 14-Pin
- C 1/4" × 3/4" Dual-In-Line, 14-Pin
- D 1/4" × 3/8" Flat Pack, 14-Pin
- E 1/4" × 7/8" Dual-In-Line, 16-Pin
- F 1/4" × 3/8" Flat Pack, 16-Pin
- G 8-Lead Can
- H 1/4" × 1/4" Flat Pack, 10-Lead
- I 10-Lead Can
- J 1/2" × 1/4" Dual-In-Line, 24-Pin
- K 3/8" × 5/8" Flat Pack, 24-Pin
- P 1/4" × 3/8" DIP
- R 1/4" × 1 1/16" DIP
- S 1/4" × 1/2" Flat Pack

Prefix Device Suffix

JM38510 /XXXXX BCB

Processing _____
 Package _____
 Lead Finish _____

Manufacturer Device Identification	Part Number Prefix	Suffix	Example
JAN NOMENCLATURE (continued)		X 3-Lead Can	
		Y 2-Lead TO-3 Can	
		Z 1/4" x 3/8" Flat Pack, 24-Pin	
		2 20-Terminal LCC 0.350" x 0.350"	
		Lead Finish	
		A Kovar or Alloy 42, with Hot Solder Dip	
		B Kovar or Alloy 42, with Bright Acid Tin Plate	
		C Kovar or Alloy 42, with Gold Plate	
		X Any Finish	

LAMBDA

L Overvoltage regulator
LAS IC



LATTICE



Power
Blank Standard
L Low
Q 1/4 Power

Package
C Side Brazed
D Cerdip
P Plastic
R Leadless Chip Carrier
J PLCC (J Lead)

Temperature
Blank 0°C to +70°C (75°C for GAL)
M -55°C to +125°C
I -25°C to +85°C

Burn-In
Blank No Burn-In
B Burned In

Mil Process
Blank No Mil Process
1883C 883C Process

Prefix Device Suffix

GAL 16V8 XX X X X X/883C

Speed

Power

Package

Temperature

Burn-In

MIL Process

LINEAR
TECHNOLOGY
CORPORATION



Description
LT Linear Technology
LF, LH, LM Alternate Source to NSC
OP Alternate Source to PMI
SG Alternate Source to
Silicon General
UC Alternate Source to Unitrode

Temperature
C Commercial Range
0°C to 70°C
M Military Range
-55°C to +125°C

Package
D Side brazed hermetic DIP
H TO-5, TO-46 can
J CerDIP
K TO-3 (Steel)
N Molded DIP
S SOIC
P 3 lead molded TO-247
T 3, 5 lead molded TO-220
Z 2, 3 lead molded TO-92

Prefix Device Suffix

LT 1001A C H

Temperature Range

Package Type

LOGIC DEVICES
INCORPORATED



L Logic Devices

Package
D Hermetic DIP, Side Braze
D Cerdip
K Ceramic Leadless Chip Carrier
G Pin Grid
L Ceramic Leaded Chip Carrier
F Flat Pack

Temperature
C Commercial (0°C to 70°C)
M Military (-55°C to +125°C)

Screening
— Commercial Flow
R 48 Hour Burn-In at 125°C
E Extended Screening
B MIL-STD-883C
Class B Compliant

Prefix Device Suffix

L MA1010 DMB55

Package

Temperature

Screening

Speed

Manufacturer Device Identification	Part Number	Example
MARCONI ELECTRONIC DEVICES INC.	Prefix Package Temperature Range Screening & Inspection	Prefix Device Suffix MA 15530 GBC-XXX
	A Pin Grid Array C Ceramic DIL E Epic G Cerdip L Leadless Chip Carrier M Module N Naked Die P Plastic DIL Q Quad Plastic J-Lead R Quad Cerpack J-Lead S SO Plastic X Special	A Special B 0 to 70°C C -55 to +125°C F -40 to +85°C A BS/32 B Mil Std-883C Class B G Commercial Hermetic L Commercial Plastic S Mil Std-883C Class S T ESA 9000 X Special
		Package Screening & Inspection Temperature Range Special Requirements/Enhancements

MASTER LOGIC	Family ML CMOS Gate Array MLA CMOS Custom F Other	Package P Plastic CD CerDIP SB Size Brazed	Prefix Device Suffix ML 150 P-24
ML	Gate Capacity 50 50 Gates 75 75 Gates 100 100 Gates 150 150 Gates 200 200 Gates 350 350 Gates	Pins By Count	Family Gate Capacity Package Pins

MATRA HARRIS SEMICONDUCTOR	Family C Communication M Memory	Temperature 2 -55°C to +125°C 5 0°C to +70°C 6 100% 25°C Probe (Dice only) 8 Dash 8 Program 9 -40°C to +85°C	Memories and Telecommunication Circuits Prefix Device Suffix H M 1 65261 B - 2
	Package 0 Chip Form 1 Ceramic 3 Epoxy 4 Leadless Chip Carrier 5 Substrate and leadless assembly	Version * CMOS Standard CMOS Ultra Fast Memories B High Speed — Low Power C Relaxed version Blank Standard product S High speed — High power H 25 ns K 35 ns M 45 ns N 55 ns	Family Package Version Temperature

Temperature Range Blank Commercial (only one character before device type) I Industrial -40°C +85°C M Military -55°C +125°C X Dice probed at 25°C only	Miscellaneous Speed: -2, -1 Dash 8 program ROM code for microcontrollers only: ** Frequency Range Blank DC-5 MHz	Microprocessors Microcontrollers Peripherals Prefix Device Suffix M D 8086 - / B
Package C Side brazed D Cerdip G Pin grid P Plastic R Leadless chip carrier X Dice form S PLCC		Temperature Package Frequency Range Miscellaneous

Family A Gate Array 3μ/1 Metal B Gate Array 2μ/2 Metal	Temperature 2 -55°C to 125°C 5 0°C to 70°C 6 25°C probe 8 Dash 8 program 9 -40°C to 85°C	Gate Arrays Prefix Device Suffix M A 1 C -1200 A05 - 2
Package 0 Chip Form 1 Ceramic 3 Epoxy 4 LCC 5 PLCC Wafer C Side Brazed DIL 8 Pin grid Array M 123		Family Package Pin Count Gate Count Custom Spec Temperature
Pin Count "space" — 24 A 8 F 18 K 48 B 14 G 20 L 44 C 40 H 22 M 68 D 64 I 28 R 84 E 16 J 32 T 100	U 120 V 144	

Manufacturer Device Identification	Part Number	Prefix	Suffix	Example
MAXIM INTEGRATED PRODUCTS 	Family			Prefix
	100-200 Analog to Digital Converters			MAX
	200-299 Interface			400
	Line Driver/Receivers			M J A/HR
	300-399 Analog Switches			Family
	Analog Multiplexers			Temperature Range
	400-499 Op-Amps			Package
	500-599 Digital to Analog Converters			Pins
	600-699 Power Supply Products			Screening
	700-799 Microprocessor Peripherals			NOTE: Alternate source devices follow original manufacturers part number and marking system.
	Display Drivers			
	Temperature Range			
	C 0°C to 70°C			
	I -20°C to 85°C			
	E -40°C to 85°C			
	M -55°C to 125°C			
	Screening			
	/HR High-Rel			
	/883 MIL-STD 883			
	Package			
	A TO-237	R Narrow		
	C TO-220	CERDIP		
	D Ceramic	S Small Outline,		
	Sidebrazed	Slim (8 or more		
	F Ceramic	leads), 150 mil		
	H TO-66	S TO-52 (2 or		
	J CERDIP Dual-	3 leads)		
	In-Line	T TO-5 Type (also		
	K TO-3	TO-78, TO-99,		
	L Leadless,	TO-100)		
	Ceramic	U TO-72 Type (also		
	M Plastic	TO-18, TO-71)		
	N Narrow	V TO-39		
	Plastic Dual-	W Small Outline,		
	In-Line	Wide (300 mil)		
	P Plastic Dual-	Z TO-92		
	In-Line	/D Dice		
	Q Plastic	/W Wafer		
	Chip Carrier	-1 On Package		
	(Quad Pack)	Information Indicates		
		Hybrid Circuit		
	Pins			
	A 8	P 20		
	B 10	Q 2		
	C 12	R 3		
	D 14	S 4		
	E 16	T 6		
	F 22	U 60		
	G 24	V 8 (0.200" pin circle,		
	H 44	isolated case)		
	I 28	W 10 (0.230" pin circle,		
	J 32	isolated case)		
	K 35	Y 8 (0.200" pin circle,		
	L 40	case to pin 4)		
	M 48	Z 10 (0.230" pin circle,		
	N 18	case to pin 5)		
	4 Letter Suffixes			
	The first letter of the suffix is used to denote product grade, for example, MAX631ACPA means 5% output accuracy (A), the remaining 3 letters denote temperature range, package type and number of leads.			

MICROCHIP TECHNOLOGY INC.—See page 307

MICRO NETWORKS

MN Micro Networks

Package Designator
(if applicable)

FP Flat Pack
CD Ceramic DIP
PD Plastic DIP
TC TO-can
CL Ceramic Leadless
LC Leadless Chip Carrier
LP Plastic Leadless Carrier

Temperature Range

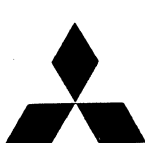
— 0°C to +70°C **G** -55°C to +100°C
E -25°C to +85°C **H** -55°C to +125°C
F -55°C to +85°C

Processing and Screening

— Micro Networks "Commercial Plus" processing and screening
B 100% screening to MIL-STD-883 Method 5008

Prefix	Device	Suffix
MN	5250	A CL H B
Model Rev Letter		
Package		
Temperature Range		
Processing		

IC MASTER

Manufacturer Device Identification	Prefix	Part Number	Suffix	Example
MICRON TECHNOLOGY, INC. 	MT Micron Technology MB Board Product Family 4 DRAM 42 DPDRAM 5 SRAM 52 DPSRAM 53 FIFO 28 EEPROM 25 ROM Module 8 DRAM 82 DPRAM 85 SRAM 83 CUSTOM Process Technology Blank NMOS C CMOS	Package Blank Plastic DIP Z Plastic ZIP EJ Plastic PLCC DJ Plastic SOJ DG Plastic SOIC PA Plastic PGA C Ceramic DIP EC Ceramic CLCC CJ Ceramic SOJ CG Ceramic SOIC F Ceramic Flat Pack CA Ceramic PGA	Prefix MT Device VV W XXXX YY ZZ Suffix MMMM Family Process Package Access Time Processing Level/ Temperature	
MICRO POWER SYSTEMS 	MP Micro Power	Temperature Range J,K,L Commercial/Industrial S,T,U Military Package D Ceramic DIP N Plastic DIP H TO-100 Type Can S Surface Mount	Prefix MP Device 7520 Suffix T D XXXX Level of Performance Package Special Processing	
MITEL SEMICONDUCTOR 	Family MD Digital MH Hybrid MT Telecommunications CM Module MB Board	Package C Ceramic Dual-In-Line (Cerdip) D Ceramic Dual-In-Line (Side-Braze) E Plastic Dual-In-Line H Die in Tray Pack P Plastic J-Lead Chip Carrier S Small Outline (SO) W Die in Probed Wafer Form Y Ceramic Leadless Chip Carrier	Prefix MT Device 8804 Suffix A E Electrical Specification Package Type	
MITSUBISHI 	M Mitsubishi Integrated Circuit Temperature Range 5 Industrial/Commercial 9 High Reliability Series Designation 01-09 CMOS 1 Linear Circuit 3 TTL 10-19 Linear Circuit 32-33 TTL 41-47 TTL 81 P-Channel Al-gate CMOS 84 CMOS 85,86 PMOS 87 NMOS 88 PMOS 89 CMOS 9 DTL S0-S2 Schottky TTL K,T,L,G,C,T,W Industry Standard Specifications for Second Source Devices	Package Style K Glass-Sealed Ceramic P Molded Plastic S Metal-Sealed Ceramic SP Molded Plastic (Shrink DIL) FP Molded Plastic (Flat) Package Outline 10 DIL Without Fin and With Quartz Lid B Shrink DIL	Prefix M5 Device 89 81 Suffix S-45 Temperature Range Original Product Series Circuit Function Package Electrical Characteristic (1 or 2 digits) Second Source M5 K 4164 P Series Designation Circuit Function of Original Source type name Package	
MONOLITHIC MEMORIES 	PAL/HAL—Family PAL Programmable Array Logic HAL Hard Array Logic Output Type H Active High L Active Low C Complementary R Registered X Exclusive or Registered A Arithmetic Registered Temperature Range C Commercial M Military	Package Type J Ceramic Dual-In-Line N Plastic Dual-In-Line Screening Level 883B MIL-STD-883, Method 5004 and 5005, Level B 883C MIL-STD-883, Method 5004 and Level C	Prefix PAL Device 14 L 4 M J Suffix 883B Family Number of Array Inputs Output Type Number of Outputs Temperature Range Package Type HI-REL Screening Level	

Manufacturer Device Identification	Part Number		Example
	Prefix	Suffix	
MONOLITHIC MEMORIES (continued)	Interface	Package Type	Prefix Device Suffix
	Temperature Range	J Ceramic Dual-In-Line (600 Mil Wide)	SN 54 LS 373 J 883B
	74 Commercial	JS Ceramic Dual-In-Line (300 Mil Wide)	Standard Prefix
	54 Military	N Plastic Dual-In-Line (600 Mil Wide)	Temperature Range
Family	S Schottky	NS Plastic Dual-In-Line (300 Mil Wide)	Family
	LS Low Power Schottky	D Side Brazed Ceramic Dual-In-Line	Package Type
		F Flat Pack	HI-REL Screening Level
		L Leadless	
		T Inverted "D" Package	
FIFOs Arithmetic	Temperature Range	Package Type	Prefix Device Suffix
	67 Commercial	J Ceramic-In-Line	67 401 N
	57 Military	N Plastic Dual-In-Line	Temperature Range
	C CMOS		Device Number
ECL All ECL Products are for commercial temperature range only Family 10KH 10KH Technology			Package Type
		J Ceramic	
PROMs-ROMs Character Generator-Logic Temperature Range	6 Commercial	Screening Level	Prefix Device Suffix
	5 Military	See previous page	5 3 41-I J 883B
		Family	Temperature Range
		-1 Schottky Process (PROMs)	Product
Product	0 Character Generator O.C.	Package Type	Family
	1 Character Generator T.S.	See Interface	Package Type
	2 Read Only Memory (ROM)	Screening Level	HI-REL Screening Level
	3 Programmable Read Only Memory (PROM)	See previous page	
	7 LSI Logic Product		
High Performance PROMs Temperature Range	6 Commercial	No. of Outputs	Prefix Device Suffix
	5 Military	4 4 Bit	5 3 S 24 0 A J 883B
		8 8 Bit	Temperature Range
			Product
Product	3 Programmable Read Only Memory (PROM)	Output/Pin Out Designator	Family
		0 Open Collector	Memory Size
		1 Three State	Number of Outputs
		3 Two State	Output/Pin Out Designation
Family	S Schottky	Performance	Performance
	LS Low Power Schottky	None Standard	Package
	RA Registered	A Enhanced	HI-REL Screening Level
	DA Diagnostic		
Memory Size	0 256 Bit	Package Type	
	1 1024 Bit	See Interface	
	2 2048 Bit	Screening Level	
	4 4906 Bit	See previous page	
	8 8192 Bit		
	16 16384 Bit		
	32 32768 Bit		

IC MASTER

Manufacturer Device Identification		Part Number	Prefix	Suffix	Example
MOTOROLA					
 (ICs may not have the circle on the marking) Some second source ICs follow the original marking system.	Description	Package	Prefix	Device	Suffix
	MC Packaged Integrated Circuits MCC Unencapsulated Integrated Circuit Chips MCCF Flip-Chip Linear Integrated Circuits MCM Integrated Circuit Memories LM Pin-for-Pin Equivalent to Linear Integrated Circuits Made by National Semiconductor MMS Memory Systems	F Flat Ceramic Package G Metal Can Package (TO-5 Types) K Metal Power Package (TO-3 Types) L Ceramic Dual-In-Line Case P Plastic Package PQ ICs Packaged In Staggered-Lead Plastic DIP Packages R Metal Power Packages (TO-66 Types) T Plastic Package (TO-220 Type) U Ceramic Package SOIC package (small outline IC package) Package Dual-In-Line plastic in 8, 14 and 16 leads SOT package (small outline, transistor package), such as SOT 23, etc. Leadless Ceramic Chip Carriers Leaded Plastic Chip Carriers Now: A ceramic package with a lead count, up to 68 leads of more for direct socketing with boards	MC	14510	L
			Description		
			Package		

NATIONAL SEMICONDUCTOR



Family	Package	Prefix	Device	Suffix
ADC Analog-Digital Converter AF Active Filter BLC Board Level Computer BLMX Board Level Multi-Tasking Executive BLX Board Level Expansion CD CMOS (4000-Series Only) CIM CMOS Microcomputer Board COP Family of Microcontrollers DAC Digital to Analog Converter DB Development Board DH Digital (Hybrid) DM Digital (Monolithic) DP Interface (Microprocessor) DS Interface HPC High Performance Microcontrollers HS Hybrid ICM Integrated Computer Module IDM Microprocessor (2901) INS Microprocessor (4004/8080A) ISE In-System Emulator J FET JM MIL-M38510 LF Linear (BI-FET) LH Linear (Hybrid) LM Linear (Monolithic) LMC Linear CMOS LP Linear Low Power MA Module Macrocomponents MCA Gate Array MF Linear (Monolithic Filter) MH MOS (Hybrid) MM CMOS NMC MOS Memory NS Microprocessor Component (Memory Systems) NS32 Microprocessor Component (Microprocessors, 32000) NSC Microprocessor (800) NSW Series 32000 Software PAL Programmable Array Logic PL Programmable Logic SCX Gate Array SD Special Digital SL Special Linear SM Special MOS	D Glass/Metal DIP E Ceramic Leadless Chip Carrier (LCC) F Glass/Metal Flat Pak (1/4" x 1/4") G 12 Lead TO-8 M/C H Multi-Lead M/C H-05 4 Lead M/C (TO-5) H-46 4 Lead M/C (TO-46) J Lo-Temp Ceramic DIP (Sometimes referred to as the "Fit-Seal" Package). J-8 8 Lead Ceramic DIP ("MiniDIP") J-14 14 Lead Ceramic DIP (-14 used only when product is also available in -8 pkg.). K TO-3 M/C in Steel, except LM309K which is shipped in Aluminum KC TO-3 M/C (Aluminum) K Steel TO-3 M/C (Steel) M Small Outline Package N Molded DIP (Epoxy B) N-01 Molded DIP (Epoxy B) with Staggered Leads N-8 8 Molded DIP (Epoxy B) ("Mini-DIP") N-14 14 Lead Molded DIP (Epoxy B) (-14 used only when product is also available in -8 pkg.). P 3 Lead TO-202 PWR Pkg Q Cerdip with UV Window T 3,5,11,15 & 23 Lead TO-220 PWR Pkg (Epoxy B) V Multi-lead Plastic Chip Carrier (PCC) W Lo-Temp Ceramic Flat Pak WM Wide Body Small Outline Package	LF	356	N /A+
		Device Family		
		Device Number (Generic Type) and Suffix Letter (Optional)		
		A: Improved Electrical Specification		
		C: Commercial Temperature Range (2nd Source Products)		
		Package Type		
		Reliability Program (Optional)		

PART NUMBER GUIDE

Manufacturer Device Identification	Part Number			
	Prefix	Suffix	Example	
NATIONAL SEMICONDUCTOR (continued)	SN Digital (2nd Source)			
	TP Telecom Products			
	TMP Terminal Management Processor			
	Temperature Ranges			
	Linear Devices			
	With proprietary linear circuits, a 1-2-3 numbering system is employed.			
	The 1 denotes a Military temperature range device (–55°C to 125°C), the 2 denotes an Industrial device (–25°C to 85°C), and the 3 denotes a Commercial device (0°C to 70°C). i.e. LM101/LM201/LM301. Exception to this are the LM1800 Series; some hybrid circuits which employ a "C" Suffix; and second-source products which follow the original manufacturer's numbering system.			
NCM CORPORATION	Temperature	Digits 1, 2	Prefix Device Suffix	
 ncm corporation	C Commercial	20 Metal Gate, Full Custom	NCM 40 02 Z N	
	M Military	30 Metal Gate, Semi Custom	Technology	
	Package	40 Si-gate, Full Custom	Device Number	
	D Ceramic DIP	50 Bipolar Array	Revision	
F Ceramic Flatpack	60 Analog, Custom	Package		
L Leadless Carrier	70 Si-gate, Semi Custom			
N Plastic DIP	Digits 3, 4			
	Device No.			
	Device No.			
	Device No.			
	Device No.			
	Device No.			
	Device No.			
NCR MICROELECTRONICS DIVISION	Temperature	Package	Prefix Device Suffix	
	C 0° to 70°C	PD Plastic DIP	NCR 23256 C PD	
	I –40°C to 85°C	CD Ceramic DIP	Temperature	
	HR –55°C to 125°C	PL Plastic LCC	Package	
		SO Small Outline		
NEC ELECTRONICS, INC.	Product Family	Package	Prefix Device Suffix	
	μPC Linear Products	B Ceramic Flatpack	μPD 7810H D	
	μPD MOS Products	C Plastic Molded DIP	Family	
	Memory Product Class	CT 28 Pin Plastic Shrink DIP (400 mil)	Device	
	10 10K ECL RAM	CX 24 Pin Plastic Shrink DIP (600 mil)	Package	
100 100K ECL RAM	C-1-8 40 Pin Plastic DIP 600 mil			
28C CMOS EEPROM	D Cerdip or Ceramic DIP			
43 MIX-MOS Static RAM	DW 64 Pin Shrink Cerdip with Window			
	D-1-18 40 Pin Ceramic DIP			
	G 24 Pin Plastic SO (Small Outline)			
	G2 Plastic Miniflat			
	GR 54 Pin Plastic Miniflat (Inverted Leads)			
	GF 54 Pin Plastic Miniflat			
	G-00 52 Pin Plastic Miniflat			
	G-1B 64 Pin Plastic Miniflat			
	G-4 44 Pin Plastic Miniflat			
	G-5 44 Pin Plastic Leadless Chip Carrier (PLCC)			
	G-6 44 Pin Plastic Miniflat			
	G-08 40 Pin Ceramic Piggyback DIP (600 mil)			
	G-12 64 Pin Plastic Miniflat			
	G-22 44 Pin Plastic Miniflat			
	G-36 64 Pin Plastic QUIP			
	H TO-220			
	HA Plastic SIP			
	J TO-92			
	K 22 Pin Ceramic LCC			
	L 18 Pin Plastic Leadless Chip Carrier			

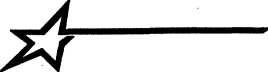
IC MASTER

Manufacturer Device Identification	Part Number Prefix	Suffix	Example
NEC ELECTRONICS, INC. (continued)	Series AAA1M10X High Speed AAA1M20X 1 Mb Dram Ultra High Speed 1Mb DRAM	Mode 0 Fast Page (1Mx1) 1 Nibble 2 Static Column (1Mx1) 4 Fast Page (256Kx4) 5 Static Column (256Kx4) Package P P-DIP C C-DIP Z ZIP J SOJ Speed (ns) -12 120 -10 100 -08 80 -07 70 -06 60	LA 20/26 Pin Plastic SOJ L-5 Plastic Leadless Chip Carrier L-8 Plastic Leadless Chip Carrier R 132 Pin Ceramic Grid Array R-8 68 Pin Ceramic Grid Array V 16 Pin Plastic Zig-Zag Inline Modules A SIMM Leaded B SIMM Socket Mounted

NMB SEMICONDUCTOR	Series	Mode	Prefix	Device	Suffix
	AAA1M10X	High Speed	AAA1MO		0 P-10
	AAA1M20X	1 Mb Dram	Series		
		Ultra High Speed	Mode		
		1Mb DRAM	Package		
			Speed		

OPTICAL ELECTRONICS	Description	6000	9000
	2000 Log/Anti-Log 3000 V/F-F/V Phase Detector 5000 Non-Linear Functions	3-D System Card	Op Amps, Comparators Current Booster, etc.

PANASONIC (MATSUSHITA)	Description	Prefix	Device
 MATSUSHITA	AN Analog DN Digital Bipolar MJ Development Type MN MOS	DN	74LS00

PERFORMANCE SEMICONDUCTOR	P Performance P4C Static RAMS	Package	Prefix	Device	Suffix
		P Plastic DIP J Plastic SOJ D Cerdip C DIP, Sidebraced L Leadless Chip Carrier Temperature C Commercial, 0°C to 70°C M Military, -55°C to 125°C MB MIL Temp with STD 883C Class B Compliance	P74PCT	240	X •PC
			Speed		
			Package		
			Temperature		
			P4C XXX	1 XX	X X
			Low standby power		
			Speed		
			Package		
			Temperature		
			Microprocessor		
			P1750A	XX YY	Z B
			Clock Freq.		
			Package		
			Temperature		
			Screening		

Manufacturer Device Identification	Prefix	Part Number	Suffix	Example
PLESSEY	Description	Package	Prefix	Device
			Suffix	
PLESSEY	Description	Package	SP	8735B
			DG	
(All ICs are marked PLESSEY)	Description	Package	Description	
			Package	
	Description	Package	Data Converters	
			Prefix	Device
	Description	Package	ZN	432
			CJ-10	
	Description	Package	Temperature Range	
			Linearity Error	
	Description	Package	Low Power References	
			Prefix	Device
	Description	Package	ZN REF	025
			C 1	
	Description	Package	Temperature Range	
			Initial Tolerance	
	Description	Package	Temperature Range	
			Initial Tolerance	
	Description	Package	Temperature Range	
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	Description	Package	Temperature Range	
			Initial Tolerance	
	Description	Package	Temperature Range	

PRECISION
MONOLITHICS

Description	Package	Prefix	Device	Suffix
ADC Analog-to-Digital Converter	H 6 lead TO-78	DAC	08	BI E Q / 883
AMP Instrumentation Amplifier	J 8 lead TO-99			
BUF Buffer (Voltage Follower)	K 10 lead TO-100			
CMP Comparator	P Epoxy B DIP			
DAC Digital-to-Analog Converter	PC Plastic Leaded Chip Carrier			
JAN Mil-M-38510 Slash Sheet	Q 16 lead Ceramic DIP			
LIU Serial Data Line Interface Unit	R 20 lead Ceramic DIP			
MAT Matched Transistors	RC 20 Position LCC			
MUX Multiplexer	S Small Outline Package			
OP Operational Amplifier	T 28 lead Ceramic DIP			
PKD Peak Detector	TC 28 Position LCC			
PM PMI Second Source Product	V 24 lead Ceramic DIP			
REF Voltage Reference	X 18 lead Ceramic DIP			
RPT PCM Line Repeater	Y 14 lead Ceramic DIP			
SMP Sample/Hold Amplifier	Z 8 lead Ceramic DIP			
SW Analog Switch				

PRO ELECTRON

First Letter	Two Letters	Prefix	Device	Suffix
T Analog Circuit	First Letter: General Shape	TEC	1033	GC B/B
U Mixed Analog/Digital	C Cylindrical			
	D Dual-In-Line (DIL)			
	E Power DIL (with External Heat Sink)			
	F Flat (Leads on 2 Sides)			
	G Flat (Leads on 4 Sides)			
	K Diamond (TO-3 Family)			
	M Multiple-In-Line (Except Dual-, Triple-, Quad-In-Line)			
	Q Quad-In-Line (QUIL)			
	R Power QUIL (with External Heat Sink)			
	S Single-In-Line (as TO-127 or TO-220)			
	T Triple-In-Line			

Manufacturer Device Identification	Part Number	Prefix	Suffix	Example
PRO ELECTRON (continued)	Device or Serial Number Either a 4-digit number assigned by PRO ELECTRON or the serial (even a combination of figures and letters) of an existing type designation which can be extended to a minimum of a 4-digit number by adding zeros in front of it.	Second Letter: Material C Metal-Ceramic G Glass-Ceramic (cerDIP) M Metal P Plastic		
RAYTHEON SEMICONDUCTOR Raytheon	Temperature LH1, LM1 -55°C to 125°C LM2 -25°C to 85°C LM3 0°C to 70°C RC 0°C to 70°C RM -55°C to 125°C RV -40°C to 85°C	Package Most Devices BM 16-Pin Epoxy-B DIP CH Chip, Visually Inspected to MIL-STD-883B, Method 2010, and Packaged in Waffle Pack CJ 14-Pin Ceramic Flatpak CL 16-Pin Ceramic Flatpak CK 14-Pin Ceramic Flatpak CQ 10-Pin Ceramic Flatpak DC 14-Pin Ceramic DIP DD 16-Pin Ceramic DIP DE 8-Pin Ceramic DIP DM 16-Pin Ceramic DIP DZ 40-Pin Ceramic DIP F Flatpak FD 64-Lead Ceramic Flatpak, Side Brazed FV 28-Lead Ceramic Flatpak FZ 42-Pin Ceramic Flatpak H 3, 8 or 10-Pin Metal Can K TO-3 Power Pack M 8 or 14-Pin Plastic Micro-Pak LS 20-Lead Chip Carrier (Square) LV 28-Lead Chip Carrier (Rectangular) LW 28-Lead Chip Carrier (Square) MB 16-Pin Epoxy-B DIP ML 16-Pin Ceramic DIP, Side Brazed MS 20-Pin Ceramic DIP, Side Brazed MZ 40-Pin Ceramic DIP, Side Brazed N 24-Pin Flatpak N Epoxy-B DIP (LM Series) NB 8-Pin Epoxy-B DIP PS 20-Pin Epoxy-B DIP PU 24-Pin Epoxy-B DIP PV 28-Pin Epoxy-B DIP PZ 40-Pin Epoxy-B DIP R 24-Pin Ceramic DIP S Ceramic "Slim-DIP" T 3, 8, 10 or 12-Pin Metal Can TK 9-Pin TO-66 Power Pack Package Beam Lead Chips B HA Series 2 -55°C to +125°C 5 0°C to +70°C 8 -55°C to +125°C XR Series M Ceramic -55°C to +125°C N Ceramic -40°C to +85°C P Epoxy -40°C to +85°C CN Ceramic 0°C to +75°C C Epoxy 0°C to +75°C Microcomputer Components Package D Hermetic DIP F Flatpak P Plastic DIP X Chip Temperature C 0°C to +75°C M -55°C to +125°C Process to MIL-M-883B B Level B S Level S		
	HA Series HA1 14-Pin Ceramic DIP HA3 14-Pin Plastic DIP XR All Temps Microcomputer Components R Beam Lead Chips RC 0 to +70°C, C-level (commercial) visual RM -55 to +125°C, B-level (military) visual NRF Ray I, II, III, TTL device RG -55 to +125°C RL B-level visual 54LS Low-Power Schottky TTL, -55 to +125°C, B-level visual	Prefix Device Suffix RC 4136 DB LM H HA1 5 XR 2207 CN Prefix Device Suffix RC 4151 DE / 883B Temperature RC 0 to 70°C RM -55 to 125°C RV -40 to 85°C Package Processing to MIL-STD-883B Prefix Device Suffix LM 139 J / 883B Package Processing to MIL-STD-883B Prefix Device Suffix DAC 10 B D M / 883B Electrical Grade Package Temperature Processing to MIL-STD-883B Prefix Device Suffix REF 01 C T Electrical Grade and Temperature Package Prefix Device Suffix 29611 A D M B Performance A—Enhanced E—AMD Equivalent Package Temperature Processing to MIL-STD-883B		

PART NUMBER GUIDE

Manufacturer Device Identification	Part Number		Example
	Prefix	Suffix	
RAYTHEON SEMICONDUCTOR (continued)	RFII	2	CJ
	Temperature		
	0 or 1	—55 to 125°C	
	2 or 3	0 to 70°C	
	Package		

Raytheon ICs are identified by an **RAY** prefix to the date code.

ROCKWELL

R Rockwell



NMOS Devices
Frequency Range
No Suffix 1 MHz
A 2 MHz
B 3 MHz
Package
C Ceramic
J PLCC
P Plastic
Q QUIP
Temperature
No Suffix 0°C to 70°C
E —40°C to 85°C (Industrial)
MT —55°C to 125°C (Military)
M MIL-STD-883, Class B

CMOS Devices
Frequency Range
1 1 MHz
2 2 MHz
3 3 MHz
4 4 MHz
Package
C Ceramic
J PLCC
P Plastic
Q QUIP
Temperature
No Suffix 0°C to +70°C
E —40°C to +85°C
MT —55°C to 125°C (Military)
M MIL-STD-883, Class B

Prefix	Device	Suffix
R	6502	ACE
Frequency Range		
Package		
Temperature		

Prefix	Device	Suffix
R	65C02	C4E
Package		
Frequency Range		
Temperature		

SANYO



Designation
LA Bipolar Linear **LE** MNMOS
LB Bipolar - Digital **LM** PMOS, NMOS
LC CMOS **STK** Thick Film

Prefix	Device
LA	1230

SARATOGA SEMICONDUCTOR



SS Saratoga
Family
M Memory
L Logic

Package
C Ceramic DIP
F Flat Pack
J PLCC
L Ceramic LCC
P Plastic DIP
S Sidebraced DIP
X Die
Temperature Range
C Commercial
M Military
S Sample
Screening
B MIL-STD 883C
Method 5004
Class B
C Saratoga
Specification for
Plastic Products

Prefix	Device	Suffix
SSM	6116L	20 C M B
Speed		
Package		
Temperature Range		
Screening		

Manufacturer Device Identification	Part Number	Example
SEEQ 	Temperature Range Q For Commercial Temperature 0°C to +70°C E For Extended Temperature -40°C to +85°C M For Military Temperature -55°C to +125°C MIL-STD-883 Level B Processing Read access time of memory devices (ns) Package D Ceramic L Leadless Chip Carrier P Plastic DIP N Plastic Leaded Chip Carrier F Hermetic Flatpack	Prefix Device Suffix D Q 2816 350 B Package Type Temperature Range Read Access Time of Memory Device (ns) MIL-STD-883 Level B Processing

SGS-THOMSON MICROELECTRONICS



Family	Package	Prefix	Device	Suffix
M27 EPROM M93 EEPROM	B Plastic D Ceramic Multilayer F Ceramic Frit Seal M SO-8 Plastic	Memory Devices MX	XXXX	XXXX
		Family	Speed	Package
			Temperature	

Family	Package	Prefix	Device	Suffix
ET21 Static RAM ETL21 Static RAM ETC27 EPROM MK41 Fast Static RAM MK45 Biport FIFO MK48 Static RAM TS27 EPROM TS28 EEPROM TS59 EEPROM	C Ceramic DIL J Ceramic DIL N Plastic DIL Q UV Window Cerdip	XX X	XXXX	X XX X XX
Technology — NMOS C CMOS L Low Power	Temperature — 0°C to 70°C E -25°C to 70°C V -40°C to 85°C M -55°C to 125°C Quality Level — Standard B/B MIL-STD-883B Class B	Family	Technology	Package
			Speed	Temperature
			Quality Level	

Family	Speed	Prefix	Device	Suffix
Z8000 CPU Z8500 Peripherals	— 4 MHz A 6 MHz	Z	80XX	X X X
	Package B Plastic D Ceramic F Frit Seal C Leaded Plastic Chip Carrier K Leadless Ceramic Chip Carrier	Speed	Package	Temperature
	Temperature 1 0 to 70°C 6 -40° to 85°C 2 -55°C to 125°C			

Family	Speed (Z86XXX)	Prefix	Device	Suffix
Z86XXX Microcomputer Z84XXX Microprocessor	— 8 MHz A 12 MHz	Z	86XXX	X X X
	Speed (Z84XXX) — 2.5 MHz A 4 MHz B 6 MHz H 8 MHz	Speed	Package	Temperature
	Package B Plastic D Ceramic F Frit Seal C Leaded Plastic Chip Carrier K Leadless Ceramic Chip Carrier			
	Temperature 1 0 to 70°C 6 -40° to 85°C 2 -55°C to 125°C	Prefix Device Suffix Z 84XXX X X X	Speed	Package
			Temperature	

PART NUMBER GUIDE

Manufacturer Device Identification	Prefix	Part Number	Suffix	Example		
SGS-THOMSON MICROELECTRONICS (continued)	Family	Package	Prefix	Device	Suffix	
	EF68XX Microprocessor	C Ceramic DIL	XX	X	XXXXX	X X XX
	TS68XX Microprocessor & CRT Controllers	E CLCC	Technology			
	EF68XX Peripherals	J Cerdip DIL				
	MK68XX Peripherals & Data Comm	FN PLCC	Package			
	MK68XX Peripherals & Data Comm	P Plastic DIL				
	MK38XX MCU Peripherals	R Pin Grid Array	Temperature			
	EF93XX CRT Controller	Temperature				
	TS689XX DSP	L* 0°C to 70°C	Quality Level			
		V -40°C to 85°C				
	M -55°C to 125°C					
	*May be omitted					
	Quality Level					
	— Standard					
	B/B MIL-STD-883B Class C					
	B/C MIL-STD-883C Class B					

IC MASTER

Manufacturer Device Identification	Prefix	Part Number	Suffix	Example
SIGNETICS (continued)	JB	Mil Rel—Jan—Old Desig.	TA	8-Lead TO-5 can
	JM	Mil Rel—Jan—New Desig.	U	9-, 13-Lead Single-in-Line
	LF,LH	Linear Industry Standard	Y	24-Pin Ceramic Square Flat-pack with Radial Leads
	LM,MC	Linear Industry Standard	W	10, 14, 16, 24-Lead CERPAC
	MB,MJ	CMOS		
	OM	Linear Industry Standard		
	PCD,PCE	CMOS		
	SAA,SAB	Digital Industry Standard		
	SAF	Digital Industry Standard		
	SD	Linear DMOS		
	SG,TAA	Linear Industry Standard		
	TBA,TCA	Linear Industry Standard		
	TDA,TDB	Linear Industry Standard		
	TEA	Linear Industry Standard		
	UA,ULN	Linear Industry Standard		
	SCN	Microprocessor N Channel		
	SCB	Microprocessor Bipolar		
	SCC	Microprocessor CMOS		

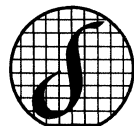
SILICON GENERAL



SG Silicon General

Characteristics	Prefix	Device	Suffix
A Improved Electrical Specifications	SG	1524	J
C Reduced Temperature Range	SG	108A	T
Package			
M 8 Pin DIL Plastic			
N 14, 16, 18, 20, 22, 24, 28, 40 Pin DIL Plastic			
W 16 Pin Batwing DIL Plastic			
D 8, 14, 16 Pin DIL S.O.I.C. Plastic			
DM 8 Pin DIL S.O.I.C. Plastic			
DW 16, 18, 20 Pin DIL S.O.I.C. Plastic (Wide Body)			
DWW 20 Pin Batwing DIL S.O.I.C. Plastic			
P 3, 5 Pin TO-220 Plastic			
V 3 Pin TO-247 SIP Plastic			
S 12 Pin SIP Plastic			
Z 12 Pin SIP Plastic			
Q 20, 28 Pin Leadless Chip Carrier— Plastic			
Y 8 Pin DIL Ceramic			
J 14, 16, 18 Pin DIL Ceramic			
H 14, 16, 18 Pin DIL Ceramic Side Brazed			
F 10, 14, 16, 24 Pin DIL Ceramic (CERPAC)			
L 20 Pin Leadless Chip Carrier Ceramic			
T 2 Pin TO-46 Metal Can			
T 3 Pin TO-52 Metal Can			
T 3, 8, 10, 12 Pin TO-5 Metal Can			
K 3, 4 Pin TO-3 Metal Can			
R 3, 4, 5, 9 Pin TO-66 Metal Can			
G 3, 5 Pin Hermetic TO-220 Non-Isolated			
GI 3, 5 Pin Hermetic TO-220 Isolated			

SILICON SYSTEM
INCORPORATED



Family	Temperature Range (0)	Prefix	Device	Suffix
32B HDD Interface	C Commercial (0°C to +70°C)	32R	510A	-6 C F
32C HDD Controller	I Industrial (-40°C to +85°C)			
32D HDD Data Recovery	M Military (-55°C to 125°C)			
32H HDD Head Positioning				
32M HDD Motor Speed Controller				
32P HDD Pulse Detection				
32R HDD Read/Write Amp				
34B FDD Interface				
34D FDD Data Recovery				
34P FDD Pulse Detection				
34R FDD Read/Write Amp				
35P Tape Drive Pulse Detection				
36+ Optical Storage				
73A Modem Analog Front End				
73D Modem Device Set				
73K K-Series Modem				
73M Modem/Modem Support				
73T Tone Signaling				
78P Digital Telecom				
78A Analog Telecom				
Package Type (R)				
C Side-brazed Ceramic				
D Ceramic DIP				
F Flat Pack				
H PLCC				
P Plastic DIP				
T Metal Can				
S Plastic, Skinny DIP				
N Small Outline, Narrow (150 mil)				
L Small Outline, Large (300 mil)				
W Small Outline, Wide (400 mil)				
Release Level (0) (Revision) A Through E				

PART NUMBER GUIDE

Manufacturer Device Identification	Part Number	Example
	Prefix Suffix	
SILICON SYSTEM INCORPORATED (continued)	Modifiers (0) J Burn-In (168 Hours) K Burn-In (48 Hours) LJ Low Noise Burn-In (168 Hours) L Low Power LN Low Noise LQ Low Noise, Resistor, Mirror Image LR Low Noise, Resistor M Mirror Image S Serial Version SL Low Power Serial R Damping Resistor RM Resistor, Mirror Image U On-Chip UART Cannot Use A Through E in Left Position	

SILICONIX



Description (1, 2 or 3 letters)

D Drivers
DF Digital Function
DG Analog Switches and Multiplexers
G Multi-Channel FETs
L Linear
LD Linear Digital Combinations
SD Siliconix DMOS Product
SI Siliconix Proprietary or Second Source Parts
SJM QPL Listed Part

Operating Temperature Range — ICs (1 Letter)

A -55°C to +125°C
B -20°C to +85°C
C 0°C to +70°C
D -40°C to +85°C
B and D temperature range parts receive industrial processing unless a process option dash number is added

Packages (1 Letter)

A Metal Can—Hermetic
J Dual-In-Line Package—Plastic
K Dual-In-Line Package—CERDIP
L Flat Package
M CLCC
N PLCC
P Dual-In-Line Package—Side Braze—Hermetic
R Dual-In-Line Package—Side Braze—Hermetic
Y Small Outline Package

Process Option

/883 MIL-STD-883, Class B Compliant—Non JAN
-2 Non Compliant—Non JAN
(-4) 160 Hour Burn-In
BS9000 BS9000 Compliant

Packages—MOSPOWER

Hermetic

A TO-3
B TO-39
E TO-52
G TO-18
P Sidebrazed DIP

Plastic

D TO-220
F TO-202
J Plastic DIP
L TO-92
M TO-237
V TO-218
 4-Pin DIP & SOT-23 also available

ICs Prefix Device Suffix

DG 187 A P /883
DG 303 A B P (-4)
DG 506 A C J
 Family
 Device Revision
 Operating Temperature Range
 Process Option

MOSPOWER Prefix Device Suffix

V N 6 7 A B
 Vertical MOSPOWER
 Substrate
 Voltage [x10]
 Selection
 Geometry
 Package

S-MOS SYSTEMS



(Current Logo)



(Product Marking)

Family

CI Converter IC
EA Sensor array
ED Display driver
LA Logic array
MC Microcontrollers and peripherals
MM Masked ROM
PM Programmable memories
RM Static RAM
SC Standard cell
TC Telecom IC
VM Melody IC

Package

C Plastic DIP
D Die form
F Quad flat package
H Ceramic DIP
J Plastic leaded chip carrier
M Small outline package (SOP)
N Skinny DIP
S Shrink DIP

Prefix Device Suffix

SRM 2016 C15
 Family
 Package
 Speed (15=150 ns)

Manufacturer Device Identification		Part Number		Example	
		Prefix	Suffix		
SOLITRON		CM CMOS	Process (CMOS)	Prefix	Device
		UC4xxx Linear	(None) Limited Operating Voltage Range	CM	4000
		UC6xxx PMOS Memory (discontinued)	A 3-15 Volt Operating Voltage		
		UC7xxx PMOS Memory (discontinued)	B 3-18 Volt Operating Voltage		
				Package/Temperature	
			Package Style, Temperature Range (CMOS)		
			D Ceramic DIP, -55°C to 125°C		
			E Epoxy DIP, -40°C to 85°C		
			F Cer DIP (Frit Seal) -55°C to 125°C		
			H Uncased Die		
			K Flatpack, -55°C to 125°C		
			Package Style, Temperature Range (Linear)		
			(None) TO-99, -65°C to 125°C		
			C TO-99, 0°C to 70°C		
			CE 8 lead MINI DIP, 0°C to 70°C		
			ID Uncased Die		

SPRAGUE ELECTRIC SPRAGUE

2

Family	Package	Prefix	Device	Suffix
UC CMOS/Complex Arrays	A Plastic DIP	UL N	2111	A
UD Power Drivers	B Plastic DIP with Heat Sink Tabs	T N Family		
UG Hall Effect Circuits	C Chip	Family Temperature		
UL Linear Circuits	CW Probed Wafer	Package		
	D 3-Pin Metal Can			
	E Leadless Chip Carrier			
	H Hermetic DIP			
	J 14-Pin Hermetic Flat Pack			
	L Plastic SOIC			
	M 8-Pin Plastic DIP			
	R Ceramic DIP			
	S 4-Pin SIP			
	T 3-Pin SIP			
	U Thin 3-Pin SIP			
	V Flange Mount TO-3			
	W 12-Pin SIP			
	Y TO-92 Transistor			
	Z 5-Lead TO-220			

Family	Package	Prefix	Device
UH Peripheral Power/Display Drivers	C Hermetic Flatpack	UH P	400
	D Hermetic DIP	T P Family	
	K Chip	Family Package	
	P Plastic DIP		

Prefix	Device	Suffix
883C	4XXXB	C
Screening Level		

PART NUMBER GUIDE

Manufacturer Device Identification	Part Number		Example		
	Prefix	Suffix			
STANDARD MICROSYSTEMS 	Family	Functional Options	Prefix	Device	Suffix
	COM Data Communications CRT CRT Display SR Shift Register KR Keyboard Encoder FDC Floppy Disk CCC Cassette/Cartridge HDC Hard Disk MPU Microprocessor HYC Hybrid Communications	T TTL Clock Input H High Speed ST ROM STD Program Options PRO See Catalog HR MIL-STD-883 Level B Equivalent BI Burned-In A,B,C Speed Program Options X or XXX Specifies Mask Program Package No Letter Ceramic CD Cerdip P Plastic LJ Plastic Leaded Chip Carrier LL Leadless Ceramic Chip Carrier FA Quad Package—Straight Lead GA Quad Package—Gull Lead	COM Family Function Program Option Package	5016	T X P
STANTEL COMPONENTS INC. (STC COMPONENTS LTD.) 	Family	Screening Level/Temperature Range	Prefix	Device	Suffix
	CRT Video Display Circuits DSP Miscellaneous Digital Signal Processing Products SCA Analog to Digital Converters SCC Comparators SCD Digital to Analog Converters SCS Sample-and-Hold Devices SFA Fiber Optic Amplifiers SFD Fiber Optic Drivers SLM Multiplexers SLS Shift Registers SMF FIFOs STC Memory Products and Miscellaneous TEL Telecom Products VAX VersArray™ Products	B BS9000 I Industrial Temperature Range M MIL-STD-883C screened — Commercial Temperature Range Package C Chip Carrier D Cerdip (frit-sealed DIL) J Sidebrazed ceramic DIL N Plastic DIL Sx Skinny (0.3" wide)	STC Family Screening Level/Temperature Range Speed Grade Package Style	6116 M	70 J
TECHNITROL, INC. <i>Technitrol, Inc.</i>	Family		Prefix	Device	Suffix
	MEDM 2		MEDM 2	100	M Y
			Frequency 10 MHz		
			Military		
			Special Testing		
TELEDYNE PHILBRICK 	Description		4100 Series	Analog to Digital Converters	
	1000 Series Operational Amplifier, Module 1300 Series Operational Amplifier, IC 1400 Series Operational Amplifier, FET IC 1700 Series Operational Amplifier Chopper Stabilized 2200 Series Power Supply, AC Input, PC Mount 2300 Series Power Supply, DC Input, PC Mount 2400 Series Power Supply, AC Input, Chassis Mount 4000 Series Digital to Analog Converters		4200 Series	Modular Instrumentation Amplifiers	
			4300 Series	Non-Linear Function Modules	
			4700 Series	Voltage to Frequency and Frequency to Voltage Converters	
			4800 Series	Sample-Hold Amplifiers	
			4900 Series	Deglitchers	
TELEDYNE SEMICONDUCTOR 	Temperature	Package	Device	Suffix	
	C 0°C to 70°C M -55°C to 125°C I -25°C to +85°C	J CerDIP P Plastic Dip Y Dice BQ Quad Flat Package	TSC7109	C P	
			Temperature		
			Package		
TELEFUNKEN 	Prefixes Assigned by the European Association "PRO ELECTRON" (See Pro Electron)		Prefix	Device	Suffix
	Proprietary Devices U Integrated Circuits	B Bipolar M MOS	U	113	B
	Note: ICs are marked TFK				

TEXAS
INSTRUMENTS



Manufacturer Device Identification	Part Number	Example
Prefix	Suffix	
AC Advanced Bipolar Circuits	Package	Prefix Device Suffix
SBP Bipolar Microprocessor	JT Ceramic DIP, 24-Pin, 300-mil	SN 74 S188 J
SMJ MOS Memory and Microprocessor 883B	J,JG Ceramic DIP	Description
SN Standard Circuit	JD Side braze ceramic DIP	Temperature Range
SNJ Standard Circuit: 883B, JEDEC Std 101	KA,KC,KD,KF Plastic power tab	Package
TAC CMOS Logic Array	LP Plastic 3-lead	Prefix Device Suffix
TAL Low-Power Schottky TTL Logic Array	N,NE Plastic DIP	TMS 4256 -15 NL
TAT STL Logic Array	N Plastic DIP	Speed
TL Linear Circuit	T Metal Flat Pack	Package
TLC LinCMOS™ Circuit	WA,W Ceramic Flat Pack	Temperature Range
TIEF Transimpedance Amplifiers	NT Plastic DIP, 24 pin 300 mil	
TIES Infrared Source	U Ceramic Flat Pack	
TIFPLA Bipolar Field Programmable Logic Array	NF Plastic DIP, 28 pin 400 mil	
TIBPAL Bipolar Programmable Logic Array	FH Ceramic Single Layer Sq. Chip Carrier JEDEC Standard	
FP Rect. Chip Carrier for DRAMs	FN Plastic Single Layer Sq. Chip Carrier	
TMS MOS Memory/Microprocessor	FK Multi-Layer Sq. Chip Carrier JEDEC Standard	
TM Microcomputer Module, Single-In-Line Package Memory Module	FE Multi-Layer Rect. Chip Carrier	
TBP Bipolar Memory	WC Ceramic Flat Pack	
TC CCD Imager	FG Multilayer Rect. Chip Carrier JEDEC Standard	
TCM Telecommunications IC	D Small-outline Package, 150 mil	
TIED Infrared Detector	DW Small-outline Package, 300 mil	
TIL Optoelectronic Circuit	FM Rect. Chip Carrier for DRAMs	
VM Voice Memory Circuit	DJ Small-outline Package J-Lead Package, Memory	
JANB JM38510—Qualified Circuits, Level B	Low-power TTL	
JBP Bipolar PROM: 883C, JEDEC Std 101	Low-power Schottky TTL	
	Schottky TTL	
	Standard Interface Circuits	
	Advanced Schottky TTL	
	High-Speed CMOS	
	Advanced Low-power Schottky TTL	
	Advanced Circuits	
		* -40°C to 85°C
Temperature (Most Devices) Digital & Interface Prefixes		
Series		
-55°C to 125°C	0°C to 70°C	
54	74	
54H	74H	
54L		
54LS	74LS	
54S	74S	
55	75	
54AS	74AS	
54HC/54HCT	74HC/74HCT*	
54ALS	74ALS	
54F	74F	
54BCT	74BCT	
Bipolar Suffixes		
C 0°C to 70°C	L 0°C to 70°C	
E -40°C to 85°C	M -55°C to 125°C	
I -25°C to 85°C or	E -40°C to 85°C	
* -40°C to 85°C	S Special Range	
M -55°C to 125°C	- 0°C to 70°C	
MOS Suffixes		
Speed (MOS only)		
— 15 150 ns Max. Access		
— 17 170 ns Max. Access		
— 20 200 ns Max. Access		
— 25 250 ns Max. Access		
— 35 350 ns Max. Access		
— 45 450 ns Max. Access		
— 2 200 ns Max. Access		
— 3 350 ns Max. Access		
— 4 450 ns Max. Access		

THIRD DOMAIN



Temperature Range	Prefix	Device	Suffix
C Commercial 0°C to 70°C	RSS	100A	C D
M Military -25°C to 150°C			
Package			
D Ceramic DIP			
N Plastic DIP			

PART NUMBER GUIDE

Manufacturer Device Identification	Part Number		Example		
	Prefix	Suffix			
TOSHIBA 	Family TMM NMOS Memory TC CMOS Memory	Package C Ceramic D Cerdip P Plastic DIP F Flat Pack J Plastic SOJ T PLCC Z ZIP	Prefix TMM 12	Device 3456	Suffix APL10L
	Process 2 NMOS SRAM or Non-volatile 4 NMOS DRAM 5 CMOS Memory	Special Designator I Industrial -40°C to 85°C L Low Power	Family		
	Type 0 NMOS SRAM 1 DRAM 2 VDRAM 3 MROM 4 OTP 5 CMOS SRAM 7 UV EPROM 8 EEPROM	Speed (Example) 85 85 ns 10 100 ns	Process		
	Organization or Density Examples: TC5564 64K, CMOS TC5565 64K, MIX MOS TC11000 1 MBx1 TC511000 Fast Page TC511001 Nibble Mode TC511002 Static Column		Type		
			Organization or Density		
			Die Revision		
			Package		
			Special Designator		
			Speed		
			Low-Low Power		
		</			

Manufacturer Device Identification	Part Number	Prefix	Suffix	Example															
TRW LSI PRODUCTS																			
 TRW LSI Products, Inc. TRW Electronic Systems Group	Multiplier Family		Package	<table><tr><th>Prefix</th><th>Device</th><th>Suffix</th></tr><tr><td>TDC</td><td>1016</td><td>J5 C 10</td></tr><tr><td>Package</td><td></td><td></td></tr><tr><td>Screening</td><td></td><td></td></tr><tr><td>Electrical</td><td></td><td></td></tr></table>	Prefix	Device	Suffix	TDC	1016	J5 C 10	Package			Screening			Electrical		
	Prefix	Device	Suffix																
	TDC	1016	J5 C 10																
	Package																		
	Screening																		
	Electrical																		
	H 3rd Generation (2 m)	J0 64 Lead Hermetic Ceramic DIP (Without Heat Sink, Lid Up)																	
	K 4th Generation (1 m)	J1 64 Lead Hermetic Ceramic DIP (With Flat Heat Sink, Lid Down)																	
	Example	J3 64 Lead Hermetic Ceramic DIP (Without Heat Sink, Lid Down)																	
	MPY012HJ1C	J4 48 Lead Hermetic Ceramic DIP																	
MPY112KJ4C	J5 40 Lead Hermetic Ceramic DIP																		
Family	J6 28 Lead Hermetic Ceramic DIP																		
MPY Triple Diffused Bipolar Multipliers	J7 24 Lead Hermetic Ceramic DIP																		
TDC TRW Triple Diffused Bipolar Catalog Products	J8 18 Lead Hermetic Ceramic DIP																		
TMC TRW CMOS Catalog Products	J9 16 Lead Hermetic Ceramic DIP																		
THC TRW Hybrid I.C.'s	A1 68 Contact JEDEC Type 'A' Chip Carrier																		
Screening and Temperature		C1 68 Contact Hermetic Ceramic (Leadless) Chip Carrier																	
<table><tr><th>Temp/Process</th><th>Com</th><th>Rel.</th><th>Only</th><th>883C</th></tr><tr><td>T_A=0 to 70°C</td><td>C</td><td></td><td>Hi-Com</td><td></td></tr><tr><td>T_C=55 to 125°C</td><td></td><td>A</td><td>B.I.</td><td>G</td></tr></table>	Temp/Process	Com	Rel.	Only	883C	T _A =0 to 70°C	C		Hi-Com		T _C =55 to 125°C		A	B.I.	G		C2 44 Contact Hermetic Ceramic (Leadless) Chip Carrier		
Temp/Process	Com	Rel.	Only	883C															
T _A =0 to 70°C	C		Hi-Com																
T _C =55 to 125°C		A	B.I.	G															
For screening and temperature specifics, you must check in each data sheet to see applicable temperature range		C3 28 Contact Hermetic Ceramic (Leadless) Chip Carrier																	
		E1 Printed Circuit Board, Eurocard Format (100mm × 160mm)																	
		P1 Printed Circuit Board, Standard Format (4.5 in. × 5.5 in.)																	
		L1 68 Lead Hermetic Ceramic Leaded Chip Carrier																	
		B2 24 Lead Cerdip (0.3 in. wide)																	
		B5 40 Lead Cerdip																	
		B6 28 Lead Cerdip																	
		B7 24 Lead Cerdip (0.6 in. wide)																	
		B8 18 Lead Cerdip																	
		G5 88 Pin Grid, Cavity Up No Heat Sink																	
		G8 68 Pin Grid, Cavity Up No Heat Sink																	
		N0 64 Lead Plastic DIP																	
		N4 48 Lead Plastic DIP																	
		N5 40 Lead Plastic DIP																	
		N6 28 Lead Plastic DIP																	
		N7 24 Lead Plastic DIP																	
		N9 16 Lead Plastic DIP																	
		S5 32 Pin Hermetic Metal DIP																	
		S7 24 Pin Hermetic Metal DIP																	
		H5 88 Pin Plastic Grid Cavity Up																	
		H8 68 Pin Plastic Grid Cavity Up																	
		R4 84 Lead PLCC																	
		R1 68 Lead PLCC																	
		R2 44 Lead PLCC																	
		R3 28 Lead PLCC																	

UNITED TECHNOLOGIES MICROELECTRONICS CENTER



Package	Prefix	Device	Suffix
A Leadless Chip Carrier	UT	1553BRTI	G A
G Pin Grid Array			
K Leaded Chip Carrier—Unformed Leads	Package		
L Leaded Chip Carrier—Gull Wing	Processing		

VTC INCORPORATED



VTC Incorporated

Additional Processing
B Burn-in (168 Hrs, T _J =150°C or Equivalent)
J Screened to Class B, Mil Std 883
R Rad Hard
None No Additional Processing

Temperature Range
74 Commercial (–40°C to 85°C)
54 Military (–55°C to 125°C)
Package
P Plastic DIP
PS Plastic Slimline DIP
S Ceramic DIP (Cerdip)
DS Ceramic Slimline DIP (Cerdip)
PL Plastic Leaded Chip Carrier (PLCC)
DL Ceramic Leadless Chip Carrier (LCC)
PO Plastic SOIC

CMOS Interface Logic		
Prefix	Device	Suffix
V	74	ACT
VTC	240	P
Additional Processing		
Temperature Range		
Family		
Device Type		
Package		

PART NUMBER GUIDE

Manufacturer Device Identification	Prefix	Part Number	Suffix	Example
VTC INCORPORATED (continued)	Additional Processing B Burn-in (168 Hrs, $T_j=150^{\circ}\text{C}$ or Equivalent) J Screened to Class B, Mil Std 883 R Rad Hard None No Additional Processing	Temperature Range/Performance A thru I Industrial (-25°C to $+85^{\circ}\text{C}$) J thru R Commercial (0° to 70°C) S thru Z Military (-55°C to $+125^{\circ}\text{C}$) Package P Plastic DIP PS Plastic Slimline DIP D Ceramic DIP (Cerdip) J Side Brazed Ceramic DIP T Metal Can G Pin Grid Array F Flatpack PL Plastic Leaded Chip Carrier (PLCC) DL Ceramic Leaded Chip Carrier (LCC) X Die	Bipolar Products Prefix Device Suffix V — A 705 D J VTC Additional Processing Family Part Number Package Temperature Range/ Performance	
	Family Group 57CXXX Fast EPROM, PROM & R PROM 59XXX Bit Slice & Logic 27CXXX Slow EPROM Memory PAC Programmable Standalone Microcontroller SAM Programmable Standalone Microsequencer	Package A Plastic Pin Grid Array B Ceramic SDBRZD DIP, 0.9" C CLLCC D Cerdip, 0.6" F Ceramic Flatpack G Ceramic Pin Grid Array H Ceramic Flatpack J PLDCC K Cerdip, 0.6" L CLDCC M Plastic DIP, 0.9" P Plastic DIP, 0.6" S Plastic DIP, 0.3" T Cerdip, 0.3" W Waffle Packed Dice X Ceramic Pin Grid Array Y Cerdip, 0.6" Z CLLCC Temperature Range Blank Commercial M Mil Temperature CB Commercial Burned-In MB Mil Std 883B	Prefix Device Suffix WS57 C64F- D (Blank) Family Device No. Package Temperature	
	WAFERSCALE INTEGRATION, INC.  WAFERSCALE INTEGRATION, INC.			
	VLSI TECHNOLOGY  VLSI TECHNOLOGY, INC.	VC Custom VF Foundry VG Gate Array VL Logic VM Government VP Programmable Devices VS User-Designed VLSI VT Memory VU Design Center Temperature Range C Commercial I Industrial M Military	Package A Sidebrazed Ceramic DIP (EPROM) C Sidebrazed Ceramic DIP D Cerdip F Flatpack G Ceramic Pin Grid Array K Leadless Chip Carrier (EPROM) L JEDEC Type-B Ceramic Leadless Chip Carrier P Plastic DIP Q Plastic Leaded Chip Carrier T Ceramic Leaded Chip Carrier V Die-Plated W Die in Wafer Form Y DIP on PC Board Z Chip on PC Board Environmental Code B Mil-Std-883C, Level B Blank Standard Screening I Military-Screened J Mil-M-38510	Prefix Device Suffix VC 9999999 BB PTE Bin Code Package Temperature Range Environmental Code
	WESTERN DESIGN CENTER 	Family WC Custom W Standard Performance 4 4 MHz 6 6 MHz 8 8 MHz 10 10 MHz	Package P Plastic C Ceramic D Cerdip E Leadless Chip Carrier X Dice Temperature Blank 0°C to $+70^{\circ}\text{C}$ I -40°C to $+85^{\circ}\text{C}$ M -55°C to $+125^{\circ}\text{C}$	Prefix Device Suffix W 65C816 P I -4 Family Package Temperature Range Performance

Manufacturer		Part Number		Example
Device Identification		Prefix	Suffix	
WESTERN DIGITAL	Package (Obsolete)			Prefix Device Suffix
	A 40 Lead DIP-Ceramic	WD	1943	M 00
 (Current)	B 40 Lead DIP-Relpak	Package _____		
	C 24 Lead DIP-Ceramic	Special Parameter _____		
 (Discontinued)	E 28 Lead DIP-Ceramic			
	F 28 Lead DIP-Relpak			
	L 18 Lead DIP-Ceramic			
	M 18 Lead DIP-Plastic (Totally Encapsulated)			
	P 40 Lead DIP—Plastic (Totally Encapsulated)			
	R 28 Lead DIP-Plastic (Totally Encapsulated)			
	T 48 Lead DIP-Ceramic			
	U 20 Lead DIP-Ceramic			
	V 20 Lead DIP-Plastic (Totally Encapsulated)			
	X Ceramic Kit			
	Y Plastic Kit			
	Package (Current)			Prefix Device Suffix
	A Ceramic Side Braze	WD	1943	M 00
	C Cerdip	Package _____		
	P Plastic (Encap)	Special Parameter _____		
	D Ceramic Chip Carrier-Leadless	H Plastic Chip Carrier-Leadless		
	G Ceramic-Chip Carrier-Leaded	J Plastic Chip Carrier-Leaded		
	Lead Count			
	A < 14 Lead	H 28 Lead		
	B 14 Lead	L 40 Lead		
	C 16 Lead	M 44 Lead		
	D 18 Lead	N 48 Lead		
	E 20 Lead	S 64 Lead		
	F 22 Lead	T 68 Lead		
	G 24 Lead	Z Kit		

XICOR	X Xicor	Package	E ² PROMs
		D Ceramic DIP	Prefix Device Suffix
		E Ceramic DIP	X 28C256 D M B-35
		H Die	Process Technology _____
		J Plastic LDCC	Package _____
		P Plastic DIP	Temperature Range _____
		Temperature Range	Processing Level _____
		Blank 0 to 70°C	Access Time _____
		I -40 to 85°C	
		M -50 to 125°C	
		Processing Technology	Serial E ² PROMs
		Blank NMOS	Prefix Device Suffix
		C CMOS	X 24C04 D M B
		Speed	Package _____
		20 200 ns	Temperature Range _____
		25 250 ns	Processing Level _____
		Blank 300 ns	
		35 350 ns	
		45 450 ns	
		Processing Level	NOVRAMs
		Blank Standard	Prefix Device Suffix
		B Class B	X 2212 D M B/10-35
		Endurance	Package _____
		Blank 1000 Data Changes/Bit	Temperature Range _____
		/5 5000 Data Changes/Bit	Processing Level _____
		/10 10000 Data Changes/Bit	Endurance _____
			Access Time _____

Manufacturer Device Identification	Part Number		Example
	Prefix	Suffix	
XICOR (continued)	Serial NOVRAMs		
	Prefix	Device	Suffix
	X	2444	D M/10
	Package		
	Temperature Range		
	Endurance		

ZILOG

Z Zilog

Zilog
an affiliate of
EXON Corporation
(Current)

 **Zilog**
(Discontinued)

Prefix	Device	Suffix
Z	80320 08 V S C	RXXX
Speed		
Package		
Temperature		
Environmental Flow		
ROM Mask Number		

Environmental
Preferred
C Plastic Standard
E Hermetic Standard
F Protopack Standard

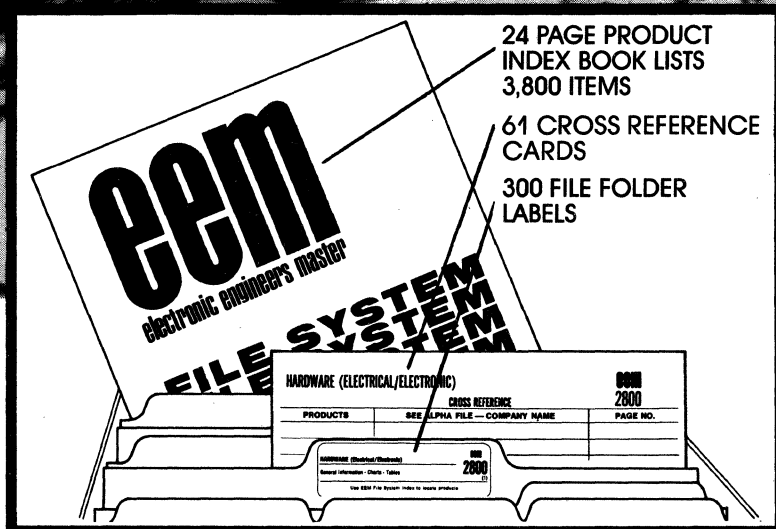
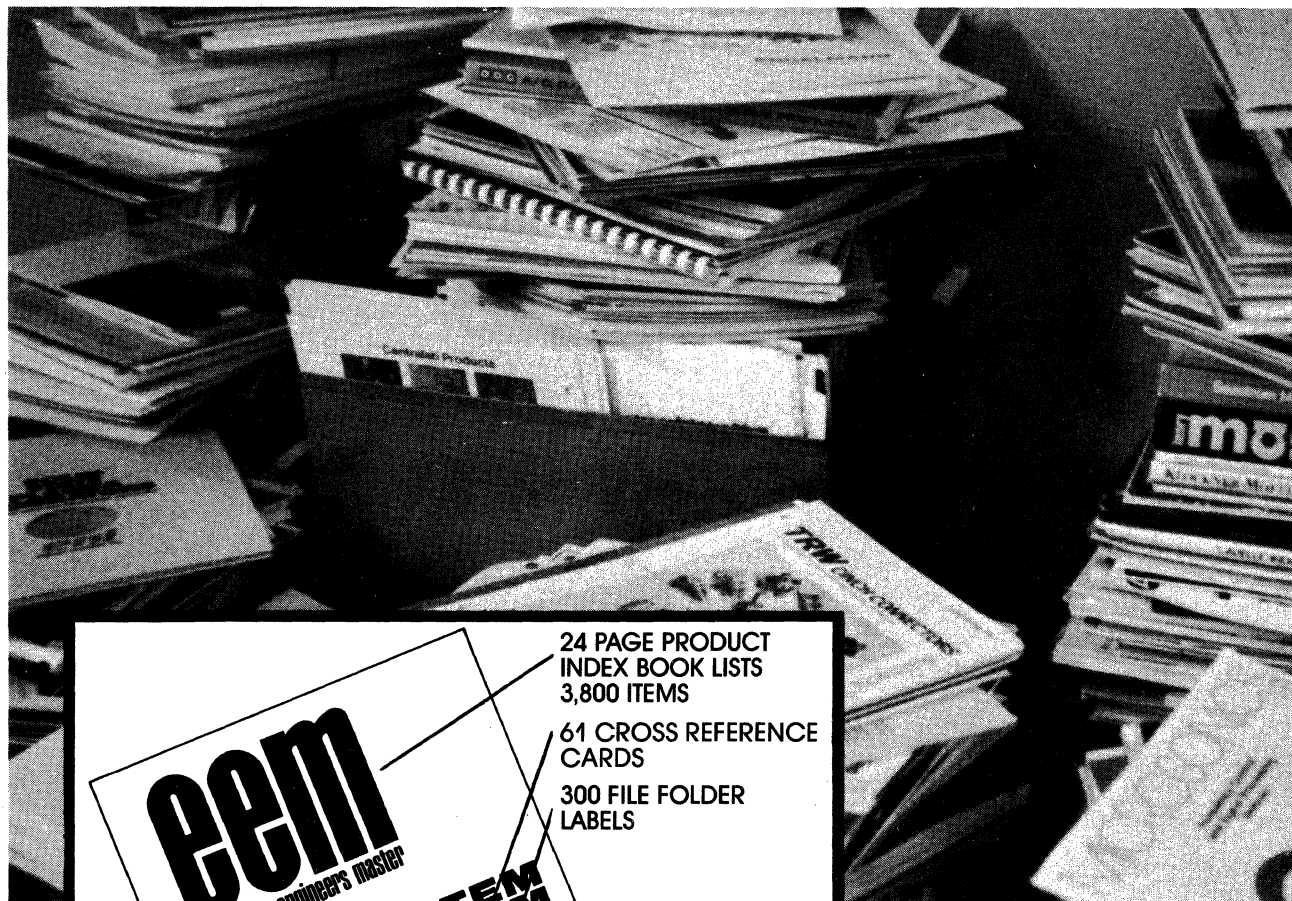
Longer Lead Time
A Hermetic Stressed
B 833 Class B Military
D Plastic Stressed
J JAN 38510 Military

Package
Preferred
D Cerdip
P Plastic
V Plastic Chip Carrier

Longer Lead Time
C Ceramic
F Plastic Quad Flat Pack
G Ceramic PGA (Pin Grid Array)
L Ceramic LCC
Q Ceramic Quad-in-Line
R Protopack
T Low Profile Protopack

Temperature
Preferred
S 0°C to +70°C

Longer Lead Time
E -40°C to +85°C
M -55°C to +125°C



ALL NEW with this edition of EEM **GET ORGANIZED!**

Are your catalog files organized? Can you find any given catalog in a matter of seconds? If your answer is "Yes," you probably already have the EEM File System. But, if you said "No," you really ought to look into this simple system. It will save hours of time and tons of aggravation.

The EEM File System was invented over twenty-five years ago to help people who specify, buy, or work with electronic products and equipment. It is upgraded on a constant basis to reflect the current state of the art. It's easy to use and easy to customize to your particular needs.

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Once you have determined which application notes you need, contact the manufacturer's sales office or write to the manufacturer. Be sure to give both the title and the application note number. Addresses and phone numbers are listed in the Manufacturers and Distributors Directory.

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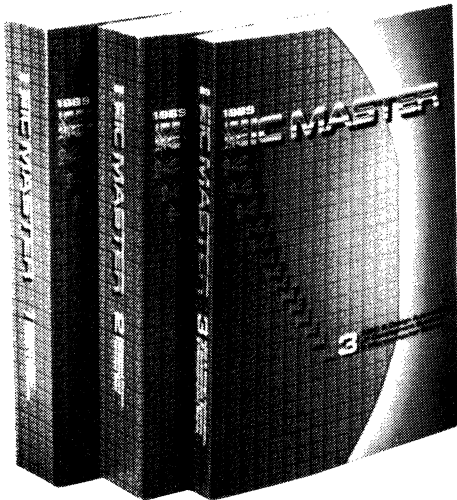
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MILITARY PARTS DIRECTORY

This section is divided into three parts: (1) Military Device Testing for manufacturers able to perform various levels of screening, (2) MIL-STD-1562R directories for microcircuits considered to be the most acceptable for military applications, and (3) Military Parts—QPL SELECTION GUIDE for MIL-M-38510 Qualified Parts listed by function.

Military Device Testing lists the manufacturers who screen devices to MIL-STD-883, as well as devices that are radiation hardened. It also shows companies currently qualified to supply devices on the Qualified Parts List (QPL).

MIL-STD-1562R contains six tables. To make the best part selection for a military application, begin by looking up the industry generic number in Table IV—Cross References. You will be directed to one of the preceding tables by Table Number and Section to the best possible selection candidate.

Table I—Preferred Devices. All devices in this table have a dated military specification and a QPL source (Part I or Part II). These devices have no known reliability or availability problems and are recommended and preferred.

Table II—Potential Standardization Candidates. Devices listed in this table are those that have been selected for electrical characterization and are potential candidates for MIL-M-38510 specification or that have an active Military (DESC) Drawing. This table also includes devices that have military specifications but as yet have no QPL source. These devices should be considered for use in systems or equipment designs if a QPL source is anticipated.

Table III—Logistics or Continuous Replacement Only. This table contains devices that are not recommended for new designs because of diminished sources or obsolete technology, or because a preferred device listed in Tables I and II is now available which performs the same function.

Table IV—Inactive or Suspended Military Activity. This table contains devices that are not recommended for a new design. It also includes devices with a QPL status that has been cancelled or expired and there is no indication that a device manufacturer intends to requalify.

Table V—Not recommended under any circumstances. Devices listed in this table will also have a preferred device for new design.

Table VI—Cross References. (NATO status: NATO-P = NATO Preferred Device, NATO-G = NATO Guidance Device, NATO-F = NATO Future Device, NATO-L = NATO Logistic/Maintenance Device.

IC MASTER

MILITARY DEVICE TESTING

MANUFACTURER	MIL-M-38510 QPL				MIL-STD-883 SCREENING		OTHER SCREENING		RADIATION HARDENED
	Linear	TTL	Other Bipolar	CMOS	Class B	Class S	Military	Industrial	
Advanced Analog					X	X	X	X	X
Advanced Linear Devices					X		X	X	
Advanced Micro Devices	X	X	X		X	X	X	X	
Altera					X		X	X	
Analog Devices	X		X	X	X		X	X	Limited
Analog Systems					X		X	X	
Apex Microtechnology					X		X	X	
Aptek Microsystems					X		X	X	
Burr-Brown	X				X	X	X	X	X
California Devices					X	Limited	X	X	
Calmos Semiconductor					X	X	X	X	
Cherry Semiconductor							X	X	
Comlinear Corp.					X	Limited	X	X	
Custom Arrays Corp.					X		X	X	
Cybernetic Micro Systems					X				
Cypress Semiconductor				X	X	X	X	X	
Datel					X	Limited	X	X	
Dense-Pac Microsystems					X		X	X	X
Dionics, Inc.			X		X		X	X	
EG&G Reticon					X		X	X	
Elantec					X	X	X	X	X
Exar					X	Limited	X	X	
EXEL Microelectronics					X	Limited	X	X	
Fujitsu Microelectronics					X		X	X	
Gennum Corp.					X	X	X	X	
GE Solid State (Intersil)	X		Analog Switches		X		X	X	
GE Solid State (RCA)				X	X	X	X	X	X
GigaBit Logic				X	X	X	X	X	X
Gould Semiconductor					X	Limited	X	X	
Harris Semiconductor	X			X	X	X	X	X	X
Holt Integrated Circuits					X	X	X	X	
Honeywell Solid State Elec.			X		X	X	X	X	X
Hughes Aircraft					X	X	X	X	X
Hybrid Systems					X	X	X	X	
Hycomp					X	X	X	X	
ILC-Data Device Corp.					X	X	X	X	
Inmos Corp.					X		X	X	X
Inova Microelectronics					X		X	X	
Integrated Device Technology					X		X	X	X
Integrated Logic Systems, Inc.					X		X	X	
Intel			µP		X		X	X	
Int'l Microcircuits		X		X	X	Limited	X	X	
Int'l Microelectronic Prod.					X		X	X	
Intronics					X		X	X	
Lambda Semiconductor					X			X	
Linear Technology Corp.	X				X	X	X	X	
LSI Computer Systems					X	X	X	X	
LSI Logic					X	X	X	X	X
Marconi Electronic Devices					X	X	X	X	X
Maxim Integrated Products					X		X	X	
Micrel					X	X	X	X	X
Microchip Technology Inc.					X		X	X	
Micro Networks					X	X	X	X	

MANUFACTURER	MIL-M-38510 QPL				MIL-STD-883 SCREENING		OTHER SCREENING		RADIATION HARDENED
	Linear	TTL	Other Bipolar	CMOS	Class B	Class S	Military	Industrial	
Micropac	X	X				X	X	X	
Micro Linear	X	X	X		X		X	X	X
Micro Power Systems					X	X	X	X	X
Micronix Integrated Sys.					X	X	X	X	X
Micron Technology					X		X		
Mitel Semiconductor					X		X	X	
Monolithic Memories		X	PROM		X	X	X	X	
Motorola Semiconductor	X	X	ECL, μ P	X	X	X	X	X	
National Semiconductor	X	X	X	X	X	X	X	X	X
NCM Corp.				X	X		X	X	X
NCR Microelectronics					X		X	X	
Optical Electronics Inc.	X		X		X		X	X	
Performance Semiconductor					X		X	X	
Precision Monolithics, Inc.	X		DAC		X		X	X	
Raytheon Semiconductor	X	X	X	X	X	X	X	X	X
Rockwell					X		X	X	
Saratoga Semiconductor					X		X	X	
SGS-THOMSON Microelectronics					X		X	X	
Signetics	X	X	PROM		X	X	X	X	
Silicon General	X				X	X	X	X	X
Siliconix			Analog Switches		X	X	X	X	
Solitron					X	X	X	X	
Sprague Electric	X			X	X		X	X	
Standard Microsystems Corp					X	X	X	X	
STC Semiconductor					X	Limited	X	X	
Technitrol					X		X	X	
Teledyne Crystalonics					X	X	X	X	
Teledyne Philbrick					X	X	X	X	
Teledyne Semiconductor					X			X	
Texas Instruments	X	X	X		X	X	X	X	
Topaz Semiconductor					X		X	X	
TRW LSI					X		X	X	
Unitrode Corp.	X		X		X	X	X	X	
Universal Semiconductor					X		X	X	
United Tech. Micro Ctr.	X			X	X	X	X		X
Vitesse Semiconductor					X		X	X	
Waferscale Integration					X		X	X	
Weitek					X	X	X	X	
Xicor			Non-Volatile Memories		X		X	X	
Xilinx					X		X	X	
Zilog					X		X	X	

EXPLANATION:

The "MIL-M-38510" section indicates the IC manufacturers currently providing Q.P.L. ICs. More detailed information on the specific devices is given in the Qualified Products Listings which follow.

The "MIL-STD-883 Screening" section lists those manufacturers who are both set up and actively want to screen devices to the levels indicated.

"Other Screening" shows those who report that they want business calling for special military and industrial environmental screening procedures.

MILITARY PARTS

TABLE I- Preferred Devices (MIL-STD-1562R) (Cont'd)

Generic/ industry number	MIL-M- 38510/ Device type	Circuit description	Generic/ industry number	MIL-M- 38510/ Device type	Circuit description
Gates 1/			54LS20	300 07	Dual 4 input NAND gate
10501	060 01	Quad 2 input OR/NOR gate (with strobe)	54LS21	310 03	Dual 4 input AND gate
10502	060 02	Triple NOR gate, single OR/NOR gate	54LS22	300 08	Dual 4 input NAND gate (Open Collector)
10504	062 01	Triple and single AND/NAND gate	54HC266	651 03	Quad 2 input exclusive NOR gate (open drain output)
10505	060 03	Triple 2-3-2 input OR/NOR gate	54LS266	303 03	Quad 2 input exclusive NOR gate (Open Collector)
10506	060 04	Triple 3-4-3 input NOR gate	54ALS27	373 02	Triple 3 input NOR gate
10507	060 05	Triple 2 input exclusive OR/NOR gate	54HC27	651 02	Triple 3 input NOR gate
10509	060 06	Dual 4-5 input OR/NOR gate	54LS27	303 02	Triple 3 input NOR gate
10597	062 02	Hex AND gate	54ALS30	370 04	8 input NAND gate
4001B	052 52	Quad 2 input NOR gate	54HC30	650 04	8 input NAND gate
4002B	052 53	Dual 4 input NOR gate	54LS30	300 09	8 input NAND gate
4007UB	053 51	Dual complimentary pair plus inverter	54ALS32	375 01	Quad 2 input OR gate
4011B	050 51	Quad 2 input NAND gate	54F32	335 01	Quad 2 input OR gate
4012B	050 52	Dual 4 input NAND gate	54HC32	652 01	Quad 2 input OR gate
4019B	053 52	Quad AND-OR select gate	54LS32	305 01	Quad 2 input OR gate
4023B	050 53	Triple 3 input NAND gate	54HC4002	651 04	Dual 4 input NOR gate
4025B	052 54	Triple 3 input NOR gate	54LS51	304 01	Dual 2 wide AND-OR-invert gate
4030B	053 53	Quad 2 input exclusive OR gate	54F521	347 01	8 bit identity comparator
4070B	172 03	Quad exclusive OR gate	54LS54	304 02	4 wide 3-2-2-3 input AND-OR-invert gate
4071B	171 01	Quad 2 input OR gate	54F64	334 01	4-2-3-2 input AND-OR-invert gate
4072B	171 02	Dual 4 input OR gate	54F86	345 01	Quad 2 input exclusive OR gate
4073B	170 03	Triple 3 input AND gate	54HC86	652 02	Quad 2 input exclusive OR gate
4075B	171 03	Triple 3 input OR gate	54LS86	305 02	Quad 2 input exclusive OR gate
4077B	172 04	Quad exclusive NOR gate	Buffers 2/		
4081B	170 01	Quad 2 input AND gate	10524	063 01	Quad TTL to ECL translator
4082B	170 02	Dual 4 input AND gate	10525	063 02	Quad ECL to TTL translator
4085B	172 01	Dual 2 wide 2 input AND-OR-invert gate	4041UB	055 55	Quad true/compliment buffer
4086B	172 02	4 wide 2 input AND-OR-invert gate (expandable)	4049UB	055 53	Hex buffer/inverter
4093B	177 01	Quad 2 input NAND gate Schmitt trigger	4050B	055 54	Hex buffer (non-inverting)
54ALS00A	370 01	Quad 2 input NAND gate	4069UB	174 01	Hex inverter (unbuffered)
54F00	330 01	Quad 2 input NAND gate	4502B	174 03	Hex inverter/buffer (strobed)
54HC00	650 01	Quad 2 input NAND gate	5406	008 01	Hex inverter buffer/driver (30 V output)
54LS00	300 01	Quad 2 input NAND gate	5407	008 03	Hex buffer/driver (30 V output)
54ALS02	373 01	Quad 2 input NOR gate	54ALS1002	384 02	Quad 2 input NOR gate buffer
54F02	333 01	Quad 2 input NOR gate	54ALS1020	384 07	Dual 4 input NAND gate buffer
54HC02	651 01	Quad 2 input NOR gate	54ALS1034	384 11	Hex non-inverting gate buffer
54LS02	303 01	Quad 2 input NOR gate	54LS125A	323 01	Quad bus buffer gate (inverting control input, 3 State)
54LS03	300 02	Quad 2 input NAND gate (Open Collector)	54LS126	323 02	Quad bus buffer gate (non-inverting control input, 3 State)
54ALS04	370 06	Hex inverter	54S140	081 01	Dual 4 input NAND line driver (50 Ohm)
54F04	330 02	Hex inverter	54ALS240	383 01	Octal inverting buffer with inverting control inputs
54HC04	657 01	Hex inverter	54F240	332 01	Octal buffer with active low enabled inverted outputs (3 State)
54LS04	300 03	Hex inverter	54HC240	657 03	Octal buffer and line driver (inverted outputs, 3 State)
54LS05	300 04	Hex inverter (Open Collector)	54LS240	324 01	Octal inverting buffer with inverting control inputs
54ALS08	374 01	Quad 2 input AND gate	54ALS241	383 02	Octal noninverting buffer with complementary control inputs
54F08	340 01	Quad 2 input AND gate	54F241	332 02	Octal buffer with active low and active high enabled non-inverted outputs (3 State)
54HC08	652 03	Quad 2 input AND gate	54HC241	657 04	Octal buffer and line driver (3 State)
54LS08	310 04	Quad 2 input AND gate	54LS241	324 02	Octal noninverting buffer with complementary control inputs
54LS09	310 05	Quad 2 input AND gate (Open Collector)	54LS242	328 01	Quad inverting bus transceivers (3 State)
54ALS10	370 02	Triple 3 input NAND gate	54F243	348 02	Quad non-inverting bus transceivers (3 State)
54F10	330 03	Triple 3 input NAND gate	54LS243	328 02	Quad non-inverting bus transceivers (3 State)
54HC10	650 02	Triple 3 input NAND gate	54ALS244	383 03	Octal noninverting buffer with inverting control inputs
54LS10	300 05	Triple 3 input NAND gate	54F244	332 03	Octal buffer with active low enabled non-inverted outputs (3 State)
54ALS11	374 02	Triple 3 input AND gate			
54F11	340 02	Triple 3 input AND gate			
54HC11	652 04	Triple 3 input AND gate			
54LS11	310 01	Triple 3 input AND gate			
54LS12	300 06	Triple 3 input NAND gate (Open Collector)			
54LS13	313 01	Dual 4 input NAND gate Schmitt trigger			
54HC132	650 05	Quad 2 input NAND gate Schmitt trigger			
54LS132	313 03	Quad 2 input NAND gate Schmitt trigger			
54ALS133	370 05	13 input NAND gate			
54HC14	657 02	Hex inverter Schmitt trigger			
54LS14	313 02	Hex inverter Schmitt trigger			
54LS15	310 02	Triple 3 input AND gate (Open Collector)			
54ALS20	370 03	Dual 4 input NAND gate			
54F20	330 04	Dual 4 input NAND gate			
54HC20	650 03	Dual 4 input NAND gate			

All devices in this table have a dated military specification and a QPL source (part I or part II). These devices have no known reliability or availability problems and are recommended and preferred.)

MILITARY PARTS

TABLE 1- Preferred Devices (MIL-STD-1562R)(Cont'd)

Generic/ industry	MIL-M- 38510/ number	Device type	Circuit description	Generic/ industry	MIL-M- 38510/ number	Device type	Circuit description
54HC244	657	05	Octal buffer and line driver (3 State)	54LS112	301	03	(with preset and clear) Dual JK flip-flop (with preset and clear)
54LS244	324	03	Octal noninverting buffer with inverting control inputs	54LS113	301	04	Dual JK flip-flop (with preset)
Buffers 2/ (Continued)				54LS114	301	05	Dual JK flip-flop (with common preset and common clear)
54F245	348	03	Octal non-inverting bus transceivers (3 State)	54LS122	314	03	Monostable multivibrator (retriggerable, with clear)
54HC245	655	03	Octal non-inverting bus transceivers (3 State)	54LS123	314	01	Dual monostable multivibrator (retriggerable, with clear)
54LS245	328	03	Octal non-inverting bus transceivers (3 State)	54HC173	653	06	Quad D-type flip-flop (with clear and 3 State)
54LS26	321	02	Quad 2 input NAND buffer/driver (15 V output, Open Collector)	54ALS174	372	01	Hex D-type flip-flop (with clear)
54ALS28	384	02	Quad 2 input NOR gate buffer	54F174	341	07	Hex D-type positive edge-triggered flip-flop (with common clear and common clock)
54LS28	302	04	Quad 2 input NOR buffer	54HC174	653	07	Hex D-type flip-flop (with clear)
54HC365	657	06	Hex bus driver (3 State)	54LS174	301	06	Hex D-type flip-flop (with common clear and common clock)
54LS365	322	01	Hex bus driver with gated enable inputs for X-Y coincident bus control (3 State)	54ALS175	372	02	Quad D-type flip-flop (with clear)
54LS366	322	02	Hex bus driver with gated enable inputs for X-Y coincident bus control (3 State)	54F175	341	04	Quad D-type positive edge-triggered flip-flop
54HC367	657	08	Hex bus driver (3 State)	54HC175	653	08	Quad D-type flip-flop (with clear)
54LS367	322	03	Hex bus driver, 4 line and 2 line enable inputs (3 State)	54LS175	301	07	Quad D-type flip-flop (with common clear and common clock)
54HC368	657	09	Hex inverter bus driver (3 State)	54LS221	314	02	Dual monostable multivibrator (with clear and Schmitt trigger inputs)
54LS368	322	04	Hex bus driver, 4 line and 2 line enable inputs (3 State)	54LS259	316	03	8 bit addressable latch
54ALS37	384	01	Quad 2 input NAND gate buffer	54LS259B	316	05	8 bit addressable latch
54LS37	302	02	Quad 2 input NAND buffer	54HC273	656	01	Octal D-type flip-flop (with clear)
54F38	352	02	Quad 2 input NAND buffer (Open Collector)	54LS273	325	01	Octal D-type flip-flop (with clear, cascadable)
54LS38	302	03	Quad 2 input NAND buffer (Open Collector)	54LS279	316	02	Quad SR latch
54ALS40	384	07	Dual 4 input NAND gate buffer	54ALS373	372	03	Octal D-type flip-flop with transparent latch (3 State)
54LS40	302	01	Dual 4 input NAND buffer	54F373	346	01	Octal transparent latch with active low enable (3 State, cascadable)
54HC540	657	10	Octal inverter bus driver (3 State)	54HC373	654	03	Octal D-type flip-flop (3 State)
54LS540	324	04	Octal inverting buffer with inverting control inputs	54LS373	325	02	Octal D-type flip-flop (3 State, with transparent latch, non-cascadable)
54HC541	657	11	Octal bus driver (3 State)	54ALS374	372	04	Octal D-type flip-flop (3 State)
54LS541	324	05	Octal noninverting buffer with inverting control inputs	54F374	341	05	Octal D-type positive edge-triggered flip-flop (3 State)
Flip-Flops 3/				54HC374	656	02	Octal D-type flip-flop (3 State)
10531	061	01	Dual D-type flip-flop (with preset and clear)	54LS374	325	03	Octal D-type flip-flop (3 State, cascadable)
10535	061	04	Dual JK flip-flop (with preset and clear)	54LS375	316	04	4 bit bistable latch
10576	061	03	Hex D-type flip-flop	54LS377	325	04	Octal D-type flip-flop (with enable, cascadable)
10631	061	02	Dual D-type flip-flop (with preset and clear)	54F533	346	02	Octal transparent latch with active low enable, inverted outputs (3 State, cascadable)
25LS174	331	06	Hex D-type flip-flop (with common clear and common clock)	54F534	341	06	Octal D-type positive edge-triggered flip-flop (inverted output, 3 State)
25LS175	331	07	Quad D-type flip-flop (with common clear and common clock)	54F563	346	03	Octal D-type latch with inverted outputs (3 State, cascadable)
4013B	051	51	Dual D-type edge-triggered flip-flop	54ALS573	382	01	Octal D-type transparent latch (3 State)
4027B	051	52	Dual JK master-slave flip-flop	54F573	346	04	Octal D-type latch (3 State, cascadable)
4098B	175	04	Dual monostable multivibrator	54HC573	654	06	Octal D-type latch (3 State)
4099B	176	01	8 bit addressable latch	54ALS574	371	04	Octal D-type flip-flop (3 State, cascadable)
54LS107	301	08	Dual JK flip-flop (with clear)	54HC574	656	04	Octal D-type flip-flop (3 State)
54ALS109	371	02	Dual JK flip-flop (with preset and clear, cascadable)	54LS73	301	01	Dual JK flip-flop (with clear)
54F109	341	02	Dual JK positive edge-triggered flip-flop	54ALS74	371	01	Dual D-type flip-flop (with preset and clear, cascadable)
54HC109	653	04	Dual JK positive edge-triggered flip-flop (with preset and clear)	54F74	341	01	Dual D-type positive edge-triggered flip-flop
54LS109	301	09	Dual JK (K inverted) flip-flop (with preset and clear)	54HC74	653	02	Dual D-type positive edge-triggered flip-flop (with preset and clear)
54ALS112A	371	03	Dual JK flip-flop (with preset and clear, cascadable)				
54F112	341	03	Dual JK negative edge-triggered flip-flop				
54HC112	653	05	Dual JK negative edge-triggered flip-flop				

All devices in this table have a dated military specification and a QPL source (part I or part II). These devices have no known reliability or availability problems and are recommended and preferred.)

MILITARY PARTS

TABLE I- Preferred Devices (MIL-STD-1562R) (Cont'd)

Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description	Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description
54LS74	301	02	Dual D-type flip-flop (with preset and clear)	54LS83A	312	01	4 bit binary full adder (with fast carry)
54LS75	316	01	4 bit bistable latch	54LS85	311	01	4 bit magnitude comparator
54LS76A	301	10	Dual JK flip-flop (with preset and clear)	54ALS857	379	01	Hex 2 input universal multiplexer (3 State)
Combinational gates 4/				Sequential registers/counters 5/			
4008B	054	51	4 bit full adder	4014B	057	52	8 stage synchronous parallel or serial input/serial output static shift register
4016B	058	51	Quad bilateral switch	4015B	057	53	Dual 4 stage serial input/parallel output static shift register
4028B	059	51	BCD to decimal decoder	4017B	056	51	Decade counter/divider
4066B	058	52	Quad bilateral switch	4018B	056	52	Divide by n counter (presettable)
54ALS138	377	01	3 to 8 line decoder	4020B	056	53	14 stage ripple carry binary counter/divider
54F138	337	01	1 of 8 decoder with active low outputs, enable inputs	4021B	057	54	8 stage asynchronous parallel input/serial output or synchronous serial input/output static shift register
54HC138	658	02	3 to 8 line decoder	4022B	056	54	Divide by 8 counter/divider
54LS138	307	01	3 to 8 line decoder	4024B	056	55	7 stage binary counter
54F139	337	02	Dual 1 of 4 decoder with active low outputs, enable inputs	54F160A	344	01	Synchronous 4 bit decade counter (asynchronous master reset)
54HC139	658	03	Dual 2 to 4 line decoder	54LS160A	315	03	Synchronous 4 bit decade counter (asynchronous clear)
54LS139	307	02	Dual 2 to 4 line decoder	54ALS161B	380	01	Synchronous 4 bit binary counter (asynchronous clear, cascadable)
54LS148	360	01	8 to 3 priority encoder	54F161A	343	01	Synchronous 4 bit binary counter (with asynchronous master reset)
54F151A	339	01	8 input multiplexer	54LS161	315	04	Synchronous 4 bit binary counter (asynchronous clear)
54LS151	309	01	8 input data selector/multiplexer (with enable)	54F162A	344	02	Synchronous 4 bit decade counter (synchronous reset)
54F153	339	02	Dual 4 input multiplexer	54LS162A	315	11	Synchronous 4 bit decade counter (synchronous clear)
54LS153	309	02	Dual 4 input data selector/multiplexer (with enable)	54ALS163B	380	02	Synchronous 4 bit binary counter (synchronous clear, cascadable)
54LS155	326	01	Dual 2 to 4 decoder/demultiplexer	54F163A	343	02	Synchronous 4 bit binary counter (with synchronous reset)
54LS156	326	02	Dual 2 to 4 decoder/demultiplexer (Open Collector)	54LS163A	315	12	Synchronous 4 bit binary counter (synchronous clear)
54F157A	339	03	Quad 2 input multiplexer	54LS164	306	05	8 bit parallel output shift register
54LS157	309	03	Quad 2 input data selector/multiplexer (with enable)	54LS165	306	08	8 bit parallel input shift register (with clock inhibit)
54F158A	339	04	Quad 2 input multiplexer (with inverted outputs)	54LS166	306	09	8 bit parallel input shift register (with clear)
54LS158	309	04	Quad 2 input data selector/multiplexer (with enable)	54ALS169	380	03	Synchronous 4 bit up/down binary counter (cascadable)
54F181	338	01	4 bit ALU	54LS169A	315	06	Synchronous 4 bit up/down binary counter
54LS181	308	01	ALU/function generator	54LS173	361	01	4 bit D-type register (3 State)
54F251A	339	05	8 input multiplexer (3 State)	54LS190	315	13	Synchronous 4 bit decade counter (with mode control)
54LS251	309	05	8 input data selector/multiplexer (with enable, 3 State)	54LS191	315	09	Synchronous 4 bit up/down binary counter (with mode control)
54F253	339	08	Dual 4 input multiplexer (3 State)	54F192	344	04	Synchronous 4 bit up/down decade counter (asynchronous master reset)
54LS253	309	08	Dual 4 input data selector/multiplexer (with enable, 3 State)	54LS192	315	07	Synchronous 4 bit up/down decade counter (with clear)
54F257A	339	06	Quad 2 input multiplexer (3 State)	54F193	343	04	Synchronous 4 bit up/down binary counter (with asynchronous master reset)
54LS257B	309	06	Quad 2 input data selector/multiplexer (with enable, 3 State)	54LS193	315	08	Synchronous 4 bit up/down binary counter (with clear)
54F258A	339	07	Quad 2 input multiplexer (inverted outputs, 3 State)	54F194	336	01	4 bit bidirectional universal shift register (cascadable)
54LS258B	309	07	Quad 2 input data selector/multiplexer (with enable, 3 State)	54LS194A	306	01	4 bit bidirectional shift register
54F280	349	01	9 bit odd/even parity generator/checker	54LS195A	306	02	4 bit parallel access shift register
54LS280	329	01	9 bit odd/even parity generator/checker	54LS197	320	02	4 bit binary counter with preset
54F283	342	01	4 bit binary full adder (with fast carry)	54LS290	320	03	Decade counter
54LS283	312	02	4 bit binary full adder (with fast carry)	54LS293	320	04	4 bit binary counter
54LS298	309	09	Quad 2 input data selector/multiplexer (with storage)				
54LS348	360	02	8 to 3 priority encoder (3 State)				
54F352	339	09	Dual 4 input multiplexer (inverted outputs)				
54F353	339	10	Dual 4 input multiplexer (inverted outputs, 3 State)				
54LS42	307	03	BCD to decimal decoder				
54LS47	307	04	BCD to 7-segment decoder/driver (15 V output, Open Collector)				

All devices in this table have a dated military specification and a GPL source (part I or part II). These devices have no known reliability or availability problems and are recommended and preferred.)

MILITARY PARTS

TABLE I- Preferred Devices (MIL-STD-1562R)(Cont'd)

Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description	Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description
Sequential registers/counters 5/ (Continued)				ROM/PROM/PAL 7/			
54LS295B	306	06	4 bit right shift, left shift register (3 State)	PAL10H8	503	01	10 input 8 output AND-OR gate array (fusible link)
54LS390	327	01	Dual decade counter (with A and B inputs)	PAL10L8	503	06	10 input 8 output AND-OR-invert gate array (fusible link)
54LS393	327	02	Dual 4 bit binary counter	PAL12H6	503	02	12 input 6 output AND-OR gate array (fusible link)
54LS395A	306	07	4 bit cascable shift register (3 State)	PAL12L6	503	07	12 input 6 output AND-OR-invert gate array (fusible link)
54F398	350	01	Quad two port register (with inverted and non-inverted outputs, cascable)	PAL14H4	503	03	14 input 4 output AND-OR gate array (fusible link)
54F399	350	02	Quad two port register (with non-inverted outputs, cascable)	PAL14L4	503	08	14 input 4 output AND-OR-invert gate array (fusible link)
54LS490	327	03	Dual decade counter (with clear and set to 9)	PAL16R4-20	506	04	16 input 4 output registered AND-OR gate array (fusible link)
54LS670	319	01	4x4 register file (3 State, cascable)	PAL16R4-30	506	08	16 input 4 output registered AND-OR gate array (fusible link)
54LS90	315	01	Decade counter	PAL16R4A	504	04	16 input 4 output registered AND-OR gate array (fusible link)
54LS92	315	10	Divide by 12 counter	PAL16R4A-2	504	10	16 input 4 output registered AND-OR gate array (fusible link)
54LS93	315	02	4 bit binary counter	PAL16R6-20	506	03	16 input 6 output registered AND-OR gate array (fusible link)
54LS95B	306	03	4 bit parallel access shift register	PAL16R6-30	506	07	16 input 6 output registered AND-OR gate array (fusible link)
54LS96	306	04	5 bit shift register	PAL16R6A	504	03	16 input 6 output registered AND-OR gate array (fusible link)
RAM 6/				PAL16R6A-2	504	09	16 input 6 output registered AND-OR gate array (fusible link)
MT1257-15	246	02	262144x1 dynamic RAM (150 ns access time)	PAL16L8-20	506	01	16 input 8 output AND-OR-invert gate array (fusible link)
2147	238	01	4096x1 static RAM (85 ns, 3 State)	PAL16L8-30	506	05	16 input 8 output AND-OR-invert gate array (fusible link)
2147H	238	03	4096x1 static RAM (70 ns, 3 State)	PAL16L8A	504	01	16 input 8 output AND-OR-invert gate array (fusible link)
2147H-2	238	07	4096x1 static RAM (45 ns, 3 State)	PAL16L8A-2	504	07	16 input 8 output AND-OR-invert gate array (fusible link)
2147H-3	238	05	4096x1 static RAM (55 ns, 3 State)	PAL16R8-20	506	02	16 input 8 output registered AND-OR gate array (fusible link)
2148H	238	06	1024x4 static RAM (70 ns, 3 State)	PAL16R8-30	506	06	16 input 8 output registered AND-OR gate array (fusible link)
4116	240	01	16384x1 dynamic RAM (200 ns access time, 3 State)	PAL16R8A	504	02	16 input 8 output registered AND-OR gate array (fusible link)
4116	240	02	16384x1 dynamic RAM (250 ns Access time, 3 State)	PAL16R8A-2	504	08	16 input 8 output registered AND-OR gate array (fusible link)
41256P-15	246	02	262144x1 dynamic RAM (150 ns access time)	PAL20R4A	505	04	20 input 4 output registered AND-OR gate array (fusible link)
4564	244	01	64Kx1 dynamic RAM (1 ms refresh, 150 ns access time, 3 State)	PAL20R6A	505	03	20 input 4 output registered AND-OR gate array (fusible link)
4564	244	02	64Kx1 dynamic RAM (2 ms refresh, 150 ns access time, 3 State)	PAL20R6A-2	505	03	20 input 8 output registered AND-OR gate array (fusible link)
4564	244	03	64Kx1 dynamic RAM (2 ms refresh, 200 ns access time, 3 State)	PAL20L8A	505	01	20 input 8 output AND-OR gate array (fusible link)
6504	245	01	4096x1 static RAM (120 ns access time)	PAL20L8A-2	505	01	20 input 8 output AND-OR gate array (fusible link)
6514	245	02	1024x4 static RAM (120 ns access time)	PAL20R8A	505	02	20 input 8 output registered AND-OR gate array (fusible link)
65162	291	04	2048x8 static RAM (90 ns access time, 3 State)	PAL20R8A-2	505	02	20 input 6 output registered AND-OR gate array (fusible link)
65642	292	05	65536x1 static RAM	PAL20R8A-2	505	04	20 input 6 output registered AND-OR gate array (fusible link)
7C147	289	01	4096x1 static RAM (35 ns access time, 3 State)	27S191	210	02	2048x8 PROM (fusible link, 100 ns access time, 3 State)
7C147	289	03	4096x1 static RAM (55 ns access time, 3 State)	27256-200	224	02	32768x8 EPROM (U-V erasable, 200 ns access time, 3 State)
93L415	231	03	1024x1 static RAM (70 ns, Open Collector)	27256-250	224	01	32768x8 EPROM (U-V erasable, 250 ns access time, 3 State)
93422	231	10	256X4 static RAM (60 ns, 3 State)				
93422A	231	14	256x4 static RAM (45 ns, 3 State)				
93L422	231	12	256x4 static RAM, low power (75 ns, 3 State)				
93L422A	231	15	256x4 static RAM, low power (55 ns, 3 State)				
93425	231	02	1024x1 static RAM (60 ns, 3 State)				
93425	231	06	1024x1 static RAM,high speed (10 ns, 3 State)				
93425A	231	08	1024x1 static RAM (45 ns, 3 State)				
93L425	231	04	1024x1 static RAM (70 ns, 3 State)				
93L425A	231	13	1024x1 static RAM, low power (50 ns, 3 State)				

All devices in this table have a dated military specification and a QPL source (part I or part II). These devices have no known reliability or availability problems and are recommended and preferred.)

MILITARY PARTS

TABLE I- Preferred Devices (MIL-STD-1562R) (Cont'd)

Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description	Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description
ROM/PROM/PAL 7/ (Continued)							
X2816A-25	227	04	2048x8 EEPROM (electrically erasable, 250 ns access time, 3 State)	82S191A	210	04	2048x8 PROM (fusible link, 55 ns access time, 3 State)
X2816A-30	227	03	2048x8 EEPROM (electrically erasable, 300 ns access time, 3 State)	82S23A	207	01	32x8 PROM (80 ns access time, fusible link, Open Collector)
X2816A-35	227	02	2048x8 EEPROM (electrically erasable, 350 ns access time, 3 State)	82S23A	207	03	32x8 PROM (35 ns access time, fusible link, Open Collector)
X2816A-45	227	01	2048x8 EEPROM (electrically erasable, 450 ns access time, 3 State)	82S2708	209	05	1024x8 PROM (fusible link, 90 ns access time, 3 State)
2864-250	228	08	8192x8 EEPROM (electrically erasable, 250 ns access time, 3 State)	93Z511	210	02	2048x8 PROM (fusible link, 100 ns access time, 3 State)
2864-350	228	07	8192x8 EEPROM (electrically erasable, 350 ns access time, 3 State)	93Z511	210	04	2048x8 PROM (fusible link, 55 ns access time, 3 State)
2864H-250	228	09	8192x8 EEPROM (electrically erasable, 250 ns access time, 3 State)	Microprocessors and interface peripherals/FIFO 8/			
29631	209	04	1024x8 PROM (fusible link, 90 ns access time, 3 State)	MKB4501-80	250	02	512x9 first-in first-out dual port memory (100 ns access time)
29651	209	02	2048x4 PROM (fusible link, 125 ns access time, 3 State)	MKB4501-81	250	01	512x9 first-in first-out dual port memory (120 ns access time)
29681	210	02	2048x8 PROM (fusible link, 100 ns access time, 3 State)	68000-6	540	01	16 bit fixed instruction microprocessor (4.0 - 6.0 MHz)
53S441	206	02	1024x4 PROM (fusible link, 3 State)	68000-8	540	02	16 bit fixed instruction microprocessor (4.0 - 8.0 MHz)
53S841	209	08	2048x4 PROM (fusible link, 90 ns access time, 3 State)	Z80ACPU	480	01	8 bit fixed instruction microprocessor (4.0 MHz)
54S287	203	02	256x4 PROM (fusible link, 3 State)	Z80CPU	480	02	8 bit fixed instruction microprocessor (2.5 MHz)
54S288	207	02	32x8 PROM (80 ns access time, fusible link, 3 State)	Z8002	520	02	16 bit fixed instruction microprocessor (4.0 MHz)
54S474	208	02	512x8 PROM (fusible link, 3 State)	Z8002A	520	04	16 bit fixed instruction microprocessor (6.0 MHz)
54S571	204	02	512x4 PROM (fusible link, 3 State)	8086	530	01	16 bit fixed instruction microprocessor (5.0 MHz)
54S573	206	02	1024x4 PROM (fusible link, 3 State)	Operational amplifiers 9/			
77S181	209	04	1024x8 PROM (fusible link, 90 ns access time, 3 State)	LM101A	101	03	Operational amplifier (external compensation)
77S185	209	02	2048x4 PROM (fusible link, 125 ns access time, 3 State)	LM108A	101	04	Operational amplifier (external compensation)
77S191	210	02	2048x8 PROM (fusible link, 100 ns access time, 3 State)	LM118	101	07	Operational amplifier (high speed)
82S100	502	02	16x48x8 field programmable logic array (FPLA, 3 State)	LM124	110	05	Quad operational amplifier (single supply, low power)
82S101	502	01	16x48x8 field programmable logic array (FPLA, Open Collector)	LM148	110	01	Quad operational amplifier (medium power, internal compensation)
82S115	208	03	512x8 PROM (fusible link, 3 State)	LF151	119	04	BIFET operational amplifier (low noise)
82S123A	207	02	32x8 PROM (80 ns access time, fusible link, 3 State)	LF153	119	05	Dual BIFET operational amplifier (low noise)
82S123A	207	04	32x8 PROM (35 ns access time, fusible link, 3 State)	LF155	114	01	JFET operational amplifier (low power)
82S126A	203	01	256x4 PROM (fusible link, Open Collector)	LF155A	114	04	JFET operational amplifier (high performance, low power, low offset)
82S126A	203	03	256x4 PROM (fusible link, Open Collector)	1558	101	08	Dual operational amplifier (internal compensation)
82S129A	203	02	256x4 PROM (fusible link, 3 State)	LF156	114	02	JFET operational amplifier (wide band)
82S129A	203	04	256x4 PROM (fusible link, 3 State)	LF156A	114	05	JFET operational amplifier (high performance, wide band, low offset)
82S130	204	01	512x4 PROM (fusible link, Open Collector)	LF157	114	03	JFET operational amplifier (wide band, undercompensated)
82S130A	204	03	512x4 PROM (fusible link, Open Collector)	LF157A	114	06	JFET operational amplifier (high performance, wide band, low offset, undercompensated)
82S131	204	02	512x4 PROM (fusible link, 3 State)	LH2101A	101	05	Dual operational amplifier (external compensation)
82S131A	204	04	512x4 PROM (fusible link, 3 State)	LH2108A	101	06	Dual operational amplifier (external compensation)
82S137A	206	02	1024x4 PROM (fusible link, 3 State)				
82S137A	206	04	1024x4 PROM (fusible link, 3 State)				
82S141	208	02	512x8 PROM (fusible link, 3 State)				
82S181A	209	04	1024x8 PROM (fusible link, 90 ns access time, 3 State)				
82S181A	209	09	1024x8 PROM (fusible link, 55 ns access time, 3 State)				
82S185A	209	02	2048x4 PROM (fusible link, 125 ns access time, 3 State)				
82S185A	209	10	2048x4 PROM (fusible link, 55 ns access time, 3 State)				
82S191A	210	02	2048x8 PROM (fusible link, 100 ns access time, 3 State)				

All devices in this table have a dated military specification and a QPL source (part I or part II). These devices have no known reliability or availability problems and are recommended and preferred.)

MILITARY PARTS

TABLE I- Preferred Devices (MIL-STD-1562R)(Cont'd)

Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description	Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description
Operational Amplifiers 9/ (Continued)				LM723	102 01		Adjustable voltage regulator (precision)
				7805	107 06		Fixed voltage regulator (+5 V @ 1.0 A max)
				78M05	107 02		Fixed voltage regulator (+5 V @ 0.5 A max)
				7812	107 07		Fixed voltage regulator (+12 V @ 1.0 A max)
				78M12	107 03		Fixed voltage regulator (+12 V @ 0.5 A max)
				7815	107 08		Fixed voltage regulator (+15 V @ 1.0 A max)
				78M15	107 04		Fixed voltage regulator (+15 V @ 0.5 A max)
				7824	107 09		Fixed voltage regulator (+24 V @ 1.0 A max)
				7905	115 05		Fixed voltage regulator (-5 V @ 1.0 A max)
				79M05	115 01		Fixed voltage regulator (-5 V @ 0.5 A max)
				7912	115 06		Fixed voltage regulator (-12 V @ 1.0 A max)
				79M12	115 02		Fixed voltage regulator (-12 V @ 0.5 A max)
				7915	115 07		Fixed voltage regulator (-15 V @ 1.0 A max)
				79M15	115 03		Fixed voltage regulator (-15 V @ 0.5 A max)
				Drivers/Receivers 13/			
				2003	141 03		Darlington transistor array (7 drivers)
				55107	104 01		Dual line receiver
				55108	104 02		Dual line receiver (Open Collector)
				55113	104 05		Dual differential line driver (3 State)
				55114	104 03		Dual differential line driver
				55115	104 04		Dual differential line receiver
				55451	129 02		Dual peripheral AND driver (high speed)
				55452	129 03		Dual peripheral NAND driver (high speed)
				55453	129 04		Dual peripheral OR driver (high speed)
				55454	129 05		Dual peripheral NOR driver (high speed)
				55461	129 07		Dual high voltage peripheral AND driver (high-voltage, medium speed)
				55462	129 08		Dual high voltage peripheral NAND driver (high-voltage, medium speed)
				55463	129 09		Dual high voltage peripheral OR driver (high-voltage, medium speed)
				7831	104 06		Dual differential line driver (without output diode clamping, 3 State)
				7832	104 07		Dual differential line driver (3 State)
				9614	104 03		Dual differential line driver
				9615	104 04		Dual differential line receiver
				Timers 14/			
				555	109 01		Precision timer (single)
				556	109 02		Precision timer (dual)
				Core drivers 15/			
				55325	130 01		Positive OR memory core driver (dual source and dual sink)
				55326	130 02		Positive OR memory core driver (quad sink)
				55327	130 03		Positive OR memory core driver (quad source/sink)
Comparators 10/							
LM111	103 04		Comparator/buffer (precision voltage)				
LM139	112 01		Quad voltage comparator (single supply, low power)				
LM193	112 02		Dual voltage comparator (single supply, low power)				
LH2111	103 05		Dual precision voltage comparator/buffer				
Regulators 12/							
LM109	107 01		Fixed voltage regulator (+5 V @ 1.5 A max)				
LM117H	117 03		3-terminal adjustable regulator (1.25 V <= Vo <= 37 V @ 0.5 A)				
LM117K	117 04		3-terminal adjustable regulator (1.25 V <= Vo <= 37 V @ 1.5 A)				
LM137H	118 03		3-terminal adjustable regulator (-37 V <= Vo <= -1.25 V @ 0.5 A)				
LM137K	118 04		3-terminal adjustable regulator (-37 V <= Vo <= -1.25 V @ 1.5 A)				

All devices in this table have a dated military specification and a QPL source (part I or part II). These devices have no known reliability or availability problems and are recommended and preferred.)

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MILITARY PARTS

TABLE I- Preferred Devices (MIL-STD-1562R) (Cont'd)

Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description	Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description
D/A converters 16/				Hybrid 22/			
AD561	133	01	10 bit D/A converter (internal ref., ifs = 2 mA)	See QML-38510-3 29Jan88 for qualified manufacturers of custom hybrid products.			
562	121	01	12 bit D/A converter (external ref., ifs = 2 mA)	Other Digital Devices 23/			
565	121	03	High speed 12 bit D/A converter (internal ref., ifs = 2 mA)	UT1553B	555	01	Remote terminal interface (MIL-STD-1553 interface)
7521	127	03	12 bit D/A converter (10 bit end point linearity)	Analog circuit functions 24/			
7541	127	04	12 bit D/A converter (end point linearity)	4213	139	04	4 quadrant analog multiplier (4% max multiplying error)
DAC-08	113	01	8 bit D/A converter (0.19% linearity)	532S	139	03	4 quadrant analog multiplier (4% max multiplying error)
DAC-08A	113	02	8 bit D/A converter (0.10% linearity)	534S	139	02	4 quadrant analog multiplier (2% max multiplying error)
Analog switches/multiplexers 18/				534T	139	01	4 quadrant analog multiplier (1% max multiplying error)
DG181A	111	01	Dual channel JFET SPST switch (30 Ohm)	Semicustom devices 25/			
DG182A	111	02	Dual channel JFET SPST switch (75 Ohm)	SEE SPEC 606	01		Gate array
DG184A	111	03	Dual channel JFET DPST switch (30 Ohm)	SEE SPEC 606	02		Gate array
DG185A	111	04	Dual channel JFET DPST switch (75 Ohm)	SEE SPEC 606	03		Gate array
DG187A	111	05	Single channel JFET SPDT switch (30 Ohm)	SEE SPEC 606	04		Gate array
DG188A	111	06	Single channel JFET SPDT switch (75 Ohm)	SEE SPEC 606	05		Gate array
DG190A	111	07	Dual channel JFET SPDT switch (30 Ohm)	SEE SPEC 606	06		Gate array
DG191A	111	08	Dual channel JFET SPDT switch (75 Ohm)	SEE SPEC 606	07		Gate array
DG200	123	01	Dual SPST switch (70 Ohm)	SEE SPEC 606	08		Gate array
DG201	123	02	Quad SPST switch (80 Ohm)				
HI201	123	02	Quad SPST switch (80 Ohm)				
DG300	116	01	Dual SPST switch (TTL compatible)				
DG301A	116	02	SPDT switch (TTL compatible)				
DG302A	116	03	Dual DPST switch (TTL compatible)				
DG303A	116	04	Dual SPDT switch (TTL compatible)				
DG304A	116	05	Dual SPST switch (50 Ohm, CMOS compatible)				
DG305A	116	06	SPDT switch (50 Ohm, CMOS compatible)				
DG306A	116	07	Dual DPST switch (50 Ohm, CMOS compatible)				
DG307A	116	08	Dual SPDT switch (50 Ohm, CMOS compatible)				
5040	105	01	SPST switch (75 Ohm)				
5041	105	02	Dual SPST switch (75 Ohm)				
5042	105	03	SPDT switch (75 Ohm)				
5043	105	04	Dual SPDT switch (75 Ohm)				
5044	105	05	DPST switch (75 Ohm)				
5045	105	06	Dual DPST switch (75 Ohm)				
506	190	01	16 channel multiplexer/demultiplexer				
507	190	03	8 channel differential multiplexer/demultiplexer				
508	190	07	8 channel multiplexer/demultiplexer				
509	190	08	Differential 4 channel multiplexer/demultiplexer				
6108	190	07	8 channel multiplexer/demultiplexer				
6208	190	08	Differential 4 channel multiplexer/demultiplexer				
Voltage references 19/							
AD584S	128	01	Pin programmable voltage reference (0.3% accuracy)				
AD584T	128	02	Pin programmable voltage reference (0.1% accuracy)				
Sample and hold 20/							
LF198	125	01	Sample/hold amplifier (10 kOhm load)				

All devices in this table have a dated military specification and a QPL source (part I or part II). These devices have no known reliability or availability problems and are recommended and preferred.)

MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
Gates 1/				54ALS1004	84061	38409**	Hex inverting gate buffer
				54ALS1005		38410**	Hex inverting gate buffer (Open Collector)
10H503	5962-87565	XXXXX	Quad 2 input OR gate	54ALS1008	84097	38404**	Quad 2 input AND gate buffer
10H506	5962-87564	XXXXX	Triple 4-3-3 input NOR gate	54ALS1010	84060	38405**	Triple 3 input NAND gate buffer
10H513	5962-87558	XXXXX	Quad exclusive OR gate	54ALS1011		38406**	Triple 3 input AND gate buffer
10H609	5962-87569	XXXXX	Dual 4-5 input OR/NOR gate	54ALS1032		38408**	Quad 2 input OR gate buffer
14584	5962-85501	XXXXX	Hex Schmitt trigger	54ALS1035		38412**	Hex non-inverting gate buffer (Open Collector)
4000B		05251**	Dual 3 input NOR gate plus inverter	54AC11240	5962-87550	XXXXX	Octal buffer/line driver (3 State, with inverted outputs)
40106B	5962-85501	17702**	Hex Schmitt trigger	54AC11244	5962-87552	XXXXX	Octal buffer/line driver (3 State)
4048B	05354**		8 input multifunctional gate (expandable)	54HC125	5962-87721	XXXXX	Quad buffer (with low enable, 3 State)
4078B	77044	XXXXX	8 input NOR gate	54HC126	5962-86848	XXXXX	Quad non-inverting buffer (3 State)
54AC00	5962-87549	75001	Quad 2 input NAND gate	54AC240	5962-87550	XXXXX	Octal buffer/line driver (3 State, with inverted outputs)
54HCT00	5962-86831	XXXXX	Quad 2 input NAND gate	54HCT240	85505	65753**	Octal buffer and line driver (inverted outputs, 3 State)
54HC03	5962-87647	XXXXX	Quad 2 input NAND gate with open drain outputs	54AC241	5962-87551	XXXXX	Octal buffer/line driver (3 State)
54AC04	5962-87609	XXXXX	Hex inverter	54HCT241		65754**	Octal buffer and line driver (3 State)
54HCT04	65751**		Hex inverter	54ALS242	84013	38506**	Quad inverting bus transceivers (3 State)
54HCU04	86010	XXXXX	Unbuffered hex inverter	54F242		34801**	Quad inverting bus transceivers (3 State)
54AC08	5962-87615	XXXXX	Quad 2 input AND gate	54HC242		65501**	Quad inverting bus transceivers (3 State)
54C08	77036	XXXXX	Quad 2 input AND gate	54ALS243	84013	38507**	Quad non-inverting bus transceivers (3 State)
54HCT08	5962-86883	XXXXX	Quad 2 input AND gate	54HC243	84090	65502**	Quad non-inverting bus transceivers (3 State)
54ALS09	84142	XXXXX	Quad 2 input AND gate (Open Collector)	54AC244	5962-87552	XXXXX	Octal buffer/line driver (3 State)
54AC10	75002		Triple 3 input NAND gate	54HCT244	85130	65755**	Octal buffer and line driver (3 State)
54AC11	5962-87611	XXXXX	Triple 3-input AND gate	54ACT245	5962-87663	755XX	Octal bidirectional transceiver (TTL compatible, 3 State)
54AC11000	5962-87549	XXXXX	Quad 2 input NAND gate	54ALS245	84030	XXXXX	Octal non-inverting bus transceivers (3 State)
54AC11020	5962-87613	7500X	Dual 4 input NAND gate	54FCT245	5962-87629	XXXXX	Octal non-inverting bus transceiver (TTL compatible, 3 State)
54HC133	5962-87723	XXXXX	13 input NAND gate	54HCT245	85506	65553**	Octal non-inverting bus transceivers (3 State)
54AC14	5962-87624	XXXXX	Hex inverter (with Schmitt trigger)	54LS33	85126	XXXXX	Quad 2 input NOR buffer (Open Collector)
54HCT14	5962-86890	65752**	Hex inverter Schmitt trigger	54HC366	5962-86828	65707**	Hex inverter bus driver (3 State)
54AC20	5962-87613	75003	Dual 4 input NAND gate	54F37	35201**		Quad 2 input NAND buffer
54ALS21	84143	XXXXX	Dual 4 input AND gate	54ALS38	5962-86871	XXXXX	Quadruple 2-input positive-NAND buffers
54AS21	5962-87804	XXXXX	Dual 4-input positive AND gate	54F40		35203**	Dual 4 input NAND buffer
54AC30		75004	8 input NAND gate	54HC4049	5962-86819	XXXXX	Hex buffer/inverter
54HCT32	5962-86852	XXXXX	Quad 2 input OR gate	54HC4050	5962-86820	XXXXX	Hex buffer
54HC4075	5962-87722	XXXXX	Triple 3 input OR gate	54F540		33204**	Octal buffer with active low enabled inverted outputs (3 State)
54HC7266	84043	65105**	Quad 2 input exclusive NOR gate	54HCT540		65760**	Octal inverter bus driver (3 State)
Buffers 2/				54HCT541		65761**	Octal bus driver (3 State)
25S240	5962-86724	XXXXX	Octal inverting buffer (3 State)	54HC620		65504	Octal inverting bus transceivers (3 State)
AM25S241	5962-86725	XXXXX	Non-inverting octal buffer (3 State)	54HC623		65505	Octal non-inverting bus transceivers (3 State)
AM25S244	5962-87536	XXXXX	Octal non-inverting buffer (3 State)	54ALS640		38501**	Octal inverting bus transceivers (3 State)
2907	5962-87707	XXXXX	Quad bus transceiver (with interface logic and 2.0 V input receiver threshold)	54HC640	5962-87809	65506**	Octal inverting bus transceivers (3 State)
2965	5962-86707	XXXXX	Octal dynamic memory driver with inverting drivers (2900 family, 3 State)	54LS640	84161	XXXXX	Octal inverting bus transceivers and registers (3 State)
2966	5962-86707	XXXXX	Octal dynamic memory driver with non-inverting drivers (2900 family, 3 State)	54ALS641		38502**	Octal non-inverting bus transceivers (Open Collector)
29C827	5962-87667	XXXXX	High performance CMOS noninverting bus buffer	54ALS642		38503**	Octal inverting bus transceivers (Open Collector)
29C828	5962-87667	XXXXX	High performance CMOS inverting bus buffer				
29C927	5962-87667	XXXXX	High performance CMOS noninverting bus buffer (rotated die)				
29C928	5962-87667	XXXXX	High performance CMOS inverting bus buffer (rotated die)				
4009UB		05551**	Hex buffer/inverter				
4010B		05552**	Hex buffer (non-inverting)				
40107B		17402**	Dual 2 input NAND buffer/driver				
40109B		17404**	Quad low to high voltage level shifter				
54ALS1003		38403**	Quad 2 input NAND gate buffer (Open Collector)				

Devices listed in this table are those that have been selected for electrical characterization and are potential candidates for MIL-M-38510 specification or that have an active Military drawing (DESC). This table also includes devices that have dated military specifications but as yet have no QPL source. These devices shall be considered for use in systems or equipment designs if a QPL source is anticipated.

MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
Buffers 2/ (Continued)				54HC534	5962-86814	65605**	Octal D-type flip-flop with inverted outputs (3 State)
54ALS643		38504**	Octal non-inverting or inverting bus transceivers (3 State)	54HC563		65405**	Octal D-type latch (inverted outputs, 3 State)
54HC643		65507**	Octal non-inverting or inverting bus transceivers (3 State)	54HC564	5962-86815	65606**	Octal D-type flip-flop with inverted outputs (3 State)
54ALS645	84033	38505**	Octal non-inverting bus transceivers (3 State)	54ALS576	84001	37105**	Octal D-type flip-flop (inverted outputs, 3 State, cascadable)
54HC646	5962-86885	65508**	Octal non-inverting bus transceivers and registers (3 State)	54ALS580	84012	38202**	Octal D-type transparent latch (inverted outputs, 3 State)
54LS646		32804**	Octal inverting bus transceivers and registers (3 State)	54HC73		65301**	Dual JK flip-flop (with clear)
54HC648		65509**	Octal inverting bus transceivers and registers (3 State)	54HCT74		65309**	Quad D-type flip-flop (with clear)
54LS648		32805**	Octal inverting bus transceivers and registers (3 State)	54HC75	84070	65401**	Quad D-type latch (complementary outputs)
54C906	77056	XXXXX	Hex buffer (Open Collector)	54ALS873	84032	38203**	Dual 4 bit D-type transparent latch (3 State)
MD82C82	84067	XXXXX	Octal bus driver (8 MHz)	54ALS874	84010	37106**	Dual 4 bit D-type flip-flop (with clear, 3 State, cascadable)
MD82C83H	84067	XXXXX	Octal inverting bus driver (8 MHz)	54ALS876	84010	37107**	Dual 4 bit D-type flip-flop (with preset, inverted outputs, 3 State, cascadable)
Flip-Flops 3/				54ALS880	84032	38204**	Dual 4 bit D-type transparent latch (inverted outputs, 3 State)
10H531	5962-87561	XXXXX	Dual D-type master slave flip-flop	8282	84179	XXXXX	Octal D-type latch (3 State)
10H586	5962-87563	XXXXX	Hex D-type master slave flip-flop (with reset)	8283	84179	XXXXX	Octal D-type latch (inverted outputs, 3 State)
26S02	5962-87662	XXXXX	Dual monostable multivibrator (retriggerable, resettable)	Combinational gates 4/			
40174B	82022	17505**	Hex D-type flip-flop	10H561	5962-87567	XXXXX	Binary to 1-8 decoder (low)
4042B	81019	XXXXX	Quad d latch	10H571	5962-87568	XXXXX	Binary to 1-4 decoder (low)
4043B		05153**	Quad 3-state R/S latch	PAL22V10	5962-86053	XXXXX	22 input 10 output registered AND-OR logic array (fusible link)
4044B	5962-77026	XXXXX	Quad NAND R/S latch	PAL22V10A	5962-86053	XXXXX	22 input 10 output registered AND-OR logic array (fusible link)
4047B	81020	XXXXX	Monostable/astable multivibrator	AM25LS251	5962-87542	XXXXX	Priority encoder (3 State)
4076B		17501**	4 bit D-type register	25LS2521	5962-86713	XXXXX	8 bit equal to comparator
4095B		17502**	Gated JK master-slave flip-flop (non-inverting JK)	40257B		17803**	Quad 2 to 1 line data selector/multiplexer
4096B		17503**	Gated JK master-slave flip-flop (inverting JK)	4067B		17801**	16 channel multiplexer/demultiplexer
4508B		17602**	Dual 4 bit latch	4097B		17802**	8 channel differential multiplexer/demultiplexer
4528B	77045	XXXXX	Dual monostable multivibrator (retriggerable, resettable)	4514B	77035	17301**	4 bit latch/4 to 16 line decoder
4528B	77045	XXXXX	Dual monostable multivibrator (retriggerable, resettable)	4515B	77032	17302**	4 bit latch/4 to 16 line decoder
54HC107	5962-85154	65303**	Dual JK negative edge-triggered flip-flop (with clear)	4532B		17303**	8 bit priority encoder
54F113		XXXXX	Dual JK flip-flop	4555B	77047	17304**	Dual binary to 1 of 4 decoder/demultiplexer (output high on select)
54HC123	5962-86847	659XX	Dual monostable multivibrator (retriggerable, with clear)	4556B	77048	17305**	Dual binary to 1 of 4 decoder/demultiplexer (output low on select)
54HC123A	5962-86847	XXXXX	Dual monostable multivibrator (retriggerable, with clear)	4585B	77037	XXXXX	4 bit magnitude comparator
54AC174	5962-87626	XXXXX	Hex D flip-flop with master reset	54HCT138	85504	65852**	3 to 8 line decoder
54HC221		659XX	Dual monostable multivibrator (with clear)	54HCT139		65853**	Dual 2 to 4 line decoder
54HC259	85519	65402**	8 bit addressable latch	54LS145	85084	XXXXX	BCD to decimal decoder/driver
54ALS273	84136	XXXXX	Octal D-type flip-flop (with clear)	54HC147	84064	660XX	10 to 4 line priority encoder
54FCT273	5962-87656	XXXXX	Octal D-type flip-flop (with clear, TTL compatible)	54F148	5962-86070	XXXXX	8 to 3 priority encoder
54AC373	5962-87555	XXXXX	Octal transparent latch (3 State)	54HC148		660XX	8 to 3 line data encoder
54ACT373	5962-87556	XXXXX	Octal transparent latch (3 State)	54ALS151	84141	XXXXX	8 input data selector/multiplexer
54HCT373	5962-86867	65453**	Octal D-type flip-flop (3 State)	54HC151	84128	66201	8 input data selector/multiplexer (with enable)
54HCT374	85507	65652**	Octal D-type flip-flop (3 State)	54ALS153	84134	XXXXX	Dual 1 to 4 multiplexer
54HC377	5962-87807	65603**	Octal D-type flip-flop (with enable)	54HC153	84093	66202	Dual 4 input data selector/multiplexer (with enable)
54F378		34108**	Parallel D-type register (with enable)	54HC154	5962-86822	65804**	4 to 16 line decoder
54F379		34109**	Quad parallel register (with enable)	54HCT154	5962-86701	XXXXX	4 to 16 line decoder
54HC4538	5962-86886	XXXXX	Dual retriggerable precision monostable multivibrator	54LS154	83017	XXXXX	4 to 16 line decoder/demultiplexer
54HC533	5962-86813	65404**	Octal D-type latch (inverted outputs, 3 State)	54HC157		66203	Quad 2 input data selector/multiplexer (with enable)

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MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
Combinational Gates 4/ (Continued)				29LS18	5962-86719	XXXXX	Quad D-type register (with standard and 3 State outputs)
				2919	5962-86702	XXXXX	Quad register with two independently controlled outputs (3 State)
54HC158	5962-86823	66204	Quad 2 input data selector/multiplexer (with enable, inverted output)	4006B		05751**	Dual 4 stage/5 stage static shift register
54F182		33802**	Look ahead carry generator	4029B	81016	XXXXX	Presettable binary/decade up/down counter
54HC238	5962-86884	XXXXX	3 to 8 line decoder	4031B		05755**	64 stage static shift register
54ALS251	84135	XXXXX	8 input data selector/multiplexer (with enable, 3 State)	4034B		05756**	8 stage bidirectional parallel input serial output bus register
54HC251	85125	66205	8 input data selector/multiplexer (with enable, 3 State)	4035B	81017	XXXXX	4 bit parallel in/parallel out shift register
54ALS253	85096	XXXXX	Dual 4 input data selector/multiplexer (with enable, 3 State)	4040B	77058	XXXXX	12 bit ripple carry binary counter/divider
54HC253		66206	Dual 4 input data selector/multiplexer (with enable, 3 State)	4094B	77025	XXXXX	8 stage shift and store register
54ALS257	85097	XXXXX	8 input data selector/multiplexer (3 State)	4520B	77023	181XX	Dual binary up counter
54HC257	85124	66207	Quad 2 input data selector/multiplexer (with enable, 3 State)	4557B	79016	XXXXX	1 to 64 bit variable length shift register
54LS261	80026	31801**	2x4 parallel binary signed multiplier	54ALS160		38101**	Synchronous 4 bit decade counter (asynchronous clear, cascadable)
54HC280	86077	668XX	9 bit odd/even parity generator/checker	54HC160	5962-86824	66301**	BCD decade counter (asynchronous reset, synchronous load)
54HC283		667XX	4 bit binary full adder	54HC161	84075	66302**	4 bit binary counter (asynchronous reset, synchronous load)
54LS353	85508	XXXXX	Dual 4 input data selector/multiplexer (3 State)	54HCT161	5962-86854	XXXXX	4 bit binary counter (asynchronous clear)
54HC354		66208	8 input data selector/multiplexer (with enable, 3 State)	54ALS162	84079	38102**	Synchronous 4 bit decade counter (synchronous clear, cascadable)
54HC356		66209	8 input data selector/multiplexer (with enable, 3 State)	54HC162	84094	66303**	BCD decade counter (synchronous reset and load)
54F381	5962-86710	33803**	4 bit ALU	54HC163	86076	66304**	4 bit binary counter (synchronous reset and load)
54F382		33804**	4 bit ALU	54F164	5962-86071	XXXXX	8 bit serial input/parallel output shift register
54HC42	5962-86821	65801**	BCD to decimal decoder	54HC164	84162	665XX	8 bit parallel output serial shift register (with clear)
54HC682		661XX	8 bit comparator	54HC165	84095	665XX	8 bit parallel input shift register (with clock inhibit)
54LS682	84151	XXXXX	8 bit magnitude comparator	54HCT165	5962-86855	XXXXX	8 bit parallel input/serial output shift register
54HC684		661XX	8 bit comparator	54HC166		665XX	8 bit parallel input shift register (with clear)
54LS684	84152	XXXXX	8 bit magnitude comparator	54ALS168		38103**	Synchronous 4 bit up/down decade counter (cascadable)
54HC686		661XX	8 bit comparator	54LS168	80018	31505**	Synchronous 4 bit up/down decade counter
54HC688	5962-86818	661XX	8 bit comparator	54F169	5962-86072	XXXXX	Synchronous 4 bit up/down binary counter
54LS688	84153	XXXXX	8 bit magnitude comparator (with enable)	54LS170	80025	31902**	4x4 register file (Open Collector, cascadable)
54HC85	86013	661XX	4 bit comparator	54F190		34403**	Synchronous 4 bit up/down decade counter (with mode control)
54C922	5962-87521	XXXXX	16 key keyboard encoder (3 State)	54ALS191	5962-86840	XXXXX	Synchronous 4 bit up/down counter
582S62	5962-87543	XXXXX	9 input parity checker/generator	54F191		34303**	Synchronous 4 bit up/down binary counter (with mode control)
Sequential registers/counters 5/				54HC191	5962-86891	66305**	4 bit binary up/down counter (asynchronous load)
10H536	5962-87001	XXXXX	Universal counter	54HC192	5962-87808	66306**	BCD decade up/down counter (asynchronous reset and load)
10H560	5962-87562	XXXXX	12 bit parity generator checker	54HC193	5962-87724	66307**	4 bit binary up/down counter (asynchronous reset and load)
14557B	79016	XXXXX	1 to 64 bit variable length shift register	54HC194	5962-86826	665XX	4 bit universal shift register (with clear)
25LS09	5962-86708	XXXXX	Quad 2 input high speed register	54HC195	5962-86827	665XX	4 bit parallel shift register (with clear)
25S09	5962-86728	XXXXX	Quad 2 input register (high speed)	54LS196		32001**	Decade counter with preset
25S18	5962-86715	442XX	Quad D-type flip-flop (2900 family, 3 State)	54ALS299	83021	37601**	8 bit bi-directional universal shift/
25LS2518	5962-86719	XXXXX	Quad D-type register (with standard and 3 State outputs)				
25LS2519	5962-86702	XXXXX	Quad register with two independently controlled outputs (3 State)				
25LS2569	5962-87544	XXXXX	Synchronous 4 bit binary up/down counter (3 State)				
25LS299	78024	XXXXX	8 bit universal shift register				
25LS399	5962-86708	XXXXX	Quad 2 input high speed register				
2917A	5962-86714	XXXXX	Quad bus transceiver with parity (2900 family, 3 State)				
2918	5962-86715	XXXXX	Quad D-type flip-flop (2900 family, 3 State)				

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MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
Sequential registers/counters 5/ (Continued)				2167-40	82007	XXXXX	16384x1 static RAM (40 ns access time)
			storage register (3 State, cascadable)	2167-55	82007	XXXXX	16384x1 static RAM (55 ns access time)
54FCT299	5962-86862	XXXXX	8 input universal shift register (TTL compatible, 3 State)	2167-70	82007	XXXXX	16384x1 static RAM (70 ns access time)
54HC299	5962-87806	665XX	8 bit universal shift register (3 State)	2168-45	5962-86081	XXXXX	4096x4 static RAM (45 ns access time, 3 State)
54LS299	78024	XXXXX	8 bit universal shift register	2168-55	5962-86081	XXXXX	4096x4 static RAM (55 ns access time, 3 State)
54ALS323	83021	37602**	8 bit bi-directional universal shift/storage register (3 State),	2168-70	5962-86081	XXXXX	4096x4 static RAM (70 ns access time, 3 State)
54HC390	86009	66308**	Dual 4 bit decade counter (asynchronous reset)	2169-40	5962-86081	XXXXX	4096x4 static RAM (40 ns access time, 3 State)
54HC393	84100	66309**	Dual 4 bit binary counter (asynchronous reset)	2169-50	5962-86081	XXXXX	4096x4 static RAM (50 ns access time, 3 State)
54LS399	84154	XXXXX	Quad two port register	2169-70	5962-86081	XXXXX	4096x4 static RAM (70 ns access time, 3 State)
54HC4017	86011	66310**	Decade counter/divider (10 decoded outputs, asynchronous reset)	27LS00	86020	XXXXX	256x1 static RAM (55 ns access time, 3 State)
54HC4020	85003	66311**	14 stage ripple carry binary counter (asynchronous reset)	27LS00A	86020	XXXXX	256x1 static RAM (45 ns access time, 3 State)
54HC4024	86012	66312**	7 stage ripple carry binary counter (asynchronous reset)	27LS01	86020	XXXXX	256x1 static RAM (55 ns access time, 3 State)
54HC4040	85004	66313**	12 stage ripple carry binary counter (asynchronous reset)	27LS02	86051	XXXXX	16x4 static RAM (65 ns access time, Open Collector)
54HC4520		XXXXX	Dual binary counter	27S02	86051	XXXXX	16x4 static RAM (50 ns access time, Open Collector)
54ALS560		38104**	Synchronous 4 bit decade counter (3 State, cascadable)	27S02A	86051	XXXXX	16x4 static RAM (30 ns access time, Open Collector)
54ALS561	83022	38004**	Synchronous 4 bit binary counter (3 State, cascadable)	27LS03	86051	XXXXX	16x4 static RAM (65 ns access time, 3 State)
54ALS568		38105**	Synchronous 4 bit up/down decade counter (3 State, cascadable)	27S03	86051	XXXXX	16x4 static RAM (50 ns access time, 3 State)
54ALS569	83025	38005**	Synchronous 4 bit up/down binary counter (3 State, cascadable)	27S03A	86051	XXXXX	16x4 static RAM (30 ns access time, 3 State)
54HC590		664XX	8 bit binary counter (3 State)	27LS07	78015	XXXXX	16x4 static RAM (65 ns access time, non-inverting, 3 State)
54HC592		664XX	8 bit binary counter and registers	27S07	78015	XXXXX	16x4 static RAM (50 ns access time, non-inverting, 3 State)
54LS592	5962-87621	XXXXX	8 bit binary counter with input registers	27S07A	78015	XXXXX	16x4 static RAM (30 ns access time, non-inverting, 3 State)
54HC593		664XX	8 bit binary counter and registers (3 State)	IMS2800		XXXXX	262144x1 dynamic RAM
54HC595	5962-86816	665XX	8 bit shift register (without output latches, 3 State)	29705A	86025	XXXXX	16x4 two port static RAM (30 ns access time, 3 State)
54LS595	5962-86717	XXXXX	8 bit shift register (3 State)	MT4067-10	5962-87676	XXXXX	65536x4 RAM (100 ns access time)
54HC597	5962-86817	665XX	8 bit shift register (with input latches)	MT4067-12	5962-87676	XXXXX	65536x4 RAM (120 ns access time)
54LS668	5962-86876	XXXXX	4 bit up/down counter	MT4067-15	5962-87676	XXXXX	65536x4 RAM (150 ns access time)
54HC670		666XX	4 x 4 register file (3 State)	MT4067-20	5962-87676	XXXXX	65536x4 RAM (200 ns access time)
54HCT74	5962-86853	XXXXX	Dual D-type flip-flop (preset and clear)	4C1024		24902	1,048,576x1 dynamic RAM (100 ns access time, 3 State)
93S16	5962-86727	XXXXX	4 bit binary counter	411024		24901	1,048,576x1 dynamic RAM (80 ns access time, 3 State)
RAM 6/				4116	24003**	16384x1	dynamic RAM with page mode operation guaranteed (200 ns access time, 3 State)
TBD		248XX	1 megabit dynamic RAM	41256N-12	24603**	262144x1	dynamic RAM (120 ns access time)
MT1257-12		24601**	262144x1 dynamic RAM (120 ns access time)	41256N-15	24604**	262144x1	dynamic RAM (150 ns access time)
MT1259-12		24603**	262144x1 dynamic RAM (120 ns access time)	41256P-12	24601**	262144x1	dynamic RAM (120 ns access time)
MT1259-15		24604**	262144x1 dynamic RAM (150 ns access time)	4164-12	82010	XXXXX	65536x1 dynamic RAM (4 ms refresh, 120 ns access time, 3 State)
1HC34		61501	VHSIC 1024x4 4 port static RAM				
F1600		29201	65536x1 static RAM				
IMS1600		29204	65536x1 static RAM				
2114		23802**	1024x4 static RAM (450 ns, 3 State)				
2114A		23804**	1024x4 static RAM (250 ns, 3 State)				

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MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
RAM 6/ (Continued)				6164-70	5962-85525	XXXXX	8192x8 static RAM (75 ns access time, 3 State)
4164-15	82010	XXXXX	65536x1 dynamic RAM (4 ms refresh, 150 ns access time, 3 State)	6168LA25	5962-86705	XXXXX	4096x4 static RAM (25 ns access time, 3 State)
4164-20	82010	XXXXX	65536x1 dynamic RAM (4 ms refresh, 200 ns access time, 3 State)	6168SA25	5962-86705	XXXXX	4096x4 static RAM (25 ns access time, 3 State)
41H68-825	5962-86705	XXXXX	4096x4 static RAM (25 ns access time, 3 State)	6168LA35	5962-86705	XXXXX	4096x4 static RAM (35 ns access time, 3 State)
41H68-835	5962-86705	XXXXX	4096x4 static RAM (35 ns access time, 3 State)	6168SA35	5962-86705	XXXXX	4096x4 static RAM (35 ns access time, 3 State)
4256-20	85152	XXXXX	262144x1 dynamic RAM (200 ns access time)	6168LA45	5962-86705	XXXXX	4096x4 static RAM (45 ns access time, 3 State)
SMJ4256-12	85152	XXXXX	262144x1 dynamic RAM (120 ns access time)	6168SA45	5962-86705	XXXXX	4096x4 static RAM (45 ns access time, 3 State)
SMJ4256-20	85152	XXXXX	262144x1 dynamic RAM (200 ns access time)	6168LA55	5962-86705	XXXXX	4096x4 static RAM (55 ns access time, 3 State)
4264-15	82010	XXXXX	65536x1 dynamic RAM (4 ms refresh, 150 ns access time, 3 State)	6168SA55	5962-86705	XXXXX	4096x4 static RAM (55 ns access time, 3 State)
4264-20	82010	XXXXX	65536x1 dynamic RAM (4 ms refresh, 200 ns access time, 3 State)	6168LA70	5962-86705	XXXXX	4096x4 static RAM (70 ns access time, 3 State)
511000	24903		1,048,576x1 dynamic RAM (120 ns access time, 3 State)	6168SA70	5962-86705	XXXXX	4096x4 static RAM (70 ns access time, 3 State)
D51256		XXXXX	262144x1 dynamic RAM	6268-35	5962-86705	XXXXX	4096x4 static RAM (35 ns access time, 3 State)
NM51256		XXXXX	262144x1 dynamic RAM	6268-45	5962-86705	XXXXX	4096x4 static RAM (45 ns access time, 3 State)
51C67	84132	29103**	16384x1 static RAM (90 ns access time, 3 State)	6268-55	5962-86705	XXXXX	4096x4 static RAM (55 ns access time, 3 State)
51C67	84132	29106**	16384x1 static RAM (45 ns access time, 3 State)	6268-70	5962-86705	XXXXX	4096x4 static RAM (70 ns access time, 3 State)
51C68-35	5962-86705	XXXXX	4096x4 static RAM (35 ns access time, 3 State)	6504-8	81024	XXXXX	4096x1 static RAM (300 ns access time)
51C68-45	5962-86705	XXXXX	4096x4 static RAM (45 ns access time, 3 State)	6504B	81024	XXXXX	4096x1 static RAM (200 ns access time)
51C68-55	5962-86705	XXXXX	4096x4 static RAM (55 ns access time, 3 State)	6514-8	81024	XXXXX	1024x4 static RAM (300 ns access time)
51C68-70	5962-86705	XXXXX	4096x4 static RAM (70 ns access time, 3 State)	6514B	81024	XXXXX	1024x4 static RAM (200 ns access time)
51C98	61301		16384x4 VHSIC static RAM (35 ns access time)	6516	84036	29102**	2048x8 static RAM (210 ns access time, 3 State)
51C98	61302		16384x4 VHSIC static RAM (45 ns access time)	6516-1		61001**	VHSIC 8192x8 static RAM (selectable mode, 35 ns access time)
51C98	61303		16384x4 VHSIC static RAM (55 ns access time)	6516-2		61002**	VHSIC 8192x8 static RAM (selectable mode, 45 ns access time)
5403004	81024	XXXXX	4096x1 static RAM (55 ns access time)	6516-3		61003**	VHSIC 8192x8 static RAM (selectable mode, 55 ns access time)
54S189	78015	XXXXX	16x4 static RAM (30 ns access time, inverting, 3 State)	6516B	84036	XXXXX	2048x8 static RAM (120 ns access time, 3 State)
6116-35	84036	XXXXX	2048x8 static RAM (35 ns access time, 3 State)	65162	84036	29101**	2048x8 static RAM (150 ns access time, 3 State)
6116LA120	84036	XXXXX	2048x8 static RAM (120 ns access time, 3 State)	65162	84036	29105**	2048x8 static RAM (200 ns access time, 3 State)
6116LA45	84036	XXXXX	2048x8 static RAM (45 ns access time, 3 State)	65162B	84036	XXXXX	2048x8 static RAM (70 ns access time, 3 State)
6116SA45	84036	XXXXX	2048x8 static RAM (45 ns access time, 3 State)	65262	84132	29103**	16384x1 static RAM (90 ns access time, 3 State)
6116LA55	84036	XXXXX	2048x8 static RAM (55 ns access time, 3 State)	65643		29206	65536x1 static RAM
6116SA55	84036	XXXXX	2048x8 static RAM (55 ns access time, 3 State)	7C148		28902**	1024x4 static RAM (35 ns access time, 3 State)
6116LA70	84036	XXXXX	2048x8 static RAM (70 ns access time, 3 State)	7C148		28904**	1024x4 static RAM (55 ns access time, 3 State)
6116SA70	84036	XXXXX	2048x8 static RAM (70 ns access time, 3 State)	7164S55	5962-85525	XXXXX	8192x8 static RAM (55 ns access time, 3 State)
6116LA90	84036	XXXXX	2048x8 static RAM (90 ns access time, 3 State)	7164S70	5962-85525	XXXXX	8192x8 static RAM (75 ns access time, 3 State)
6164-55	5962-85525	XXXXX	8192x8 static RAM (55 ns access time, 3 State)	IDT7187		29203	65536x1 static RAM
				8155/BQA	5962-87593	XXXXX	256x8 RAM (with I/O ports and timer, CE (active low))

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MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
RAM 6/ (Continued)				PAL16A4	81036	50406**	16 input 4 output AND-carry-OR-exclusive OR gate array (fusible link)
8156/BQA	5962-87593	XXXXX	256x8 RAM (with/O ports and timer, CE (active high))	PAL16R4-15	5962-85155	506XX	16 input 4 output registered AND-OR gate array (fusible link)
82S16	86023	XXXXX	256x1 static RAM (70 ns access time, 3 State)	PAL16R4A-4	85065	XXXXX	16 input 6 output registered AND-OR gate array (fusible link)
8X350	5962-86052	XXXXX	256x8 static RAM (40 ns access time, 3 State)	PAL16X4	81036	50405**	16 input 4 output registered AND-OR-exclusive OR gate array (fusible link)
8X350	5962-86052	XXXXX	2048 bit bipolar RAM	PAL16L6	5962-86804	XXXXX	16 input 6 output AND-OR-invert gate array
9064-15	82010	XXXXX	65536x1 dynamic RAM (2 ms refresh, 150 ns access time)	PAL16R6-15	5962-85155	506XX	16 input 6 output registered AND-OR gate array (fusible link)
9064-20	82010	XXXXX	65536x1 dynamic RAM (2 ms refresh, 200 ns access time)	PAL16L8-15	5962-85155	506XX	16 input 8 output AND-OR-invert gate array (fusible link)
AM9128-12	81039	XXXXX	2048x8 static RAM (120 ns access time, 3 State)	PAL16L8A-4	85065	XXXXX	16 input 8 output AND-OR-invert gate array (fusible link)
AM9128-20	81039	XXXXX	2048x8 static RAM (200 ns access time, 3 State)	PAL16R8-15	5962-85155	506XX	16 input 8 output registered AND-OR gate array (fusible link)
AM9128-90	81039	XXXXX	2048x8 static RAM (90 ns access time, 3 State)	PAL16R8A-4	85065	XXXXX	16 input 8 output registered AND-OR gate array (fusible link)
9150-25	5962-87592	XXXXX	1024 x 4 high speed static R/W RAM (25 ns)	PAL18L4	5962-86804	XXXXX	18 input 4 output AND-OR logic array
9150-35	5962-87592	XXXXX	1024 x 4 high speed static R/W RAM (35 ns)	PAL18P8A	5962-87528	XXXXX	18 input 8 output AND-OR programmable array logic
9150-45	5962-87592	XXXXX	1024 x 4 high speed static R/W RAM (45 ns)	PAL18P8AL	5962-87528	XXXXX	18 input 8 output AND-OR programmable array logic
AM9256		XXXXX	262144x1 dynamic RAM	PAL18P8B	5962-87528	XXXXX	18 input 8 output AND-OR programmable array logic
93412	23109**		256X4 static RAM (60 ns, Open Collector)	PAL18P8L	5962-87528	XXXXX	18 input 8 output AND-OR programmable array logic
93L412	23111**		256x4 static RAM, low power (75 ns, Open Collector)	PAL18P8Q	5962-87528	XXXXX	18 input 8 output AND-OR programmable array logic
93415	23101**		1024x1 static RAM (60 ns, Open Collector)	PAL20C1	5962-86804	XXXXX	20 input 2 output AND-OR-invert gate array
93415	23105**		1024x1 static RAM, high speed (10 ns, Open Collector)	PAL20L10A	84129	XXXXX	20 input 10 output AND-OR-invert gate array (fusible link)
93415	23107**		1024x1 static RAM (45 ns, Open Collector)	PAL20RA10	5962-86803	XXXXX	20 input 10 output registered AND-OR logic array (fusible link)
93419	23201**		64x9 static RAM (Open Collector)	PAL20X10A	84129	XXXXX	20 input 10 output registered AND-OR-XOR gate array (fusible link)
AM99C641	29202		65536x1 static RAM	PAL20L2	5962-86804	XXXXX	20 input 2 output AND-OR-invert gate array
99C68-45	5962-86705	XXXXX	4096x4 static RAM (45 ns access time, 3 State)	PAL20R4B	5962-87671	XXXXX	20 input 4 output registered AND-OR gate array
99C68-55	5962-86705	XXXXX	4096x4 static RAM (55 ns access time, 3 State)	PAL20X4A	84129	XXXXX	20 input 4 output registered AND-OR-XOR gate array (fusible link)
99C68-70	5962-86705	XXXXX	4096x4 static RAM (70 ns access time, 3 State)	PAL20R6B	5962-87671	XXXXX	20 input 6 output registered AND-OR gate array
99CL68-45	5962-86705	XXXXX	4096x4 static RAM (45 ns access time, 3 State)	PAL20L8B	5962-87671	XXXXX	20 input 8 output AND-OR-invert gate array
99CL68-55	5962-86705	XXXXX	4096x4 static RAM (55 ns access time, 3 State)	PAL20R8B	5962-87671	XXXXX	20 input 8 output registered AND-OR gate array
99CL68-70	5962-86705	XXXXX	4096x4 static RAM (70 ns access time, 3 State)	PAL20X8A	84129	XXXXX	20 input 8 output registered AND-OR-XOR gate array (fusible link)
99C88-10	5962-85525	XXXXX	8192x8 static RAM (100 ns access time, 3 State)	C22V10	5962-87539	XXXXX	22 input 10 output AND-OR programmable logic array (U-V erasable, 25 ns access time)
99C88-12	5962-85525	XXXXX	8192x8 static RAM (120 ns access time, 3 State)	C22V10	5962-87539	XXXXX	22 input 10 output AND-OR programmable logic array (U-V erasable, 30 ns access time)
99C88-15	5962-85525	XXXXX	8192x8 static RAM (150 ns access time, 3 State)	C22V10	5962-87539	XXXXX	22 input 10 output AND-OR programmable logic array (U-V erasable, 40 ns access time)
99C88-70	5962-85525	XXXXX	8192x8 static RAM (75 ns access time, 3 State)	27128-11	82025	XXXXX	16384x8 EPROM (U-V erasable, 110 ns access time)
ROM/PROM/PAL 7/				27128-15	82025	XXXXX	16384x8 EPROM (U-V erasable, 150 ns access time)
PAL12L10	5962-86804	XXXXX	12 input 10 output AND-OR-invert gate array	27128-20	82025	XXXXX	16384x8 EPROM (U-V erasable,
PAL14L8	5962-86804	XXXXX	14 input 8 output AND-OR-invert gate array				
PAL16C1	81035	50305**	16 input 2 output AND-OR/AND-OR-invert gate array (fusible link)				
PAL16H2	81035	50304**	16 input 2 output AND-OR gate array (fusible link)				
PAL16L2	81035	50309**	16 input 2 output AND-OR-invert gate array (fusible link)				

Devices listed in this table are those that have been selected for electrical characterization and are potential candidates for MIL-M-38510 specification or that have an active Military drawing (DESC). This table also includes devices that have dated military specifications but as yet have no QPL source. These devices shall be considered for use in systems or equipment designs if a QPL source is anticipated.

MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
ROM/PROM/PAL 7/ (Continued)				27S37	5962-86706	XXXXX	1024x8 registered PROM (with synchronous programmable initialize, 45 ns access time, 3 State)
27128-200	82025	XXXXX	200 ns access time) 16384x8 EPROM (U-V erasable, 200 ns access time)	27S37A	5962-86706	XXXXX	1024x8 registered PROM (with synchronous programmable initialize, 40 ns access time, 3 State)
27128-25	82025	XXXXX	16384x8 EPROM (U-V erasable, 250 ns access time)	27S45	5962-85527	XXXXX	2048x8 registered PROM (with asynchronous programmable initialize, 50 ns access time, 3 State)
27128-250	82025	XXXXX	16384x8 EPROM (U-V erasable, 250 ns access time)	27S45A	5962-85527	XXXXX	2048x8 registered PROM (with asynchronous programmable initialize, 45 ns access time, 3 State)
27128-30	82025	XXXXX	16384x8 EPROM (U-V erasable, 300 ns access time)	27S47	5962-85527	XXXXX	2048x8 registered PROM (with synchronous programmable initialize, 50 ns access time, 3 State)
27128-300	82025	XXXXX	16384x8 EPROM (U-V erasable, 300 ns access time)	27S47A	5962-85527	XXXXX	2048x8 registered PROM (with synchronous programmable initialize, 45 ns access time, 3 State)
27128-450	82025	XXXXX	16384x8 EPROM (U-V erasable, 450 ns access time)	27S49	82009	XXXXX	8192x8 PROM (3 State, fusible link)
2716	78022	XXXXX	2048x8 EPROM (U-V erasable, 3 State)	27S12-20		27001	65536x8 UVEEPROM (200 ns access time, 3 State)
2716-15	5962-78022	XXXXX	2048x8 EPROM (U-V erasable, 150 ns access time, 3 State)	27S12-25	5962-85135	27002	65536x8 UVEEPROM (250 ns access time, 3 State)
2716-20	5962-78022	XXXXX	2048x8 EPROM (U-V erasable, 200 ns access time, 3 State)	27S12-30	5962-85135	270XX	65536x8 UVEEPROM (300 ns access time, 3 State)
2716-25	5962-78022	XXXXX	2048x8 EPROM (U-V erasable, 250 ns access time, 3 State)	27S12-35	5962-85135	27004	65536x8 UVEEPROM (350 ns access time, 3 State)
2716-30	5962-78022	XXXXX	2048x8 EPROM (U-V erasable, 300 ns access time, 3 State)	27S12-45	5962-85135	270XX	65536x8 UVEEPROM (450 ns access time, 3 State)
2716-45	5962-78022	XXXXX	2048x8 EPROM (U-V erasable, 450 ns access time, 3 State)	27S12-45	5962-85135	XXXXX	65536x8 UVEEPROM (450 ns access time, 3 State)
27S180	20903**		1024x8 PROM (fusible link, 90 ns access time, Open Collector)	2764-150	82005	XXXXX	8192x8 EPROM (U-V erasable, 150 ns access time, 3 State)
27S181	20904**		1024x8 PROM (fusible link, 90 ns access time, 3 State)	2764-200	82005	XXXXX	8192x8 EPROM (U-V erasable, 200 ns access time, 3 State)
27S19	5962-86703	XXXXX	32x8 PROM (50 ns access time, fusible link, 3 State)	2764-250	82005	XXXXX	8192x8 EPROM (U-V erasable, 250 ns access time, 3 State)
27S19A	5962-86703	XXXXX	32x8 PROM (35 ns access time, fusible link, 3 State)	2764-450	82005	XXXXX	8192x8 EPROM (U-V erasable, 450 ns access time, 3 State)
27PS191	5962-85526	XXXXX	2048x8 PROM (fusible link, 75 ns access time, 3 State)	2764A-20	82005	XXXXX	8192x8 EPROM (U-V erasable, 200 ns access time, 3 State)
27PS191A	5962-85526	XXXXX	2048x8 PROM (fusible link, 65 ns access time, 3 State)	2764A-25	82005	XXXXX	8192x8 EPROM (U-V erasable, 250 ns access time, 3 State)
27210-20	5962-87744	XXXXX	65536x16 UVEEPROM (200 ns access time)	2764A-35	82005	XXXXX	8192x8 EPROM (U-V erasable, 350 ns access time, 3 State)
27210-25	5962-87744	XXXXX	65536x16 UVEEPROM (250 ns access time)	27C64-20	85102	XXXXX	8192x8 EPROM (U-V erasable, 3 State, 200 ns access time)
27256-170	84111	22403**	32768x8 EPROM (U-V erasable, 170 ns access time, 3 State)	27C64-25	85102	XXXXX	8192x8 EPROM (U-V erasable, 3 State, 250 ns access time)
27256-30	84111	XXXXX	32768x8 EPROM (U-V erasable, 300 ns access time, 3 State)	27C64-35	85102	XXXXX	8192x8 EPROM (U-V erasable, 3 State, 350 ns access time)
27256-35	84111	XXXXX	32768x8 EPROM (U-V erasable, 350 ns access time, 3 State)	28S166A		21002**	2048x8 PROM (fusible link, 100 ns access time, 3 State)
27C256-20	5962-86063	XXXXX	32768x8 EPROM (U-V erasable, 200 ns access time, 3 State)	28S166A		21004**	2048x8 PROM (fusible link, 55 ns access time, 3 State)
27C256-25	5962-86063	XXXXX	32768x8 EPROM (U-V erasable, 250 ns access time, 3 State)	2864A-25	5962-86830	XXXXX	8192x8 EEPROM (electrically erasable, 250 ns access time, 3 State)
27C256-30	5962-86063	XXXXX	32768x8 EPROM (U-V erasable, 300 ns access time, 3 State)	2864A-30	5962-86830	XXXXX	8192x8 EEPROM (electrically erasable, 300 ns access time, 3 State)
27S29	5962-87690	XXXXX	512x8 PROM (70 ns access time, 3 State)	2864A-35	5962-86830	XXXXX	8192x8 EEPROM (electrically erasable, 350 ns access time, 3 State)
27S29A	5962-87690	XXXXX	512x8 PROM (45 ns access time, 3 State)				
27PS291	5962-85526	XXXXX	2048x8 PROM (fusible link, 75 ns access time, 3 State)				
27PS291A	5962-85526	XXXXX	2048x8 PROM (fusible link, 65 ns access time, 3 State)				
27S31	78016	XXXXX	512x8 PROM (fusible link, 3 State)				
2732-150	80012	XXXXX	32768 bit EPROM (U-V erasable, 150 ns access time)				
2732-200	80012	XXXXX	32768 bit EPROM (U-V erasable, 200 ns access time)				
2732-250	80012	XXXXX	32768 bit EPROM (U-V erasable, 250 ns access time)				

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MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
ROM/PROM/PAL 7/ (Continued)				7644		20603**	1024x4 PROM (fusible link, with active pull-up)
X2864A-25	5962-86830	22804**	8192x8 EEPROM (electrically erasable, 250 ns access time, 3 State)	76641	82009	XXXXX	8192x8 PROM (3 State, fusible link)
X2864A-25	5962-86830	22806**	8192x8 EEPROM (electrically erasable, 250 ns access time, 3 State)	77S180		20903**	1024x8 PROM (fusible link, 90 ns access time, Open Collector)
X2864A-30	5962-86830	22803**	8192x8 EEPROM (electrically erasable, 300 ns access time, 3 State)	77S184		20901**	2048x4 PROM (fusible link, 125 ns access time, Open Collector)
X2864A-35	5962-86830	22805**	8192x8 EEPROM (electrically erasable, 350 ns access time, 3 State)	77S190		21001**	2048x8 PROM (fusible link, Open Collector)
X2864A-35	5962-86830	22802**	8192x8 EEPROM (electrically erasable, 350 ns access time, 3 State)	82S105	5962-86709	XXXXX	16x48x8 field programmable logic sequencer (3 State)
X2864A-45	5962-86830	22801**	8192x8 EEPROM (electrically erasable, 450 ns access time, 3 State)	82S1153A	5962-87682	XXXXX	18x42x10 field programmable logic array (FPLA, 3 State)
29611		20402**	512x4 PROM (fusible link, 3 State)	82S136		20601**	1024x4 PROM (fusible link, Open Collector)
29621		20805**	512x8 PROM (fusible link, 3 State)	82S140		20801**	512x8 PROM (fusible link, Open Collector)
29651		20908**	2048x4 PROM (fusible link, 90 ns access time, 3 State)	82S180		20903**	1024x8 PROM (fusible link, 90 ns access time, Open Collector)
29671	82008	21102**	4096x8 PROM (85 ns access time, fusible link, 3 State)	82S184		20901**	2048x4 PROM (fusible link, 125 ns access time, Open Collector)
PAL32R16		XXXXX	32 input 16 output registered AND-OR gate array (fusible link)	82HS195		21005**	4096x4 PROM (fusible link, 3 State)
5305-1		20401**	512x4 PROM (fusible link, Open Collector)	82HS321A	82008	21101**	4096x8 PROM (45 ns access time, fusible link, 3 State)
5306-1		20402**	512x4 PROM (fusible link, 3 State)	82HS321A	82008	21102**	4096x8 PROM (85 ns access time, fusible link, 3 State)
53S1681		21002**	2048x8 PROM (fusible link, 100 ns access time, 3 State)	87C51	5962-87684	XXXXX	8 bit microcontroller (with 4K EPROM)
5330		20701**	32x8 PROM (80 ns access time, fusible link, Open Collector)	93436		20401**	512x4 PROM (fusible link, Open Collector)
5331		20702**	32x8 PROM (80 ns access time, fusible link, 3 State)	93438		20801**	512x8 PROM (fusible link, Open Collector)
53S3281	82008	21102**	4096x8 PROM (85 ns access time, fusible link, 3 State)	93446		20402**	512x4 PROM (fusible link, 3 State)
53S3281B	5962-82008	XXXXX	4096x8 PROM (40 ns access time, fusible link, 3 State)	93448		20802**	512x8 PROM (fusible link, 3 State)
5340-1		20801**	512x8 PROM (fusible link, Open Collector)	93Z450		20903**	1024x8 PROM (fusible link, 90 ns access time, Open Collector)
5341-1		20802**	512x8 PROM (fusible link, 3 State)	93Z451		20904**	1024x8 PROM (fusible link, 90 ns access time, 3 State)
53S440		20601**	1024x4 PROM (fusible link, Open Collector)	93Z451		20909**	1024x8 PROM (fusible link, 55 ns access time, 3 State)
5348-1		20804**	512x8 PROM (fusible link, Open Collector)	93452		20601**	1024x4 PROM (fusible link, Open Collector)
5349-1		20805**	512x8 PROM (fusible link, 3 State)	93453		20602**	1024x4 PROM (fusible link, 3 State)
53S841		20902**	2048x4 PROM (fusible link, 125 ns access time, 3 State)	93458		50201**	16x48x8 field programmable logic array (FPLA, Open Collector)
54S472		20805**	512x8 PROM (fusible link, 3 State)	93459		50202**	16x48x8 field programmable logic array (FPLA, 3 State)
54S473		20804**	512x8 PROM (fusible link, Open Collector)	93Z460		20906**	1024x8 PROM (fusible link, 90 ns access time, Open Collector)
54S475		20801**	512x8 PROM (fusible link, Open Collector)	93Z461		20905**	1024x8 PROM (fusible link, 90 ns access time, 3 State)
54S570		20401**	512x4 PROM (fusible link, Open Collector)	93Z510		21003**	2048x8 PROM (fusible link, Open Collector)
54S572		20601**	1024x4 PROM (fusible link, Open Collector)	93Z565	5962-82009	XXXXX	8192x8 PROM (45 ns access time, 3 State, fusible link)
5564-250	5962-86830	22810**	8192x8 EEPROM (electrically erasable, 250 ns access time, 3 State)	93Z665	5962-82009	XXXXX	8192x8 PROM (45 ns access time, 3 State, fusible link)
5564-250	5962-86830	22811**	8192x8 EEPROM (electrically erasable, 250 ns access time, 3 State)	93Z665-45	82009	21204**	8192x8 PROM (45 ns access time, 3 State, fusible link)
76161		21002**	2048x8 PROM (fusible link, 100 ns access time, 3 State)	93Z665-50	82009	21203**	8192x8 PROM (50 ns access time, 3 State, fusible link)
76321	82008	21102**	4096x8 PROM (85 ns access time, fusible link, 3 State)	93Z665-55	82009	21202**	8192x8 PROM (55 ns access time, 3 State, fusible link)
				93Z665-70	82009	21201**	8192x8 PROM (70 ns access time, 3 State, fusible link)
				93Z667	5962-82009	XXXXX	8192x8 PROM (45 ns access time, 3 State, fusible link)

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MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
Microprocessors and interface peripherals/FIFO 8/				Z8001	80003	52001**	16 bit fixed instruction microprocessor (4.0 MHz)
BFRP10	63001		FFT butterfly processor	Z8001A	80003	52003**	16 bit fixed instruction microprocessor (6.0 MHz)
2901C	84057	XXXXX	4 bit microprocessor slice (15 MHz, TTL compatible)	Z8001B	80003	XXXXX	16 bit fixed instruction microprocessor (10 MHz)
2904	86017	XXXXX	Status and shift control unit (2900 family)	Z8002B	80003	XXXXX	16 bit fixed instruction microprocessor (10 MHz)
2909A	86027	443XX	Microprogram sequencer (2900 family)	M80186	85010	XXXXX	16 bit microprocessor (with DMA, 8 MHz)
2910	78017	XXXXX	12 bit microprogram controller (2900 family)	M80186	85010	XXXXX	16 bit microprocessor (with DMA, 6 MHz)
2911A	86028	XXXXX	Microprogram sequencer (2900 family)	80287-10	5962-85133	XXXXX	80 bit numeric processor extension (10 MHz)
29116	5962-86863	XXXXX	High performance 16 bit bipolar microprocessor	80287-6	5962-85133	XXXXX	80 bit numeric processor extension (6 MHz)
2914	86029	XXXXX	Vectored interrupt controller (2900 family)	80287-8	5962-85133	XXXXX	80 bit numeric processor extension (8 MHz)
2930	5962-87573	XXXXX	4 bit program control unit	Z8030	5962-85518	XXXXX	Serial communications Controller (4.0 MHz)
AM2932	86050	XXXXX	Program control unit/push-pop stack (2900 family)	Z8030A	5962-85518	XXXXX	Serial communications controller (6.0 MHz)
2940	86030	XXXXX	DMA address generator (2900 family)	80C31	85064	XXXXX	8 bit microcontroller
2942	5962-86801	XXXXX	Programmable timer/counter DMA address generator (2900 family)	Z8036	85517	XXXXX	Counter/timer and parallel I/O unit (4 MHz)
2964B	5962-87574	XXXXX	Dynamic memory controller	Z8036A	85517	XXXXX	Counter/timer and parallel I/O unit (6.0 MHz)
29C841	5962-87603	XXXXX	High performance CMOS 10-wide bus interface latch	80386-12	5962-87668	560XX	32 bit microprocessor
29C843	5962-87603	XXXXX	High performance CMOS 9-wide bus interface latch	80386-16	5962-87668	560XX	32 bit microprocessor
29C941	5962-87603	XXXXX	High performance CMOS 10-wide bus interface latch	80C51	85064	XXXXX	8 bit microcontroller (with mask programmable ROM)
29C943	5962-87603	XXXXX	High performance CMOS 9-wide bus interface latch	80C86	84052	XXXXX	16 bit microprocessor
SMJ32010	84053	XXXXX	32 bit digital signal processor	8088	5962-87685	XXXXX	8 bit microprocessor (CPU)
32016		XXXXX	32 bit microprocessor (with 16 bit external bus)	8096		XXXXX	16 bit microcontroller (with digital I/O)
32C016		XXXXX	32 bit microprocessor (with 16 bit external bus)	8097	85063	XXXXX	16 bit microcontroller (with digital and analog I/O)
32032		XXXXX	32 bit microprocessor (with 32 bit external bus)	82288-6	5962-85149	XXXXX	Bus controller (6 MHz)
32C032		XXXXX	32 bit microprocessor (with 32 bit external bus)	82288-8	5962-85149	XXXXX	Bus controller (8 MHz)
32081		XXXXX	Floating point unit	82384-12	5962-87669	XXXXX	Clock generator and reset interface (12.5 MHz)
32C081		XXXXX	Floating point unit	82384-16	5962-87669	XXXXX	Clock generator and reset interface (16 MHz)
32201		XXXXX	Timing/control unit	8251A	5962-87548	XXXXX	Programmable communication interface
32C201		XXXXX	Timing/control unit	8251A	5962-87548	XXXXX	Programmable communication interface
TVB382	61601		VHSIC 64K address generator (25 MHz)	82C52	85015	XXXXX	Serial controller interface
MKB4501-88		25003**	512x9 first-in first-out dual port memory (80 ns access time)	82C54	84065	XXXXX	Programmable interval timer (8 MHz frequency)
68000-10	82921	540XX	16 bit fixed instruction microprocessor (4.0 - 10.0 MHz)	8255A	5962-87570	XXXXX	Programmable peripheral interface
68020-12	5962-86032	XXXXX	32 bit microprocessor	82C55A-5/B	84066	XXXXX	Programmable peripheral interface
68020-16	5962-86032	XXXXX	32 bit microprocessor	82C55A/B	84066	XXXXX	Programmable peripheral interface
68172	5962-87705	XXXXX	VMEbus controller	82C59	5962-85016	XXXXX	Programmable interrupt controller (8 MHz)
68881-12	5962-86021	XXXXX	Floating point coprocessor	82C59-5	5962-85016	XXXXX	Programmable interrupt controller (5 MHz)
68881-16	5962-86021	XXXXX	Floating point coprocessor	82C59A	5962-85016	XXXXX	Programmable interrupt controller (8 MHz)
ICM7170	5962-87653	XXXXX	Microprocessor compatible real-time clock	82C59A-5	5962-85016	XXXXX	Programmable interrupt controller (5 MHz)
7C412-10		25002**	512x9 first-in first-out dual port memory (100 ns access time)	82720	5962-86088	XXXXX	Graphics display controller
7C412-12		25001**	512x9 first-in first-out dual port memory (120 ns access time)	8286	5962-86868	XXXXX	Octal bus transceiver (3 State)
7C412-80		25003**	512x9 first-in first-out dual port memory (80 ns access time)	8287	5962-86868	XXXXX	Octal bus transceiver (3 State)
Z80BCPU		48003**	8 bit fixed instruction microprocessor (6.0 MHz)	82C88	84069	XXXXX	Bus controller
NSC800	83013	XXXXX	8 bit microprocessor (2.5 MHz)	82C89	5962-85528	XXXXX	Bus arbiter (8 MHz)
NSC800-4	83013	XXXXX	8 bit microprocessor (4.0 MHz)	8X305	85502	XXXXX	16 bit microcontroller
				8X305-10	85502	XXXXX	16 bit microcontroller
				8X320	5962-85503	XXXXX	16 bit microcontroller
				8397	85520	XXXXX	16 bit microcontroller (with mask programmable ROM)

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MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
Microprocessors and interface Peripherals/FIFO 8/ (Continued)							
Z8420	84186	XXXXX	Parallel input/output controller (2.5 MHz)	LH0041	85087	XXXXX	compensation, ultra-low noise, low offset)
Z8420A	84186	XXXXX	Parallel input/output controller (4 MHz)	LF412	81023	11905**	High power operational amplifier (external compensation)
Z8430	83016	XXXXX	Counter/timer unit (2.5 MHz)	LM4250	77039	XXXXX	Dual BIFET operational amplifier (low noise)
Z8430A	83016	XXXXX	Counter/timer unit (4.0 MHz)	OPA501	5962-87620	XXXXX	Adjustable current programmable operational amplifier
Z8442	83015	XXXXX	Dual serial input/output controller (2.5 MHz)	524S		14301**	High power operational amplifier
Z8442A	83015	XXXXX	Dual serial input/output controller (4.0 MHz)	5539	5962-86064	XXXXX	Precision instrumentation amplifier
Z8530	5962-87527	XXXXX	Serial communication controller (4.0 MHz)	061	81023	11901**	Ultra high frequency operational amplifier (external compensation)
Z8530A	5962-87527	XXXXX	Serial communication controller (6.0 MHz)	062	81023	11902**	BIFET operational amplifier (low power)
Z8536	83001	XXXXX	Counter/timer parallel input/output circuit (4 MHz)	064	81023	11903**	Dual BIFET operational amplifier (low power)
Z8536A	83001	XXXXX	Counter/timer parallel input/output circuit (6 MHz)	071		11904**	Quad BIFET operational amplifier (low power)
8751H-8	84190	XXXXX	8 bit microcomputer (with 32K U-V EPROM)	072	81023	11905**	BIFET operational amplifier (low noise)
F9450	84169	XXXXX	16 bit microprocessor with MIL-STD-1750 instruction set architecture	074	81023	11906**	Dual BIFET operational amplifier (low noise)
9513A	5962-85523	XXXXX	System timing controller	Comparators 10/			
9519A	5962-87597	XXXXX	Universal interrupt controller	LT1016	5962-86845	XXXXX	High speed comparator
Operational amplifiers 9/				LM119	86014	103XX	Dual precision voltage comparator
LM10H	5962-87604	XXXXX	Operating amp and voltage reference	LM119A	86014	103XX	Dual precision voltage comparator
LT1007	5962-87578	XXXXX	Precision operational amplifier (high speed, low noise)	LM161	5962-87572	XXXXX	High speed voltage comparator
LH0101	85089	XXXXX	Wideband power operational amplifier	TLC372	5962-87658	XXXXX	Dual differential comparators
LH0101A	85089	XXXXX	Wideband power operational amplifier	TLC374M	5962-87659	XXXXX	Quadruple differential comparators
LM102		10601**	Voltage follower	TL514	5962-86878	XXXXX	Dual differential voltage comparator
LM110		10602**	Voltage follower (high speed)	521	5962-87516	XXXXX	Dual differential comparator
OP14A	5962-87714	XXXXX	Dual matched high performance operational amplifier	527	5962-87572	XXXXX	High speed voltage comparator (with emitter follower input)
OP14B	5962-87714	XXXXX	Dual matched high performance operational amplifier	529	5962-87572	XXXXX	High speed voltage comparator
LM143	78003	XXXXX	High voltage operational amplifier	54HCT688	5962-86857	XXXXX	8 bit magnitude comparator
LM144	78003	XXXXX	High voltage operational amplifier	685	86008	XXXXX	High speed voltage comparator (OE)
LF147		11906**	Quad BIFET operational amplifier (low noise)	AM686	78018	XXXXX	High speed voltage comparator
LM149		11002**	Quad operational amplifier (medium power, undercompensated)	AM687	78019	XXXXX	Dual high speed voltage comparator
1536	78003	XXXXX	High voltage operational amplifier	Regulators 12/			
0002	78013	701XX	Current amplifier	LM104	5962-87605	XXXXX	Negative voltage regulator
LH0021	85088	XXXXX	High power operational amplifier (external compensation)	LM117HV	77034	XXXXX	3-terminal positive adjustable regulator (high voltage)
OP-227A	5962-86887	XXXXX	Dual operational amplifier (low noise, low offset)	LM120H-24	77040	11504**	Fixed voltage regulator (-24 V @ 0.5 A max)
OP227A		13504**	Dual operational amplifier (internal compensation, ultra-low noise, low offset)	LM120K-24	77040	11508**	Fixed voltage regulator (-24 V @ 1.0 A max)
HA1-2420-8	80016	XXXXX	Fast sample and hold gated operational amplifier	LM137HV	77034	XXXXX	3-terminal negative adjustable regulator (high voltage)
2640	78003	XXXXX	High voltage operational amplifier	LM138K		11706**	3-terminal adjustable regulator (1.25 V ≤ Vo ≤ 27 V @ 5.0 A)
0032	80013	XXXXX	Operational amplifier	LM140K-05		10706**	Fixed voltage regulator (+5 V @ 1.0 A max)
LH0033	80014	XXXXX	Voltage follower/buffer amplifier (with FET input)	LM140K-12		10707**	Fixed voltage regulator (+12 V @ 1.0 A max)
OP37A		13505	Operational amplifier (internal	LM140K-15		10708**	Fixed voltage regulator (+15 V @ 1.0 A max)
				LM140K-24		10709**	Fixed voltage regulator (+24 V @ 1.0 A max)
				150	5962-87675	XXXXX	3.0 A positive regulator (adjustable)

Devices listed in this table are those that have been selected for electrical characterization and are potential candidates for MIL-M-38510 specification or that have an active Military drawing (DESC). This table also includes devices that have dated military specifications but as yet have no QPL source. These devices shall be considered for use in systems or equipment designs if a QPL source is anticipated.

MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
Regulators 12/ (Continued)				54F365		35101**	Hex bus driver (3 State)
150A	5962-87675	XXXXX	3.0 A positive regulator (adjustable)	54AS646	5962-87595	XXXXX	Octal bus transceiver and register (3 State)
LM150K		11705**	3-terminal adjustable regulator (1.25 V <= Vo <= 37 V @ 3.0 A)	54ALS832	84145	XXXXX	Hex 2 input OR drivers
1524	78028	12601**	Regulating pulse width modulator	55110A	5962-87547	XXXXX	Dual line driver
1524A	5962-87645	XXXXX	Regulating pulse width modulator	55182	79008	XXXXX	Dual differential line receiver
1524B	5962-87645	XXXXX	Regulating pulse width modulator	55183	79009	XXXXX	Differential line driver
1525A		12602	Regulating pulse width modulator	55188	5962-86889	XXXXX	Quad line driver
1526	85515	126XX	Regulating pulse width modulator	55189	5962-86888	XXXXX	Quad line receiver
1527A		126XX	Regulating pulse width modulator	55189A	5962-86888	XXXXX	Quad line receiver
1842	5962-86704	XXXXX	Offline current mode pulse width modulator controller	55464		12910**	Dual high voltage peripheral NOR driver (high-voltage, medium speed)
UC1846	5962-86806	XXXXX	Controller, pulse-width modulator	55500	86018	XXXXX	AC plasma display driver (line select)
4194	77054	XXXXX	Dual adjustable voltage regulator	55501	86018	XXXXX	AC plasma display driver (matrix addressable)
TL431	84109	14801	Adjustable voltage reference shunt regulator	BUS-63105	5962-86049	XXXXX	Single channel driver-receiver
78M24		10705**	Fixed voltage regulator (+24 V @ 0.5 A max)	BUS-63125	5962-87579	XXXXX	Dual channel driver-receiver
7924	77040	11508**	Fixed voltage regulator (-24 V @ 1.0 A max)	ICL7667	5962-87660	XXXXX	Dual power MOSFET driver
79M24	77040	11504**	Fixed voltage regulator (-24 V @ 0.5 A max)	7820A	79008	XXXXX	Dual differential line receiver
Drivers/Receivers 13/				8284		XXXXX	Clock generator/driver
10516	78009	XXXXX	Triple differential line receiver	82C84A	84068	XXXXX	Clock generator/driver (25 MHz)
UC1707	5962-87619	XXXXX	Dual channel power driver	82C86	5962-87577	XXXXX	Octal bus transceiver
2001		14101	Darlington transistor array (7 drivers)	82C87	5962-87577	XXXXX	Octal inverting bus transceiver
2002		14102	Darlington transistor array (7 drivers)	Z0858106	5962-87526	XXXXX	Clock generator and controller (6 MHz)
2004		14104	Darlington transistor array (7 drivers)	Z0858110	5962-87526	XXXXX	Clock generator and controller (10 MHz)
2005		14105	Darlington transistor array (7 drivers)	9622	5962-87522	XXXXX	Dual line receiver
26S12	5962-87534	XXXXX	Quad bus transceiver	9637A	5962-87524	XXXXX	Dual differential line driver
26S12A	5962-87534	XXXXX	Quad bus transceiver	9638	5962-87546	XXXXX	High speed dual differential line driver
26LS30	5962-86721	XXXXX	Dual differential RS-422 party line/ quad single ended RS-423 line driver	Timers 14/			
AM26LS31	78023	XXXXX	Quad high speed differential line driver	7555		149XX	Precision timer (single)
26LS32	78020	XXXXX	Quad differential line receiver	7556		149XX	Precision timer (dual)
26LS32A	78020	XXXXX	Quad differential line receiver	D/A converters 16/			
26LS32B	5962-87616	XXXXX	Quad differential line receiver	AD558T		14401**	8 bit D/A converter (with microprocessor interface)
26LS33	78020	XXXXX	Quad differential line receiver	563	81008	12102**	12 bit D/A converter (internal ref., ifs = 2 mA)
26LS33A	78020	XXXXX	Quad differential line receiver	566		12104**	High speed 12 bit D/A converter (external ref., ifs = 2 mA)
26LS34	5962-87596	XXXXX	Quad differential receiver	AD567	5962-87801	XXXXX	12 bit current output microproces sor compatible D/A converter
2801		14106	Darlington transistor array (8 drivers)	7226	5962-87802	XXXXX	Quad 8 bit D/A converter (without output amplifier)
2802		14107	Darlington transistor array (8 drivers)	7523		12701**	8 bit D/A converter (end point linearity)
2803	5962-86058	14108	Darlington transistor array (8 drivers)	7528	5962-87701	XXXXX	Dual 8 bit D/A converter (buffered)
2804		14109	Darlington transistor array (8 drivers)	AD7572	5962-87591	XXXXX	High speed 12 bit A/D converter
2805		14110	Darlington transistor array (8 drivers)	DAC87	83002	13701**	12 bit D/A converter (voltage output)
29C861	5962-87704	XXXXX	Transceiver 10-bit Bus	DAC87	83003	13702**	12 bit D/A converter (voltage output)
29C863	5962-87704	XXXXX	Transceiver, 10-bit Bus	DAC87		13703**	12 bit D/A converter (voltage output)
29C961	5962-87704	XXXXX	Transceiver, 10-Bit Bus (rotated die)				
29C963	5962-87704	XXXXX	Transceiver, 9-Bit Bus (rotated die)				
UHC-508	85500	XXXXX	Quad 2 input NAND driver (with high output voltage and current)				
UHD-508	85500	XXXXX	Quad 2 input NAND driver (with high output voltage and current)				

Devices listed in this table are those that have been selected for electrical characterization and are potential candidates for MIL-M-38510 specification or that have an active Military drawing (DESC). This table also includes devices that have dated military specifications but as yet have no QPL source. These devices shall be considered for use in systems or equipment designs if a QPL source is anticipated.

MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
A/D converters 17/				Analog switches/multiplexers 18/			
VFC32		13801**	Voltage to frequency converter	10H558	5962-87566	XXXXX	Quad 2 input multiplexer
VFC320		13802**	Voltage to frequency converter	HI200		12301**	Dual SPST switch (70 Ohm)
5200		12001**	12 bit A/D converter (0 to -10 V, internal reference)	HI-201HS	5962-86716	XXXXX	High speed quad SPST analog switch
5201		12003**	12 bit A/D converter (-5 to +5 V, internal reference)	4052B	79015	XXXXX	Analog multiplexer/demultiplexer
5202		12005**	12 bit A/D converter (-10 to +10 V, internal reference)	4053B	81018	XXXXX	Triple 2 channel analog multi plexer/demultiplexer
5203		12002**	12 bit A/D converter (0 to -10 V, external reference)	5041	81006	XXXXX	Dual SPST switch (30 Ohm)
5204		12004**	12 bit A/D converter (-5 to +5 V, external reference)	5042	81006	XXXXX	SPDT switch (30 Ohm)
5205		12006**	12 bit A/D converter (-10 to +10 V, external reference)	5043	81006	XXXXX	Dual SPDT switch (30 Ohm)
5206		12007**	12 bit A/D converter (0 to +10 V, internal reference)	5045	81006	XXXXX	Dual DPST switch (30 Ohm)
5207		12008**	12 bit A/D converter (0 to +10 V, external reference)	5046	81006	10507**	DPDT switch (75 Ohm)
5210		12009**	High speed 12 bit A/D converter (0 to -10 V, internal reference)	5046	81006	XXXXX	DPDT switch (30 Ohm)
5211		12011**	High speed 12 bit A/D converter (-5 to +5 V, internal reference)	5047	81006	10508**	DPST switch (75 Ohm)
5212		12013**	High speed 12 bit A/D converter (-10 to +10 V, internal reference)	5047	81006	XXXXX	DPST switch (30 Ohm)
5213		12010**	High speed 12 bit A/D converter (0 to -10 V, external reference)	506A	5962-85131	19002**	16 channel multiplexer/demulti plexer (without over voltage protection)
5214		12012**	High speed 12 bit A/D converter (-5 to +5 V, external reference)	507A	5962-85131	19004**	8 channel differential multiplexer/ demultiplexer (without over voltage protection)
5215		12014**	High speed 12 bit A/D converter (-10 to +10 V, external reference)	508A	77052	19005**	8 channel multiplexer/demultiplexer (without over voltage protection)
5216		12015**	High speed 12 bit A/D converter (0 to +10 V, internal reference)	509A	5962-85131	19006**	4 channel differential multiplexer/ demultiplexer (without over voltage protection)
5217		12016**	High speed 12 bit A/D converter (0 to +10 V, external reference)	IH5116	5962-85131	190XX	16 channel multiplexer/demulti plexer (without over voltage protection)
AD570	5962-86802	XXXXX	8 bit A/D (3 State)	IH5208	5962-85131	190XX	4 channel differential multiplexer/ demultiplexer (without over voltage protection)
AD571		13401**	10 bit A/D converter (3 State)	IH5216	5962-85131	190XX	8 channel differential multiplexer/ demultiplexer (without over voltage protection)
AD573		132XX	10 bit A/D converter (with microprocessor interface)	HI524	5962-87618	XXXXX	4 channel wideband and video multiplexer
574AT	5962-85127	14002**	12 bit A/D converter with microprocessor interface (3 State)	54ACT138	5962-87554	XXXXX	1 of 8 decoder/demultiplexer
574AT	5962-85127	14004**	12 bit A/D converter with microprocessor interface (3 State)	54ACT139	5962-87553	XXXXX	Dual 1 of 4 decoder/demultiplexer
574AU	5962-85127	14003**	12 bit A/D converter with microprocessor interface (3 State)	54AC151	5962-87691	762XX	8 input multiplexer
574AU	5962-85127	14001**	12 bit A/D converter with microprocessor interface (3 State)	54AC153	5962-87625	XXXXX	Dual 4 input multiplexer
AD650		13803**	Voltage to frequency converter	54ALS157	5962-86869	XXXXX	Quad 1 of 2 data selector/ multiplexer
674AT		14006**	12 bit A/D converter with microprocessor interface (3 State)	6116		19001**	16 channel multiplexer/ demultiplexer
674AU		14005**	12 bit A/D converter with micro- processor interface (3 State)	6216		19003**	8 channel differential multiplexer/ demultiplexer
AD7820TQ		146XX	8 bit microprocessor compatible A/D converter (with track and hold amplifier)	Voltage references 19/			
AD7820UQ		146XX	8 bit microprocessor compatible A/D converter (with track and hold amplifier)	REF10		12403**	Precision voltage reference (10 V with guaranteed long term stability)
ADC0801		145XX	8 bit microprocessor compatible A/D converter	LM103H-3.0	77028	708XX	Reference diode (VBR = 3.0 @ IR = 1 mA)
ADC0820BD		146XX	8 bit microprocessor compatible A/D converter (with track and hold amplifier)	LM103H-3.3	77028	708XX	Reference diode (VBR = 3.3 @ IR = 1 mA)
ADC0820CD	146XX		8 bit microprocessor compatible A/D converter (with track and hold amplifier)	LM103H-3.6	77028	708XX	Reference diode (VBR = 3.6 @ IR = 1 mA)
				LM103H-3.9	77028	708XX	Reference diode (VBR = 3.9 @ IR = 1 mA)
				LM113	5962-86711	XXXXX	Voltage reference diode
				LM113-1	5962-86711	XXXXX	Voltage reference diode
				LM113-2	5962-86711	XXXXX	Voltage reference diode
				LM129A		12402**	Precision voltage reference (6.9 V without stabilizer)

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MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
Voltage references 19/ (Continued)				54HCT573	5962-86856	XXXXX	Octal D-type latch (3 State)
LM129B		12406**	Precision voltage reference (6.9 V without stabilizer)	54ALS645A	5962-84033	XXXXX	ALS octal bus transceiver (3 State)
LM136A	84180	XXXXX	Precision voltage reference (2.5 V)	82188	5962-87672	XXXXX	Integrated bus controller
LM136A	84180	XXXXX	Precision voltage reference (5.0 V)	8259A	5962-87518	XXXXX	Programmable interrupt controller
LM185	5962-87594	XXXXX	Voltage reference diode	93S48	5962-86726	XXXXX	12 input parity checker/generator
LM199		12404**	Precision voltage reference (6.9 V with stabilizer)	Analog circuit functions 24/			
LM199A		12401**	Precision voltage reference (6.9 V with stabilizer)	LM131AH	5962-87607	XXXXX	Precision voltage to frequency converter
LM199A-20		12405**	Precision voltage reference (with guaranteed long term stability)	XR-2211M	77050	XXXXX	Phase locked loop tone decoder
REF02A	85514	XXXXX	Precision voltage reference (with 5 V adjustable output)	54LS629	81021	XXXXX	Dual voltage controlled oscillator
2700	85030	13601**	Precision voltage reference (10 V)	5560	5962-86722	XXXXX	Switched-mode power supply control circuit
2702	85030	13602**	Precision voltage reference (+/-10 V)	567	5962-87003	XXXXX	Tone and frequency decoder
R675B-3		13602**	Precision voltage reference (+/-10 V)	AD590	5962-87571	XXXXX	Temperature transducer
R675B-4		13601**	Precision voltage reference (10 V)	AD637		147XX	RMS to DC converter
LH0070-0	5962-86882	XXXXX	Precision 10 volt voltage reference	733	84185	XXXXX	Two stage differential video amplifier
LH0070-1	5962-86882	XXXXX	Precision 10 volt voltage reference	Semicustom devices 25/			
LH0070-2	5962-86882	XXXXX	Precision 10 volt voltage reference	SEE SPEC		60001**	Gate array
Sample and hold 20/				SEE SPEC		60002**	Gate array
LF198H	5962-87608	XXXXX	Monolithic sample and hold	SEE SPEC		60003**	Gate array
HTC-0300		14201	High speed track/hold amplifier	SEE SPEC		60501**	Gate array
376H		14201	High speed track/hold amplifier	SEE SPEC		60502**	Gate array
4860		14201	High speed track/hold amplifier	SEE SPEC		60503**	Gate array
05203		14201	High speed track/hold amplifier	SEE SPEC		60504**	Gate array
SE5537		12502**	Sample/hold amplifier (2 kOhm load)	SEE SPEC		60505**	Gate array
AD585	5962-87540	XXXXX	High speed sample and hold amplifier	SEE SPEC		60506**	Gate array
Hybrid 22/				SEE SPEC		60507**	Gate array
6N134	81028	XXXXX	Dual channel optically coupled isolator	SEE SPEC		60508**	Gate array
6N140A	83024	XXXXX	Quad channel optically coupled isolator	SEE SPEC		60509**	Gate array
BUS-65112	5962-87535	XXXXX	Dual redundant remote terminal unit (RTU)	SEE SPEC		60510**	Gate array
Other digital devices 23/				SEE SPEC		60511**	Gate array
SPE		62001	VHSIC signal processing element (17.1 MHz)	SEE SPEC		60512**	Gate array
SPE		62002	VHSIC signal processing element (25 MHz)	SEE SPEC		60513**	Gate array
15530	78029	XXXXX	Manchester encoder/decoder	SEE SPEC		60514**	Gate array
25S10	5962-86718	XXXXX	Four bit shifter (3 State)	SEE SPEC		60515**	Gate array
26S10	5962-86720	XXXXX	Quad bus transceiver	SEE SPEC		60516**	Gate array
2947	5962-86723	XXXXX	Octal bidirectional bus transceivers (3 State)	SEE SPEC		60517**	Gate array
2960	5962-87602	XXXXX	16 bit error detection and correction unit	SEE SPEC		60609**	Gate array
CS3400		63101	Communications switch	SEE SPEC		60610**	Gate array
MC4344	5962-87803	XXXXX	Detector, Phase Frequency	SEE SPEC		60611**	Gate array
54ALS139	5962-87683	XXXXX	Decoder, 2-line to 4-line, Dual	SEE SPEC		60612**	Gate array
54ALS164	5962-86870	XXXXX	8 bit parallel-out serial shift register	SEE SPEC		60613**	Gate array
54F350	5962-86075	XXXXX	Four bit shifter (3 State)	SEE SPEC		60614**	Gate array
				SEE SPEC		60615**	Gate array
				SEE SPEC		60616**	Gate array
				SEE SPEC		60617**	Gate array
				SEE SPEC		60701**	Gate array
				SEE SPEC		60702**	Gate array
				SEE SPEC		60703**	Gate array
				SEE SPEC		60704**	Gate array
				SEE SPEC		60705**	Gate array
				SEE SPEC		60706**	Gate array
				SEE SPEC		60707**	Gate array
				SEE SPEC		60708**	Gate array
				SEE SPEC		60709**	Gate array
				SEE SPEC		60710**	Gate array
				SEE SPEC		60711**	Gate array
				SEE SPEC		60712**	Gate array
				SEE SPEC		60713**	Gate array
				SEE SPEC		60714**	Gate array
				SEE SPEC		60715**	Gate array
				SEE SPEC		60716**	Gate array
				SEE SPEC		60717**	Gate array

Devices listed in this table are those that have been selected for electrical characterization and are potential candidates for MIL-M-38510 specification or that have an active Military drawing (DESC). This table also includes devices that have dated military specifications but as yet have no QPL source. These devices shall be considered for use in systems or equipment designs if a QPL source is anticipated.

MILITARY PARTS

TABLE II- Potential Standardization Candidates (MIL-STD-1562R) (Cont'd)

Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description	Generic/ industry number	Military Dwg/ DESC Dwg number	Proposed M-38510/ part no.	Circuit description
Semicustom devices 25/ (Continued)							
SEE SPEC		60801**	Gate array				
SEE SPEC		60802**	Gate array				
SEE SPEC		60803**	Gate array				
SEE SPEC		60804**	Gate array				
SEE SPEC		60805**	Gate array				
SEE SPEC		60806**	Gate array				
SEE SPEC		60807**	Gate array				
SEE SPEC		60808**	Gate array				
SEE SPEC		60809**	Gate array				
SEE SPEC		60810**	Gate array				
SEE SPEC		60811**	Gate array				
SEE SPEC		60812**	Gate array				
SEE SPEC		60813**	Gate array				
SEE SPEC		60814**	Gate array				
SEE SPEC		60815**	Gate array				
SEE SPEC		60816**	Gate array				
SEE SPEC		60817**	Gate array				

Devices listed in this table are those that have been selected for electrical characterization and are potential candidates for MIL-M-38510 specification or that have an active Military drawing (DESC). This table also includes devices that have dated military specifications but as yet have no QPL source. These devices shall be considered for use in systems or equipment designs if a QPL source is anticipated.

MILITARY PARTS

TABLE III- Logistics or Continuous Replacement Only (MIL-STD-1562R) (Cont'd)

Generic/ ferred device for new design	MIL-M- industry number	Device 38510 Type	Pre- Circuit description	Generic/ ferred device for new design	MIL-M- industry number	Device 38510 Type	Pre- Circuit description
Gates 1/				5420	001	02*	Dual 4 input NAND gate
4000A	052	01*	Dual 3 input NOR gate plus inverter	54H20	023	02*	Dual 4 input NAND gate
4001A	052	02*	Quad 2 input NOR gate	54L20	020	02*	Dual 4 input NAND gate
4002A	052	03*	Dual 4 input NOR gate	54S20	070	06*	Dual 4 input NAND gate
4007A	053	01*	Dual complimentary pair plus inverter	54H22	023	07	Dual 4 input NAND gate (Open Collector)
4011A	050	01*	Quad 2 input NAND gate	54S22	070	07*	Dual 4 input NAND gate (Open Collector)
4012A	050	02*	Dual 4 input NAND gate	5423	004	02*	Dual 4 input NOR gate (with strobe, expandable)
4019A	053	02*	Quad AND-OR select gate	5425	004	03*	Dual 4 input NOR gate (with strobe)
4023A	050	03*	Triple 3 input NAND gate	5427	004	04*	Triple 3 input NOR gate
4025A	052	04*	Triple 3 input NOR gate	5430	001	01*	8 input NAND gate
4030A	053	03*	Quad 2 input exclusive OR gate	54H30	023	01*	8 input NAND gate
4048A	053	04	8 input multifunctional gate (expandable)	54L30	020	01*	8 input NAND gate
5400	001	04*	Quad 2 input NAND gate	54S30	070	08*	8 input NAND gate
54H00	023	04*	Quad 2 input NAND gate	5432	161	01*	Quad 2 input OR gate
54L00	020	04*	Quad 2 input NAND gate	54AC32	XXX	XX	Quad 2 input OR gate
54S00	070	01*	Quad 2 input NAND gate	5450	005	01*	Dual 2 wide 2 input AND-OR-invert gate (expandable)
5401	001	07*	Quad 2 input NAND gate (Open Collector)	5451	005	02*	Dual 2 wide 2 input AND-OR-invert gate
54H01	023	06*	Quad 2 input NAND gate (Open Collector)	54S51	074	01*	Dual 2 wide 2 input AND-OR-invert gate
54L01	020	06	Quad 2 input NAND gate (Open Collector)	5453	005	03*	4 wide 2 input AND-OR -invert gate (expandable)
5402	004	01*	Quad 2 input NOR gate	5454	005	04*	4 wide 2 input AND-OR-invert gate
54L02	027	01*	Quad 2 input NOR gate	54S64	074	02*	4-2-3-2 input AND-OR-invert gate
54S02	073	01*	Quad 2 input NOR gate	54S65	074	03	4-2-3-2 input AND-OR- invert gate (Open Collector)
5403	001	09*	Quad 2 input NAND gate (Open Collector)	5486	007	01*	Quad 2 input exclusive OR gate
54L03	020	06*	Quad 2 input NAND gate (Open Collector)	54L86	026	01*	Quad 2 input exclusive OR gate
54S03	070	02*	Quad 2 input NAND gate (Open Collector)	54S86	075	01*	Quad 2 input exclusive OR gate
5404	001	05*	Hex inverter	930	030	01*	Dual 4 input NAND gate (expandable)
54H04	023	05	Hex inverter	935	030	02	Hex inverter (extendable)
54L04	020	05*	Hex inverter	936	030	03*	Hex inverter
54S04	070	03*	Hex inverter	940	030	02	Hex inverter (extendable)
5405	001	08*	Hex inverter (Open Collector)	946	030	04*	Quad 2 input NAND gate
54S05	070	04*	Hex inverter (Open Collector)	962	030	05*	Triple 3 input NAND gate
5408	016	01*	Quad 2 input AND gate	Buffers 2/			
54S08	080	03*	Quad 2 input AND gate	4009A	055	01*	Hex buffer/inverter
5409	016	02*	Quad 2 input AND gate (Open Collector)	4010A	055	02*	Hex buffer (non-inverting)
5410	001	03*	Triple 3 input NAND gate	4041A	055	05	Quad true/compliment buffer
54H10	023	03*	Triple 3 input NAND gate	4049A	055	03*	Hex buffer/inverter
54L10	020	03*	Triple 3 input NAND gate	4050A	055	04*	Hex buffer (non-inverting)
54S10	070	05*	Triple 3 input NAND gate	54125	153	01	Quad bus buffer gate (inverting control input)
54S11	080	01*	Triple 3 input AND gate	54126	153	02*	Quad bus buffer gate (non-inverting control input)
5412	001	06*	Triple 3 input NAND gate (Open Collector)	5416	008	02*	Hex inverter buffer/driver (15 V output)
5413	151	01	Dual 4 input positive NAND Schmitt trigger	5417	008	04*	Hex buffer/driver (15 V output)
54132	151	03	Quad 2 input NAND gate Schmitt trigger				
54S133	070	09*	13 input NAND gate				
54S135	075	02	Quad exclusive OR/NOR gate				
5414	151	02*	Hex inverter Schmitt trigger				

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MILITARY PARTS

TABLE III- Logistics or Continuous Replacement Only (MIL-STD-1562R) (Cont'd)

Generic/ MIL-M- Device ferred device industry 38510 Type for new design number					Generic/ MIL-M- Device ferred device industry 38510 Type for new design number				
Circuit description					Circuit description				
Buffers 2/ (Continued)									
5426	008	05*	Quad 2 input inverter buffer/driver (15 V output)	54LS26, /32102*	54H73	022	02	Dual JK master-slave flip-flop	54LS73, /30101*
54365	163	01*	Hex bus driver with gated enable inputs for X-Y coincident bus control	54LS365, /32201*	54L73	021	03*	Dual JK master-slave flip-flop	54LS73, /30101*
54366	163	02	Hex inverter bus driver with gated enable inputs for X-Y coincident bus control	54LS366, /32202*	5474	002	05*	Dual D-type edge-triggered flip-flop	54F74, /34101*
54367	163	03*	Hex bus driver (4 line and 2 line enable inputs)	54LS367, /32203*	54H74	022	03	Dual D-type edge-triggered flip-flop	54F74, /34101*
54368	163	04*	Hex inverter bus driver (4 line and 2 line enable inputs)	54LS368, /32204*	54L74	021	05*	Dual D-type edge-triggered flip-flop	54LS74, /30102*
5438	003	03*	Quad 2 input NAND gate buffer (Open Collector)	54LS38, /30203*	54S74	071	01*	Dual D-type edge-triggered flip-flop	54F74, /34101*
5440	003	01*	Dual 4 input NAND gate buffer	54LS40, /30201*	5476	002	04*	Dual JK master-slave flip-flop	54LS76A, /30110*
54S40	072	01*	Dual 4 input NAND buffer	54LS40, /30201*	54H76	022	04*	Dual JK master-slave flip-flop	54LS76A, /30110*
Flip-Flops 3/					54L78	021	04*	Dual JK master-slave flip-flop	
4013A	051	01*	Dual D-type edge-triggered flip-flop	4013B, /05151*	5479	002	07	Dual D-type edge-triggered flip-flop (buffered output)	
4027A	051	02*	Dual JK master-slave flip-flop	4027B, /05152*	9601	012	04*	One-shot multivibrator	54LS122, /31403*
4043A	051	03*	Quad 3-state R/S latch	4043B, /05153	9602	012	05*	Dual one-shot multivibrator	54LS123, /31401*
54H101	022	05	JK edge-triggered flip-flop	54LS113, /30104*	Combinational gates 4/				
54H103	022	06	Dual JK edge-triggered flip-flop	54LS114, /30105*	4008A	054	01*	4 bit full adder	4008B, /05451*
54107	002	03*	Dual JK master-slave flip-flop (no preset)	54LS107, /30108*	4016A	058	01*	Quad bilateral switch	4016B, /05851*
54S112	071	02*	Dual JK edge-triggered flip-flop	54F112, /34103*	4028A	059	01*	BCD to decimal decoder	4028B, /05951*
54S113	071	03*	Dual JK edge-triggered flip-flop (without clear)	54LS113, /30104*	4066A	058	02*	Quad bilateral switch	4066B, /05852*
54S114	071	04	Dual JK edge-triggered flip-flop (common clear and clock)	54LS114, /30105*	54S138	077	01*	3 to 8 line decoder	54F138, /33701*
54121	012	01*	Monostable multivibrator with Schmitt trigger input	54LS122, /31403*	54145	010	05	BCD to decimal decoder/driver (15 V out, Open Collector)	54LS42, /30703*
54122	012	02*	Monostable multivibrator (retriggerable, with clear)	54LS122, /31403*	54150	014	01*	16 input data selector/multiplexer (with enable)	
54123	012	03*	Dual monostable multivibrator (retriggerable, with clear)	54LS123, /31401*	54151	014	06*	8 input data selector/multiplexer (with enable)	54LS151, /30901*
54174	017	01*	Hex D-type edge-triggered flip-flop (with clear, single outputs)	54LS174, /30106*	54S151	079	01*	8 input data selector/multiplexer	54F151A, /33901*
54S174	071	05*	Hex D-type edge-triggered flip-flop	54F174, /34107*	54153	014	03*	Dual 4 input data selector/multiplexer (with enable)	54F153, /33902*
54175	017	02*	Quad D-type edge-triggered flip-flop (with clear, complimentary outputs)	54F175, /34104*	54S153	079	02*	Dual 4 input data selector/multiplexer	54F153, /33902*
54S175	071	06*	Quad D-type edge-triggered flip-flop	54F175, /34104*	54157	014	05*	Quad 2 input data selector/multiplexer (with enable)	54LS157, /30903*
5470	002	06*	JK edge-triggered flip-flop		54S157	079	03*	Quad 2 input data selector/multiplexer	54F157A, /33903*
54L71	021	01*	RS master-slave flip-flop		54S158	079	04*	Quad 2 input data selector/multiplexer (with inverted output)	54F158A, /33904*
5472	002	01*	JK master-slave flip-flop		54180	019	01*	8 bit odd/even parity generator/checker	54F280, /34901*
54H72	022	01	JK master-slave flip-flop		54181	011	01	ALU/function generator	54LS181, /30801*
54L72	021	02*	JK master-slave flip-flop		54S181	078	01*	4 bit ALU/function generator	54LS181, /30801*
5473	002	02*	Dual JK master-slave flip-flop (no preset)	54LS73, /30101*	54182	011	02	Look ahead carry generator	
					54S182	078	02*	Look ahead carry generator	
					54185A	XXX	XX	Binary to BCD converter	
					54S251	079	05*	8 input data selector/multiplexer (3 State)	54F251A, /33905*
					54S253	079	08*	Dual 4 input data selector/multiplexer (3 State)	54F253, /33908*
					54S257	079	06*	Quad 2 input data selector/multiplexer (3 State)	54F257A, /33906*
					54S258	079	07	Quad 2 input data selector/multiplexer (with inverted outputs, 3 State)	54F258A, /33907*
					5442	010	01*	BCD to decimal decoder	54LS42, /30703*
					5445	010	04	BCD to decimal decoder/driver (30 V out, Open Collector)	

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MILITARY PARTS

TABLE III- Logistics or Continuous Replacement Only (MIL-STD-1562R) (Cont'd)

Generic/ ferred device for new design	MIL-M- industry	Device 38510 number	Type	Pre- Circuit description	Generic/ ferred device for new design	MIL-M- industry	Device 38510 number	Type	Pre- Circuit description
Combinational gates 4/ (Continued)					54164	009	03*	8 bit parallel output serial shift register	54LS164, /30605*
5446	010	06*	BCD to 7-segment decoder/ driver (30 V out, Open Collector)		54L164	028	02	8 bit parallel output, serial shift register	54LS164, /30605*
5447	010	07*	BCD to 7-segment decoder/driver (15 V out, Open Collector)	54LS47, /30704*	54165	009	04	8 bit parallel load shift register	54LS165, /30608*
5448	010	08	BCD to 7-segment decoder/driver		54192	013	08	Synchronous 4 bit up/down decade counter	54LS192, /31507*
5480	006	04	Full adder (gated)	54F283, /34201*	54193	013	09*	Synchronous 4 bit up/down binary counter	54LS193, /31508*
5482	006	01	2 bit full adder	54F283, /34201*	54L193	025	03	Synchronous 4 bit up/down counter	54LS193, /31508*
5483	006	02*	4 bit full adder	54LS83A, /31201*	54194	009	05*	4 bit bidirectional shift register	54LS194A, /30601*
5485	150	01*	4 bit comparator	54LS85, /31101*	54S194	076	01*	4 bit bidirectional shift register	54F194, /33601*
54S85	082	01*	4 bit comparator	54F85, /35901	54195	009	06	4 bit parallel access shift register	54LS195A, /30602*
7181	011	01*	ALU/function generator	54LS181, /30801*	5475	015	01*	4 bit latch (complimentary outputs)	54LS75, /31601*
9304	006	03	Dual full adder		5477	015	02	4 bit latch	
9309	014	04*	Dual 4 input data selector/multiplexer (without enable)	54LS153, /30902*	5490	013	07*	High speed decade counter	54LS90, /31501*
9312	014	02	8 input data selector/multiplexer (with enable)	54LS151, /30901*	54L90	025	01*	Low power decade counter	54LS90, /31501*
9322	014	05*	Quad 2 input data selector/multiplexer (with enable)	54LS157, /30903*	5492	013	01	Divide by 12 counter	54LS92, /31510*
9324	150	02	5 bit comparator	54LS85, /31101*	5493	013	02*	4 bit binary counter	54LS93, /31502*
9341	011	01	ALU/function generator	54LS181, /30801*	54L93	025	02*	4 bit binary counter	54LS93, /31502*
9342	011	02	Look ahead carry generator		5495	009	01*	4 bit right shift, left shift register	54LS95B, /30603*
9380	006	04	Full adder (gated)	54F283, /34201*	54L95	028	01*	4 bit right shift, left shift register	54LS95B, /30603*
9382	006	01	2 bit full adder	54F283, /34201*	5496	009	02*	5 bit shift register	54LS96, /30604*
9383	006	02*	4 bit full adder	54LS83A, /31201*	76L70	028	05	8 bit parallel output, serial shift register	
Sequential registers/counters 5/					93L00	028	04	4 bit shift register	54LS195A, /30602*
4006A	057	01*	Dual 4 stage/5 stage static shift register	4006B, /05751	9308	015	03	Dual 4 bit latch	54LS75, /31601*
4014A	057	02*	8 stage synchronous parallel or serial input/ serial output static shift register	4014B, /05752*	9314	015	04	4 bit latch (master reset)	54LS273, /32501*
4015A	057	03*	Dual 4 stage serial input/parallel output static shift register	4015B, /05753*	93L28	028	03	Dual 8 bit shift register	
4017A	056	01*	Decade counter/divider	4017B, /05651*	RAM 6/				
4018A	056	02*	Divide by n counter (presettable)	4018B, /05652*	1823	XXX	XX	8 bit word RAM	
4020A	056	03*	14 stage ripple carry binary counter/divider	4020B, /05653*	2117	240	01	16384x1 dynamic RAM (200 ns access time, 3 State)	4116, /24001*
4021A	057	04*	8 stage asynchronous parallel input/serial output or synchronous serial input/output static shift register	4021B, /05754*	2117	240	02	16384x1 dynamic RAM (250 ns Access time, 3 State)	4116, /24002*
4022A	056	04*	Divide by 8 counter/divider	4022B, /05654*	2117	240	03	16384x1 dynamic RAM with page mode operation guaranteed (200 ns access time, 3 State)	4116, /24003
4024A	056	05*	7 stage binary counter	4024B, /05655*	2164	244	01	64Kx1 dynamic RAM (1 ms refresh, 150 ns access time, 3 State)	4564, /24401*
4031A	057	05*	64 stage static shift register	4031B, /05755	2164	244	02	64Kx1 dynamic RAM (2 ms refresh, 150 ns access time, 3 State)	4564, /24402*
4034A	057	06	8 stage bidirectional parallel input serial output bus register	4034B, /05756	2164	244	03	64Kx1 dynamic RAM (2 ms refresh, 200 ns access time, 3 State)	4564, /24403*
4060A	XXX	XX	14 stage ripple carry binary counter		27LS01A	XXX	XX	256x1 static RAM (45 ns access time, 3 State)	
54116	015	03	Dual 4 bit latch	54LS75, /31601*	SMJ4256-15	XXX	XX	262144x1 dynamic RAM (150 ns access time)	41256P-15, /24602*
54160	013	03*	Synchronous 4 bit decade counter (asynchronous clear)	54LS160A, /31503*	54030	XXX	XX	16384x1 Dynamic RAM	4116, /24001*
54161	013	06*	Synchronous 4 bit binary counter (asynchronous clear)	54LS161, /31504*	6665	244	01	64Kx1 dynamic RAM (1 ms refresh, 150 ns access time, 3 State)	4564, /24401*
54162	013	05*	Synchronous 4 bit decade counter (synchronous clear)	54LS162A, /31511*					
54163	013	04*	Synchronous 4 bit binary counter (synchronous clear)	54LS163A, /31512*					

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MILITARY PARTS

TABLE III- Logistics or Continuous Replacement Only (MIL-STD-1562R) (Cont'd)

Generic/ ferred device for new design	MIL-M- industry number	Device 38510	Type	Pre- Circuit description	Generic/ ferred device for new design	MIL-M- industry number	Device 38510	Type	Pre- Circuit description
RAM 6/ (Continued)					7684	209	01	2048x4 PROM (fusible link, 125 ns access time, Open Collector)	82S184, /20901
6665	244	02	64Kx1 dynamic RAM (2 ms refresh, 150 ns access time, 3 State)	4564, /24402*	7685	209	02	2048x4 PROM (fusible link, 125 ns access time, 3 State)	77S185, /20902*
6665	244	03	64Kx1 dynamic RAM (2 ms refresh, 200 ns access time, 3 State)	4564, /24403*	82S190	210	01	2048x8 PROM (fusible link, Open Collector)	77S190, /21001
8264	244	01	64Kx1 dynamic RAM (1 ms refresh, 150 ns access time, 3 State)	4564, /24401*	93417	203	01	256x4 PROM (fusible link, Open Collector)	82S126A, /20301*
8264	244	02	64Kx1 dynamic RAM (2 ms refresh, 150 ns access time, 3 State)	4564, /24402*	93427	203	02	256x4 PROM (fusible link, 3 State)	54S287, /20302*
8264	244	03	64Kx1 dynamic RAM (2 ms refresh, 200 ns access time, 3 State)	4564, /24403*	Microprocessors and interface peripherals/FIFO 8/				
93470	233	01	4096x1 static RAM (Open Collector)		1854	475	XX	UART (1800 family)	
93471	233	02	4096x1 static RAM (3 State)	2147H, /23803*	8080A	420	01	8 bit fixed instruction microprocessor (2.0 MHz)	Z80CPU, /48002*
ROM/PROM/PAL 7/					8085A	XXX	XX	Central processing unit	Z80ACPU, /48001*
2516	221	XX	2048x8 EPROM (U-V erasable, 3 State)	2716, /22101	9085A	XXX	XX	Central processing unit	Z80ACPU, /48001*
29633DMB	XXX	XX	1024x8 switchable PROM (fusible link - SPROM, 3 State)	29631, /20904*	Operational amplifiers 9/				
3636	210	02	2048x8 PROM (fusible link, 100 ns access time, 3 State)	82S191A, /21002*	MC1709U	XXX	XX	General purpose operational amplifier	OP07A, /13501*
5300-1	203	01	256x4 PROM (fusible link, Open Collector)	82S126A, /20301*	LH2110	106	03	Dual high speed voltage follower	
5301-1	203	02	256x4 PROM (fusible link, 3 State)	54S287, /20302*	2700	122	01	Operational amplifier (low power, high performance, internal compensation)	
53S1680	210	01	2048x8 PROM (fusible link, Open Collector)	77S190, /21001	3018A	108	01	2 isolated NPN transistors and 1 NPN Darlington connected pair (general purpose)	
7602	207	01	32x8 PROM (80 ns access time, fusible link, Open Collector)	82S23A, /20701*	LM709	XXX	XX	General purpose operational amplifier	
7603	207	02	32x8 PROM (80 ns access time, fusible link, 3 State)	54S288, /20702*	Comparators 10/				
7610	203	01	256x4 PROM (fusible link, Open Collector)	82S126A, /20301*	LM106	103	03	Comparator/buffer (single voltage)	LM111, /10304*
7611	203	02	256x4 PROM (fusible link, 3 State)	54S287, /20302*	710	103	01*	Differential voltage comparator	LM111, /10304*
76160	210	01	2048x8 PROM (fusible link, Open Collector)	77S190, /21001	711	103	02*	Dual channel differential voltage comparator	LH2111, /10305*
76165	210	05	4096x4 PROM (fusible link, 3 State)	82HS195, /21005	Regulators 12/				
7620	204	01	512x4 PROM (fusible link, Open Collector)	82S130, /20401*	LM120H-05	115	01	Fixed voltage regulator (-5 V @ 0.5 A max)	79M05, /11501*
7621	204	02	512x4 PROM (fusible link, 3 State)	54S571, /20402*	LM120H-12	115	02	Fixed voltage regulator (-12 V @ 0.5 A max)	79M12, /11502*
7640	208	01	512x8 PROM (fusible link, Open Collector)	82S140, /20801	LM120H-15	115	03	Fixed voltage regulator (-15 V @ 0.5 A max)	79M15, /11503*
7641	208	02	512x8 PROM (fusible link, 3 State)	54S474, /20802*	LM120K-05	115	05	Fixed voltage regulator (-5 V @ 1.0 A max)	7905, /11505*
7642	206	01	1024x4 PROM (fusible link, Open Collector)	82S136, /20601	LM120K-12	115	06	Fixed voltage regulator (-12 V @ 1.0 A max)	7912, /11506*
7643	206	02	1024x4 PROM (fusible link, 3 State)	54S573, /20602*	LM120K-15	115	07	Fixed voltage regulator (-15 V @ 1.0 A max)	7915, /11507*
7680	209	03	1024x8 PROM (fusible link, 90 ns access time, Open Collector)	82S180, /20903					
7681	209	04	1024x8 PROM (fusible link, 90 ns access time, 3 State)	77S181, /20904*					
M-7681P-8	XXX	XX	1024x8 switchable PROM (fusible link - SPROM, 3 State)	77S181, /20904*					

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MILITARY PARTS

TABLE III- Logistics or Continuous Replacement Only (MIL-STD-1562R) (Cont'd)

Generic/ ferred device for new design	MIL-M- industry	Device 38510 number	Type	Pre- Circuit description	Generic/ ferred device for new design	MIL-M- industry	Device 38510 number	Type	Pre- Circuit description
Regulators 12/ (Continued)									
78G	117	02	4-terminal adjustable regulator (5 V <= Vo <= 30 V @ 1.5 A)	LM117K, /11704*					
78MG	117	01	4-terminal adjustable regulator (5 V <= Vo <= 30 V @ 0.5 A)	LM117H, /11703*					
79G	118	02	4-terminal adjustable regulator (-30 V <= Vo <= -5 V @ 1.0 A)	LM137K, /11804*					
79MG	118	01	4-terminal adjustable regulator (-30 V <= Vo <= -5 V @ 0.5 A)	LM137H, /11803*					
Drivers/Receivers 13/									
0026	XXX	XX	Digital clock driver						
DS0056H	XXX	XX	Digital clock driver						
DS0056J	XXX	XX	Digital clock driver						
MH0056	XXX	XX	Digital clock driver						
Timers 14/									
555	109	03	Precision timer (isource = -60 mA)	555, /10901*					
D/A converters 16/									
1020	127	05	10 bit D/A converter (end point linearity)						
1218	127	07	12 bit D/A converter (end point linearity)						
1220	127	06	12 bit D/A converter (10 bit end point linearity)						
Analog switches/multiplexers 18/									
DG129	XXX	XX	Dual JFET DPST switch (30 Ohm)	DG184A, /11103*					
Voltage references 19/									
LM103H-1.8	708	XX	Reference diode (VBR = 1.8 @ IR = 1 mA)						
LM103H-2.0	708	XX	Reference diode (VBR = 2.0 @ IR = 1 mA)						
LM103H-2.2	708	XX	Reference diode (VBR = 2.2 @ IR = 1 mA)						
LM103H-2.4	708	XX	Reference diode (VBR = 2.4 @ IR = 1 mA)						
LM103H-2.7	708	XX	Reference diode (VBR = 2.7 @ IR = 1 mA)						
LM103H-4.3	708	XX	Reference diode (VBR = 4.3 @ IR = 1 mA)						
LM103H-4.7	708	XX	Reference diode (VBR = 4.7 @ IR = 1 mA)						
LM103H-5.1	708	XX	Reference diode (VBR = 5.1 @ IR = 1 mA)						

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MILITARY PARTS

TABLE IV- Inactive or Suspended Military Activity (MIL-STD-1562R) (Cont'd)

Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description	Generic/ industry number	MIL-M- 38510/ type	Device	Circuit description
Gates 1/				5449	010 09		BCD to 7-segment decoder/driver (5.5 V out, Open Collector)
MC3101	155 01		Quad 2 input AND gate	76L42A	029 06		BCD to decimal decoder
MC3106	155 02		Triple 3 input AND gate	8212	421 01		8 bit input/output port (8080 family)
MC3111	155 03		Dual 4 input AND gate	8250	152 04		Binary to octal decoder
54H08	155 01		Quad 2 input AND gate	8251	152 05		BCD to decimal decoder
54H08	155 04		Quad 2 input AND gate	8252	152 06		BCD to decimal decoder
54S09	080 04		Quad 2 input AND gate (Open Collector)	9301	152 06		BCD to decimal decoder
54H11	155 02		Triple 3 input AND gate	93L01	029 07		1 of 10 decoder
54S134	070 10		12 input NAND gate (3 State)	93L09	046 01		Dual 4 input data selector/multiplexer (low power, without enable)
54S15	080 02		Triple 3 input AND gate (Open Collector)	9311	152 01		4 to 16 line decoder/demultiplexer
54H21	155 03		Dual 4 input AND gate	93L12	046 02		8 input data selector/multiplexer (low power, with enable)
54H50	040 01		Dual 2 wide 2 input AND-OR-invert gate (expandable)	9317	158 02		7-segment decoder/driver
54H51	040 02		Dual 2 wide 2 input AND-OR-invert gate	9318	156 03		8 input priority encoder
54L51	041 01		Dual 2 wide AND-OR-invert gate	93L18	043 01		8 input priority encoder
54H53	040 03		2-2-2-3 input AND-OR-invert gate (expandable)	9321	158 01		1 of 4 decoder
54H54	040 04		2-2-2-3 input AND-OR-invert gate	93L22	046 03		Quad 2 input data selector/multiplexer (low power, with enable)
54L54	041 02		4 wide 3-2-2-3 input AND-OR-invert gate	93L24	044 01		5 bit comparator
54H55	040 05		2 wide 4 input AND-OR-invert gate (expandable)	Sequential registers/counters 5/			
54L55	041 03		2 wide 4 input AND-OR-invert gate	1852	473 01		8 bit input/output port (1800 family)
Buffers 2/				1853	474 01		N bit 1 of 8 decoder (1800 family)
1856	476 01		4 bit memory data bus buffer/separators	2905	441 01		Quad 2 input bus transceiver (2900 family, Open Collector)
1857	476 02		4 bit input/output bus buffer/separators	2906	441 02		Quad 2 input bus transceiver with parity (2900 family, Open Collector)
5428	162 01		Quad 2 input NOR gate buffer	2907	441 03		Quad bus transceiver with parity (2900 family, Open Collector)
54H40	024 01		Dual 4 input NAND gate buffer (high speed)	2915A	441 04		Quad 2 input bus transceiver (2900 family, 3 State)
932	031 01		Dual 4 input NAND buffer (expandable)	2916A	441 05		Quad 2 input bus transceiver with parity (2900 family, 3 State)
933	031 05		Dual 4 input extender	2917A	441 06		Quad bus transceiver with parity (2900 family, 3 State)
944	031 02		Dual 4 input NAND buffer (expandable, Open Collector)	2918	442 01		Quad D-type flip-flop (2900 family, 3 State)
957	031 03		Quad 2 input NAND buffer	54170	018 01		4x4 register file
958	031 04		Quad 2 input NAND buffer (Open Collector)	54S195	076 02		4 bit parallel access shift register
Flip-Flops 3/				6810	402 01		128x8 RAM (6800 family)
54L121	042 01		Monostable multivibrator	8228	423 01		System controller/bus driver (8080 family)
54L122	042 02		Monostable multivibrator (retriggerable, with clear)	9300	159 01		4 bit shift register
9093	033 04		Dual JK flip-flop	93L08	045 02		Dual 4 bit latch
945	033 01		Clocked RS/JK flip-flop	93L10	025 04		Synchronous BCD decade counter
948	033 02		Clocked RS/JK flip-flop	93L14	045 01		4 bit latch (master reset)
950	033 03		Pulse-triggered binary flip-flop	93L16	025 05		Synchronous 4 bit binary counter
951	032 01		Monostable multivibrator	9328	159 02		Dual 8 bit shift register
Combinational gates 4/				9334	160 01		8 bit addressable latch
54147	156 01		10 to 4 line data encoder (without enable)	9338	157 01		8 bit multiport register
54148	156 02		8 to 3 line data encoder (with enable)	RAM 6/			
54154	152 01		4 to 16 line decoder/demultiplexer	1821	471 01		1024x1 static RAM (3 State)
54155	152 02		Dual 2 to 4 line decoder/demultiplexer	1822	471 02		256x4 static RAM (1800 family)
54156	152 03		Dual 2 to 4 line decoder/demultiplexer (Open Collector)	TMS4050	235 02		4096x1 dynamic RAM (85 C max, 18 pin, 3 State)
54S412	421 01		8 bit input/output port (8080 family)	TMS4050	235 04		4096x1 dynamic RAM (100 C max, 18 pin, 3 State)
54L42	029 01		BCD to decimal decoder	TMS4060	235 01		4096x1 dynamic RAM (85 C max, 22 pin, 3 State)
5443	010 02		Excess 3 to decimal decoder	TMS4060	235 03		4096x1 dynamic RAM (100 C max, 22 pin, 3 State)
54L43	029 02		Excess 3 to decimal decoder	MKB4096	236 02		4096x1 dynamic RAM (85 C max, 16 pin, 3 State)
5444	010 03		Excess 3 gray to decimal decoder	MKB4096	236 04		4096x1 dynamic RAM (100 C max, 16 pin, 3 State)
54L44	029 03		Excess 3 gray to decimal decoder				
54L46	029 04		BCD to 7-segment decoder/driver (30 V output, Open Collector)				
54L47	029 05		BCD to 7-segment decoder/driver (15 V output, Open Collector)				

This tables contains devices which are not recommended for new design. It also includes devices which have had QPL status that has been cancelled or expired and there is no indication that a device manufacturer intends to requalify.

MILITARY PARTS

TABLE IV- Inactive or Suspended Military Activity (MIL-STD-1562R) (Cont'd)

Generic/ MIL-M- Device industry 38510/ type number	Circuit description	Generic/ MIL-M- Device industry 38510/ type number	Circuit description
RAM 6/ (Continued)		AM9140ADM	
MM5280	235 05 4096x1 dynamic RAM (85 C max, 22 pin, 3 State)	237 12	4096x1 static RAM (125 C max, 500 ns, flat-pack and DIP)
MM5280	235 06 4096x1 dynamic RAM (100 C max, 22 pin, 3 State)	AM9140AFC	
54C929	239 01 1024x1 static RAM (1 enable, 3 State)	237 10	4096x1 static RAM(85 C max, 500 ns, flat-pack only)
54C930	239 02 1024x1 static RAM (1 enable, 2 selects, 3 State)	AM9140AFM	
6116	291 01 2048x8 static RAM (150 ns access time, 3 State)	237 12	4096x1 static RAM (125 C max, 500 ns, flat-pack and DIP)
6116	291 04 2048x8 static RAM (90 ns access time, 3 State)	AM9140CDM	
6116	291 05 2048x8 static RAM (200 ns access time, 3 State)	237 11	4096x1 static RAM (125 C max, 300 ns, flat-pack and DIP)
6508	239 01 1024x1 static RAM (1 enable, 3 State)	AM9140CFC	
6518	239 02 1024x1 static RAM (1 enable, 2 selects, 3 State)	237 09	4096x1 static RAM(85 C max, 300 ns, flat-pack only)
MCM6604A	236 02 4096x1 dynamic RAM (85 C max, 16 pin, 3 State)	AM9140CFM	
MCM6604A	236 04 4096x1 dynamic RAM (100 C max, 16 pin, 3 State)	237 11	4096x1 static RAM (125 C max, 300 ns, flat-pack and DIP)
MCM6605	236 01 4096x1 dynamic RAM (85 C max, 22 pin, 3 State)	AM91L40ADM	
MCM6605	236 03 4096x1 dynamic RAM (100 C max, 22 pin, 3 State)	237 16	4096x1 static RAM (125 C max, 500 ns, flat-pack and DIP)
MM7280	235 05 4096x1 dynamic RAM (85 C max, 22 pin, 3 State)	AM91L40AFC	
MM7280	235 06 4096x1 dynamic RAM (100 C max, 22 pin, 3 State)	237 14	4096x1 static RAM(85 C max, 500 ns, flat-pack only)
82S10	231 01 1024x1 static RAM (60 ns, Open Collector)	AM91L40AFM	
82S10	231 07 1024x1 static RAM (45 ns, Open Collector)	237 16	4096x1 static RAM (125 C max, 500 ns, flat-pack and DIP)
82S11	231 02 1024x1 static RAM (60 ns, 3 State)	AM91L40CDC	
82S11	231 08 1024x1 static RAM (45 ns, 3 State)	237 13	4096x1 static RAM(85 C max, 300 ns, flat-pack only)
AM9130ADM	237 04 1024x4 static RAM (125 C max, 500 ns, flat-pack and DIP)	AM91L40CDM	
AM9130AFC	237 02 1024x4 static RAM(85 C max, 500 ns, flat-pack only)	237 15	4096x1 static RAM (125 C max, 300 ns, flat-pack and DIP)
AM9130AFM	237 04 1024x4 static RAM (125 C max, 500 ns, flat-pack and DIP)	AM91L40CFM	
AM9130CDM	237 03 1024x4 static RAM (125 C max, 300 ns, flat-pack and DIP)	237 15	4096x1 static RAM (125 C max, 300 ns, flat-pack and DIP)
AM9130CFC	237 01 1024x4 static RAM(85 C max, 300 ns, flat-pack only)	93410	230 01 256x1 static RAM (with 3 chip selects, Open Collector)
AM9130CFM	237 03 1024x4 static RAM (125 C max, 300 ns, flat-pack and DIP)	93411	230 03 256x1 static RAM (with 3 chip selects, inverted data output, Open Collector)
AM91L30ADM	237 08 1024x4 static RAM (125 C max, 500 ns, flat-pack and DIP)	93L420	230 04 256x1 static RAM (with 3 chip selects, inverted data output, 3 State)
AM91L30AF	237 06 1024x4 static RAM(85 C max, 500 ns, flat-pack only)	93421	230 02 256x1 static RAM (with 3 chip selects, inverted data output, 3 State)
AM91L30AFM	237 08 1024x4 static RAM (125 C max, 500 ns, flat-pack and DIP)	ROM/PROM/PAL 7/	
AM91L30CDM	237 07 1024x4 static RAM (125 C max, 300 ns, flat-pack and DIP)	1832	472 01 512x8 static ROM
AM91L30CF	237 05 1024x4 static RAM(85 C max, 300 ns, flat-pack only)	2316E	403 01 2048x8 ROM (6800 family, 3 State)
AM91L30CFM	237 07 1024x4 static RAM (125 C max, 300 ns, flat-pack and DIP)	2532	222 01 4096x8 EPROM (U-V erasable, 3 State)
		2616	403 01 2048x8 ROM (6800 family, 3 State)
		2708	220 01 1024x8 EPROM (U-V erasable, 3 State)
		2716	221 01 2048x8 EPROM (U-V erasable, 3 State)
		NMC2816	226 01 2048x8 EEPROM (electrically erasable, 250 ns access time)
		MK34000	403 01 2048x8 ROM (6800 family, 3 State)
		3516E	403 01 2048x8 ROM (6800 family, 3 State)
		HPROM512	201 01 64x8 PROM (fusible link, Open Collector)
		52116	403 01 2048x8 ROM (6800 family, 3 State)
		MCM5303	201 01 64x8 PROM (fusible link, Open Collector)
		MCM5304	201 02 64x8 PROM (fusible link, with internal pull-up resistor)
		IM5603A	202 01 256x4 PROM (avalanche induced migration, Open Collector)
		IM5623	202 02 256x4 PROM (avalanche induced migration, 3 State)
		IM6654	219 01 512x8 EPROM (U-V erasable)
		S6831B	403 01 2048x8 ROM (6800 family, 3 State)

This tables contains devices which are not recommended for new design. It also includes devices which have had QPL status that has been cancelled or expired and there is no indication that a device manufacturer intends to requalify.

MILITARY PARTS

TABLE IV- Inactive or Suspended Military Activity (MIL-STD-1562R) (Cont'd)

Generic/ industry number	MIL-M- 38510/	Device type	Circuit description	Generic/ industry number	MIL-M- 38510/	Device type	Circuit description
ROM/PROM/PAL 7/ (Continued)							
68A316E	403	01	2048x8 ROM (6800 family, 3 State)				
9218	403	01	2048x8 ROM (6800 family, 3 State)				
Microprocessors and Interface peripherals/FIFO 8/							
TDC1008JM	500	01	8 bit parallel multiplier-accumulator				
TDC1009JM	500	02	12 bit parallel multiplier-accumulator				
TDC1010JM	500	03	16 bit parallel multiplier-accumulator				
MPY012HC1V							
	500	05	12 bit parallel multiplier				
MPY012HC1V							
	500	06	16 bit parallel multiplier				
1802D	470	01	8 bit fixed instruction microprocessor (3.8 MHz)				
2901C	440	01	4 bit microprocessor slice (15 MHz, TTL compatible)				
6800	400	01	8 bit fixed instruction microprocessor (1.0 MHz)				
MC6821	401	01	Peripheral interface adaptor (6800 family)				
Z80ACTC	483	01	Counter/timer circuit				
Z80ADMA	482	01	Direct memory access (4.0 MHz)				
Z80APIO	484	01	Parallel input/output controller				
Z80ASIO/2	481	01	Dual serial input/output controller (4.0 MHz)				
Z80CTC	483	02	Counter/timer circuit				
Z80DMA	482	02	Direct memory access (2.5 MHz)				
Z80PIO	484	02	Parallel input/output controller				
Z80SIO/2	481	02	Dual serial input/output controller (2.5 MHz)				
8035L	490	02	8 bit microcomputer (no ROM on chip, 6.0 MHz)				
8048	490	01	8 bit microcomputer (1Kx8 ROM on chip, 6.0 MHz)				
MPY008HC2V							
	500	04	8 bit parallel multiplier				
SBP9989	465	01	16 bit fixed instruction microprocessor (4.4 MHz)				
Drivers/Receivers 13/							
0026	035	01	Dual clock driver				
DS0026	035	01	Dual clock driver				
MH0026	035	01	Dual clock driver				
55450	129	01	Dual peripheral NAND driver (high speed)				
55460	129	06	Dual high voltage peripheral NAND driver (high-voltage, medium speed)				
8224	422	01	Clock generator/driver (8080 family)				

This tables contains devices which are not recommended for new design. It also includes devices which have had QPL status that has been cancelled or expired and there is no indication that a device manufacturer intends to requalify.

MILITARY PARTS
TABLE V- Not Recommended Under Any Circumstances (MIL-STD-1562R)

Generic/ industry number	MIL-M- 38510	Device Type	Circuit description	Preferred device for new design	Generic/ industry number	MIL-M- 38510	Device Type	Circuit description	Preferred device for new design
Microprocessor and interface peripherals/FIFO 8/									
SBP9900A									
	460	01	16 bit fixed instruction micropro- cessor (3.0 MHz)	8086, /53001					

Devices listed in this table will also have a preferred device for new design.

MILITARY PARTS

TABLE VI- Cross Reference (MIL-STD-1562R) (Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
SEESPEC	/60001	II 25/	-	SEESPEC	/60814	II 25/	-
SEESPEC	/60002	II 25/	-	SEESPEC	/60815	II 25/	-
SEESPEC	/60003	II 25/	-	SEESPEC	/60816	II 25/	-
SEESPEC	/60501	II 25/	-	SEESPEC	/60817	II 25/	-
SEESPEC	/60502	II 25/	-	SPE	/62001	II 23/	-
SEESPEC	/60503	II 25/	-	SPE	/62002	II 23/	-
SEESPEC	/60504	II 25/	-	TBD	/248XX	II 6/	-
SEESPEC	/60505	II 25/	-	BFRP10	/63001	II 8/	-
SEESPEC	/60506	II 25/	-	LM10H	5962-87604	II 9/	-
SEESPEC	/60507	II 25/	-	REF10	/12403	II 19/	-
SEESPEC	/60508	II 25/	-	LT1007	5962-87578	II 9/	-
SEESPEC	/60509	II 25/	-	TDC1008JM	/50001	IV 8/	-
SEESPEC	/60510	II 25/	-	TDC1009JM	/50002	IV 8/	-
SEESPEC	/60511	II 25/	-	LH0101	85089	II 9/	-
SEESPEC	/60512	II 25/	-	LH0101A	85089	II 9/	-
SEESPEC	/60513	II 25/	-	LM101A	/10103	I 9/	-
SEESPEC	/60514	II 25/	-	TDC1010JM	/50003	IV 8/	-
SEESPEC	/60515	II 25/	-	LT1016	5962-86845	II 10/	-
SEESPEC	/60516	II 25/	-	LM102	/10601	II 9/	-
SEESPEC	/60517	II 25/	-	1020	/12705	III 16/	-
SEESPEC	/60601	I 25/	-	LM103H-1.8	77028	III 19/	-
SEESPEC	/60602	I 25/	-	LM103H-2.0	77028	III 19/	-
SEESPEC	/60603	I 25/	-	LM103H-2.2	77028	III 19/	-
SEESPEC	/60604	I 25/	-	LM103H-2.4	77028	III 19/	-
SEESPEC	/60605	I 25/	-	LM103H-2.7	77028	III 19/	-
SEESPEC	/60606	I 25/	-	LM103H-3.0	77028	II 19/	-
SEESPEC	/60607	I 25/	-	LM103H-3.3	77028	II 19/	-
SEESPEC	/60608	I 25/	-	LM103H-3.6	77028	II 19/	-
SEESPEC	/60609	II 25/	-	LM103H-3.9	77028	II 19/	-
SEESPEC	/60610	II 25/	-	LM103H-4.3	77028	III 19/	-
SEESPEC	/60611	II 25/	-	LM103H-4.7	77028	III 19/	-
SEESPEC	/60612	II 25/	-	LM103H-5.1	77028	III 19/	-
SEESPEC	/60613	II 25/	-	LM103H-5.6	77028	III 19/	-
SEESPEC	/60614	II 25/	-	LM104	5962-87605	II 12/	-
SEESPEC	/60615	II 25/	-	10501	/06001	I 1/	-
SEESPEC	/60616	II 25/	-	10502	/06002	I 1/	-
SEESPEC	/60617	II 25/	-	10H503	5962-87565	II 1/	-
SEESPEC	/60701	II 25/	-	10504	/06201	I 1/	-
SEESPEC	/60702	II 25/	-	10505	/06003	I 1/	-
SEESPEC	/60703	II 25/	-	10506	/06004	I 1/	-
SEESPEC	/60704	II 25/	-	10H506	5962-87564	II 1/	-
SEESPEC	/60705	II 25/	-	10507	/06005	I 1/	-
SEESPEC	/60706	II 25/	-	10509	/06006	I 1/	-
SEESPEC	/60707	II 25/	-	10H513	5962-87558	II 1/	-
SEESPEC	/60708	II 25/	-	10516	78009	II 13/	-
SEESPEC	/60709	II 25/	-	10524	/06301	I 2/	-
SEESPEC	/60710	II 25/	-	10525	/06302	I 2/	P
SEESPEC	/60711	II 25/	-	10531	/06101	I 3/	-
SEESPEC	/60712	II 25/	-	10H531	5962-87561	II 3/	-
SEESPEC	/60713	II 25/	-	10535	/06104	I 3/	-
SEESPEC	/60714	II 25/	-	10H536	5962-87001	II 5/	-
SEESPEC	/60715	II 25/	-	10H558	5962-87566	II 18/	-
SEESPEC	/60716	II 25/	-	10H560	5962-87562	II 5/	-
SEESPEC	/60717	II 25/	-	10H561	5962-87567	II 4/	-
SEESPEC	/60801	II 25/	-	10H571	5962-87568	II 4/	-
SEESPEC	/60802	II 25/	-	10576	/06103	I 3/	-
SEESPEC	/60803	II 25/	-	10H586	5962-87563	II 3/	-
SEESPEC	/60804	II 25/	-	10597	/06202	I 1/	-
SEESPEC	/60805	II 25/	-	LM106	/10303	III 10/	-
SEESPEC	/60806	II 25/	-	10H609	5962-87569	II 1/	-
SEESPEC	/60807	II 25/	-	10631	/06102	I 3/	-
SEESPEC	/60808	II 25/	-	LM108A	/10104	I 9/	-
SEESPEC	/60809	II 25/	-	PAL10H8	/50301	I 7/	-
SEESPEC	/60810	II 25/	-	PAL10L8	/50306	I 7/	-
SEESPEC	/60811	II 25/	-	LM109	/10701	I 12/	-
SEESPEC	/60812	II 25/	-	LM110	/10602	II 9/	-
SEESPEC	/60813	II 25/	-	LM111	/10304	I 10/	-

MILITARY PARTS
TABLE VI- Cross Reference (MIL-STD-1562R)(Cont'd)

Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
LM113	5962-86711	II 19/	-	LF153	/11905	I 9/	-
LM113-1	5962-86711	II 19/	-	1536	78003	II 9/	-
LM113-2	5962-86711	II 19/	-	LF155	/11401	I 9/	-
LM117H	/11703	I 12/	-	LF155A	/11404	I 9/	-
LM117HV	77034	II 12/	-	UT1553B	/55501	I 23/	-
LM117K	/11704	I 12/	-	15530	78029	II 23/	-
LM118	/10107	I 9/	-	1558	/10108	I 9/	-
LM119	86014	II 10/	-	LF156	/11402	I 9/	-
LM119A	86014	II 10/	-	LF156A	/11405	I 9/	-
LM120H-05	/11501	III 12/	-	LF157	/11403	I 9/	-
LM120H-12	/11502	III 12/	-	LF157A	/11406	I 9/	-
LM120H-15	/11503	III 12/	-	F1600	/29201	II 6/	-
LM120H-24	/11504	II 12/	-	I MS1600	/29204	II 6/	-
LM120K-05	/11505	III 12/	-	LM161	5962-87572	II 10/	-
LM120K-12	/11506	III 12/	-	PAL16C1	/50305	II 7/	-
LM120K-15	/11507	III 12/	-	PAL16H2	/50304	II 7/	-
LM120K-24	/11508	II 12/	-	PAL16L2	/50309	II 7/	-
MPY012HC1V	/50005	IV 8/	-	PAL16A4	/50406	II 7/	-
MPY012HC1V	/50006	IV 8/	-	PAL16R4-15	5962-85155	II 7/	-
PAL12L10	5962-86804	II 7/	-	PAL16R4-20	/50604	I 7/	-
1218	/12707	III 16/	-	PAL16R4-30	/50608	I 7/	-
1220	/12706	III 16/	-	PAL16R4A	/50404	I 7/	-
LM124	/11005	I 9/	-	PAL16R4A-2	/50410	I 7/	-
MT1257-12	/24601	II 6/	-	PAL16R4A-4	85065	II 7/	-
MT1257-15	/24602	I 6/	-	PAL16X4	/50405	II 7/	-
MT1259-12	/24603	II 6/	-	PAL16L6	5962-86804	II 7/	-
MT1259-15	/24604	II 6/	-	PAL16R6-15	5962-85155	II 7/	-
PAL12H6	/50302	I 7/	-	PAL16R6-20	/50603	I 7/	-
PAL12L6	/50307	I 7/	-	PAL16R6-30	/50607	I 7/	-
DG129	78014	III 18/	-	PAL16R6A	/50403	I 7/	-
LM129A	/12402	II 19/	-	PAL16R6A-2	/50409	I 7/	-
LM129B	/12406	II 19/	-	PAL16R6A-4	85065	II 7/	-
LM131AH	5962-87607	II 24/	-	PAL16L8-15	5962-85155	II 7/	-
1HC34	/61501	II 6/	-	PAL16L8-20	/50601	I 7/	-
LM136A	84180	II 19/	-	PAL16L8-30	/50605	I 7/	-
LM136A	84180	II 19/	-	PAL16L8A	/50401	I 7/	-
LM137H	/11803	I 12/	-	PAL16L8A-2	/50407	I 7/	-
LM137HV	77034	II 12/	-	PAL16L8A-4	85065	II 7/	-
LM137K	/11804	I 12/	-	PAL16R8-15	5962-85155	II 7/	-
LM138K	/11706	II 12/	-	PAL16R8-20	/50602	I 7/	-
LM139	/11201	I 10/	-	PAL16R8-30	/50606	I 7/	-
OP14A	5962-87714	II 9/	-	PAL16R8A	/50402	I 7/	-
OP14B	5962-87714	II 9/	-	PAL16R8A-2	/50408	I 7/	-
LM140K-05	/10706	II 12/	-	PAL16R8A-4	85065	II 7/	-
LM140K-12	/10707	II 12/	-	UC1707	5962-87619	II 13/	-
LM140K-15	/10708	II 12/	-	MC1709U	78007	III 9/	-
LM140K-24	/10709	II 12/	-	1802D	/47001	IV 8/	-
LM143	78003	II 9/	-	DG181A	/11101	I 18/	-
LM144	78003	II 9/	-	DG182A	/11102	I 18/	-
PAL14H4	/50303	I 7/	-	1821	/47101	IV 6/	-
PAL14L4	/50308	I 7/	-	1822	/47102	IV 6/	-
14557B	79016	II 5/	-	1823	79018	III 6/	-
14584	5962-85501	II 1/	-	1832	/47201	IV 7/	-
LF147	/11906	II 9/	-	DG184A	/11103	I 18/	-
LM148	/11001	I 9/	-	PAL18L4	5962-86804	II 7/	-
PAL14L8	5962-86804	II 7/	-	1842	5962-86704	II 12/	-
LM149	/11002	II 9/	-	UC1846	5962-86806	II 12/	-
150	5962-87675	II 12/	-	DG185A	/11104	I 18/	-
150A	5962-87675	II 12/	-	LM185	5962-87594	II 19/	-
LM150K	/11705	II 12/	-	1852	/47301	IV 5/	-
LF151	/11904	I 9/	-	1853	/47401	IV 5/	-
1524	/12601	II 12/	-	1854	79017	III 8/	-
1524A	5962-87645	II 12/	-	1856	/47601	IV 2/	-
1524B	5962-87645	II 12/	-	1857	/47602	IV 2/	-
1525A	/12602	II 12/	-	DG187A	/11105	I 18/	-
1526	85515	II 12/	-	DG188A	/11106	I 18/	-
1527A	/126XX	II 12/	-	PAL18P8A	5962-87528	II 7/	-

MILITARY PARTS

TABLE VI- Cross Reference (MIL-STD-1562R) (Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
PAL18P8AL	5962-87528	II 7/	-	2169-40	5962-86081	II 6/	-
PAL18P8B	5962-87528	II 7/	-	2169-50	5962-86081	II 6/	-
PAL18P8L	5962-87528	II 7/	-	2169-70	5962-86081	II 6/	-
PAL18P8Q	5962-87528	II 7/	-	C22V10	5962-87539	II 7/	-
DG190A	/11107	I 18/	-	C22V10	5962-87539	II 7/	-
DG191A	/11108	I 18/	-	C22V10	5962-87539	II 7/	-
LM193	/11202	I 10/	-	PAL22V10	5962-86053	II 4/	-
LF198	/12501	I 20/	-	PAL22V10A	5962-86053	II 4/	-
LF198H	5962-87608	II 20/	-	XR-2211M	77050	II 24/	-
LM199	/12404	II 19/	-	OP-227A	5962-86887	II 9/	-
LM199A	/12401	II 19/	-	OP227A	/13504	II 9/	-
LM199A-20	/12405	II 19/	-	2316E	/40301	IV 7/	-
0002	78013	II 9/	-	HA1-2420-8	80016	II 9/	-
REF02A	85514	II 19/	-	2500	/12204	I 9/	-
DG200	/12301	I 18/	-	25LS09	5962-86708	II 5/	-
HI 200	/12301	II 18/	-	25S09	5962-86728	II 5/	-
2001	/14101	II 13/	-	2510	/12205	I 9/	-
2002	/14102	II 13/	-	25S10	5962-86718	II 23/	-
2003	/14103	I 13/	-	2516	78022	III 7/	-
2004	/14104	II 13/	-	25LS174	/33106	I 3/	-
2005	/14105	II 13/	-	25LS175	/33107	I 3/	-
DG201	/12302	I 18/	-	25S18	5962-86715	II 5/	-
HI -201HS	5962-86716	II 18/	-	2520	/12206	I 9/	-
HI 201	/12302	I 18/	-	25S240	5962-86724	II 2/	-
PAL20C1	5962-86804	II 7/	-	AM25S241	5962-86725	II 2/	-
PAL20L10A	84129	II 7/	-	AM25S244	5962-87536	II 2/	-
PAL20RA10	5962-86803	II 7/	-	AM25LS2513	5962-87542	II 4/	-
PAL20X10A	84129	II 7/	-	25LS2518	5962-86719	II 5/	-
PAL20L2	5962-86804	II 7/	-	25LS2519	5962-86702	II 5/	-
PAL20R4A	/50504	I 7/	-	25LS2521	5962-86713	II 4/	-
PAL20R4B	5962-87671	II 7/	-	25LS2569	5962-87544	II 5/	-
PAL20X4A	84129	II 7/	-	25LS299	78024	II 5/	-
PAL20R6A	/50503	I 7/	-	2532	/22201	IV 7/	-
PAL20R6A-2	/50503	I 7/	-	25LS399	5962-86708	II 5/	-
PAL20R6B	5962-87671	II 7/	-	0026	/03501	IV 13/	-
PAL20L8A	/50501	I 7/	-	0026	78008	III 13/	-
PAL20L8A-2	/50501	I 7/	-	DS0026	/03501	IV 13/	-
PAL20L8B	5962-87671	II 7/	-	MH0026	/03501	IV 13/	-
PAL20R8A	/50502	I 7/	-	2600	/12202	I 9/	-
PAL20R8A-2	/50502	I 7/	-	26S02	5962-87662	II 3/	-
PAL20R8A-2	/50504	I 7/	-	26S10	5962-86720	II 23/	-
PAL20R8B	5962-87671	II 7/	-	26S12	5962-87534	II 13/	-
PAL20X8A	84129	II 7/	-	26S12A	5962-87534	II 13/	-
LH0021	85088	II 9/	-	2616	/40301	IV 7/	-
LH2101A	/10105	I 9/	-	2620	/12203	I 9/	-
LH2108A	/10106	I 9/	-	26LS30	5962-86721	II 13/	-
LH2110	/10603	III 9/	-	AM26LS31	78023	II 13/	-
LH2111	/10305	I 10/	-	26LS32	78020	II 13/	-
2114	/23802	II 6/	G	26LS32A	78020	II 13/	-
2114A	/23804	II 6/	G	26LS32B	5962-87616	II 13/	-
2117	/24001	III 6/	G	26LS33	78020	II 13/	-
2117	/24002	III 6/	-	26LS33A	78020	II 13/	-
2117	/24003	III 6/	-	26LS34	5962-87596	II 13/	-
2147	/23801	I 6/	P	2640	78003	II 9/	-
2147H	/23803	I 6/	P	OP27A	/13503	I 9/	-
2147H-2	/23807	I 6/	P	2700	/12201	III 9/	-
2147H-3	/23805	I 6/	P	2700	/13601	II 19/	-
2148H	/23806	I 6/	P	27LS00	86020	II 6/	-
2164	/24401	III 6/	G	27LS00A	86020	II 6/	-
2164	/24402	III 6/	G	27LS01	86020	II 6/	-
2164	/24403	III 6/	-	27LS01A	86020	III 6/	-
2167-40	82007	II 6/	-	2702	/13602	II 19/	-
2167-55	82007	II 6/	-	27LS02	86051	II 6/	-
2167-70	82007	II 6/	G	27S02	86051	II 6/	-
2168-45	5962-86081	II 6/	-	27S02A	86051	II 6/	-
2168-55	5962-86081	II 6/	-	27LS03	86051	II 6/	-
2168-70	5962-86081	II 6/	-	27S03	86051	II 6/	-

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TABLE VI- Cross Reference (MIL-STD-1562R)(Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
27S03A	86051	II 6/	-	2764-450	82005	II 7/	-
27LS07	78015	II 6/	-	2764A-20	82005	II 7/	-
27S07	78015	II 6/	-	2764A-25	82005	II 7/	-
27S07A	78015	II 6/	G	2764A-35	82005	II 7/	-
2708	/22001	IV 7/	-	27C64-20	85102	II 7/	-
27128-11	82025	II 7/	-	27C64-25	85102	II 7/	-
27128-15	82025	II 7/	-	27C64-35	85102	II 7/	-
27128-20	82025	II 7/	-	I MS2800	/XXXXX	II 6/	-
27128-200	82025	II 7/	-	2801	/14106	II 13/	-
27128-25	82025	II 7/	-	2802	/14107	II 13/	-
27128-250	82025	II 7/	-	2803	5962-86058	II 13/	-
27128-30	82025	II 7/	-	2804	/14109	II 13/	-
27128-300	82025	II 7/	-	2805	/14110	II 13/	-
27128-450	82025	II 7/	-	NMC2816	/22601	IV 7/	-
2716	78022	II 7/	-	X2816A-25	/22704	I 7/	-
2716	/22101	IV 7/	-	X2816A-30	/22703	I 7/	-
2716-15	5962-78022	II 7/	-	X2816A-35	/22702	I 7/	-
2716-20	5962-78022	II 7/	-	X2816A-45	/22701	I 7/	-
2716-25	5962-78022	II 7/	-	28S166A	/21002	II 7/	-
2716-30	5962-78022	II 7/	-	28S166A	/21004	II 7/	-
2716-45	5962-78022	II 7/	-	2864-250	/22808	I 7/	G
27S180	/20903	II 7/	-	2864-350	/22807	I 7/	-
27S181	/20904	II 7/	-	2864A-25	5962-86830	II 7/	-
27S19	5962-86703	II 7/	-	2864A-30	5962-86830	II 7/	-
27S19A	5962-86703	II 7/	-	2864A-35	5962-86830	II 7/	-
27PS191	5962-85526	II 7/	-	2864H-250	/22809	I 7/	G
27PS191A	5962-85526	II 7/	-	X2864A-25	/22804	II 7/	-
27S191	/21002	I 7/	-	X2864A-25	/22806	II 7/	-
27210-20	5962-87744	II 7/	-	X2864A-30	/22803	II 7/	-
27210-25	5962-87744	II 7/	-	X2864A-35	/22805	II 7/	-
27256-170	/22403	II 7/	-	X2864A-35	/22802	II 7/	G
27256-200	/22402	I 7/	-	X2864A-45	/22801	II 7/	-
27256-250	/22401	I 7/	-	2901C	84057	II 8/	-
27256-30	84111	II 7/	-	2901C	/44001	IV 8/	-
27256-35	84111	II 7/	-	2904	86017	II 8/	-
27C256-20	5962-86063	II 7/	-	2905	/44101	IV 5/	-
27C256-25	5962-86063	II 7/	-	2906	/44102	IV 5/	-
27C256-30	5962-86063	II 7/	-	2907	/44103	IV 5/	-
27S29	5962-87690	II 7/	-	2907	5962-87707	II 2/	-
27S29A	5962-87690	II 7/	-	2909A	86027	II 8/	-
27PS291	5962-85526	II 7/	-	2910	78017	II 8/	-
27PS291A	5962-85526	II 7/	-	2911A	86028	II 8/	-
27S31	78016	II 7/	-	29116	5962-86863	II 8/	-
2732-150	80012	II 7/	-	2914	86029	II 8/	-
2732-200	80012	II 7/	-	2915A	/44104	IV 5/	-
2732-250	80012	II 7/	-	2916A	/44105	IV 5/	-
2732-300	80012	II 7/	-	2917A	5962-86714	II 5/	-
2732-450	80012	II 7/	-	2917A	/44106	IV 5/	-
2732A	80012	II 7/	-	2918	5962-86715	II 5/	-
27S35	5962-86706	II 7/	-	2918	/44201	IV 5/	-
27S35A	5962-86706	II 7/	-	29LS18	5962-86719	II 5/	-
27S37	5962-86706	II 7/	-	2919	5962-86702	II 5/	-
27S37A	5962-86706	II 7/	-	2930	5962-87573	II 8/	-
27S45	5962-85527	II 7/	-	AM2932	86050	II 8/	-
27S45A	5962-85527	II 7/	-	2940	86030	II 8/	-
27S47	5962-85527	II 7/	-	2942	5962-86801	II 8/	-
27S47A	5962-85527	II 7/	-	2947	5962-86723	II 23/	-
27S49	82009	II 7/	-	2960	5962-87602	II 23/	-
27512-20	/27001	II 7/	-	29611	/20402	II 7/	-
27512-25	5962-85135	II 7/	-	29621	/20805	II 7/	-
27512-30	5962-85135	II 7/	-	29631	/20904	I 7/	-
27512-35	5962-85135	II 7/	-	29633DMB	79024	III 7/	-
27512-45	5962-85135	II 7/	-	2964B	5962-87574	II 8/	-
27512-45	5962-85135	II 7/	-	2965	5962-86707	II 2/	-
2764-150	82005	II 7/	-	29651	/20902	I 7/	-
2764-200	82005	II 7/	-	29651	/20908	II 7/	-
2764-250	82005	II 7/	-	2966	5962-86707	II 2/	-

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TABLE VI- Cross Reference (MIL-STD-1562R) (Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
29671	/21102	II 7/	-	4010B	/05552	II 2/	-
29681	/21002	I 7/	-	40106B	/17702	II 1/	-
29705A	86025	II 6/	-	40107B	/17402	II 2/	-
29C827	5962-87667	II 2/	-	40109B	/17404	II 2/	-
29C828	5962-87667	II 2/	-	4011A	/05001	III 1/	P
29C841	5962-87603	II 8/	-	4011B	/05051	I 1/	P
29C843	5962-87603	II 8/	-	4012A	/05002	III 1/	P
29C861	5962-87704	II 13/	-	4012B	/05052	I 1/	P
29C863	5962-87704	II 13/	-	4013A	/05101	III 3/	P
29C927	5962-87667	II 2/	-	4013B	/05151	I 3/	P
29C928	5962-87667	II 2/	-	4014A	/05702	III 5/	P
29C941	5962-87603	II 8/	-	4014B	/05752	I 5/	P
29C943	5962-87603	II 8/	-	4015A	/05703	III 5/	P
29C961	5962-87704	II 13/	-	4015B	/05753	I 5/	G
29C963	5962-87704	II 13/	-	4016A	/05801	III 4/	-
DG300	/11601	I 18/	-	4016B	/05851	I 4/	-
HTC-0300	/14201	II 20/	-	4017A	/05601	III 5/	P
DG301A	/11602	I 18/	-	4017B	/05651	I 5/	P
3018A	/10801	III 9/	-	4017AB	/17505	II 3/	-
DG302A	/11603	I 18/	-	4018A	/05602	III 5/	P
DG303A	/11604	I 18/	-	4018B	/05652	I 5/	P
DG304A	/11605	I 18/	-	4019A	/05302	III 1/	P
3045	/10802	I 9/	-	4019B	/05352	I 1/	P
DG305A	/11606	I 18/	-	4020A	/05603	III 5/	P
DG306A	/11607	I 18/	-	4020B	/05653	I 5/	P
DG307A	/11608	I 18/	-	4021A	/05704	III 5/	P
MC3101	/15501	IV 1/	G	4021B	/05754	I 5/	P
MC3106	/15502	IV 1/	-	4022A	/05604	III 5/	P
MC3111	/15503	IV 1/	-	4022B	/05654	I 5/	G
0032	80013	II 9/	-	4023A	/05003	III 1/	P
VFC32	/13801	II 17/	-	4023B	/05053	I 1/	P
VFC320	/13802	II 17/	-	4024A	/05605	III 5/	P
SMJ32010	84053	II 8/	-	4024B	/05655	I 5/	P
32016	/XXXXX	II 8/	-	4025A	/05204	III 1/	P
32C016	/XXXXX	II 8/	-	4025B	/05254	I 1/	P
32032	/XXXXX	II 8/	-	40257B	/17803	II 4/	-
32C032	/XXXXX	II 8/	-	4027A	/05102	III 3/	P
32081	/XXXXX	II 8/	-	4027B	/05152	I 3/	P
32C081	/XXXXX	II 8/	-	4028A	/05901	III 4/	-
PAL32R16	/XXXXX	II 7/	-	4028B	/05951	I 4/	G
32201	/XXXXX	II 8/	-	4029B	81016	II 5/	-
32C201	/XXXXX	II 8/	-	4030A	/05303	III 1/	P
LH0033	80014	II 9/	-	4030B	/05353	I 1/	-
CS3400	/63101	II 23/	-	4031A	/05705	III 5/	P
MK34000	/40301	IV 7/	-	4031B	/05755	II 5/	-
3516E	/40301	IV 7/	-	4034A	/05706	III 5/	-
3636	/21002	III 7/	-	4034B	/05756	II 5/	G
OP37A	/13505	II 9/	-	4035B	81017	II 5/	-
TLC372	5962-87658	II 10/	-	4040B	77058	II 5/	G
TLC374M	5962-87659	II 10/	-	4041A	/05505	III 2/	G
376H	/14201	II 20/	-	4041UB	/05555	I 2/	-
TVB382	/61601	II 8/	-	4042B	81019	II 3/	-
4000A	/05201	III 1/	P	4043A	/05103	III 3/	P
4000B	/05251	II 1/	-	4043B	/05153	II 3/	G
4001A	/05202	III 1/	P	4044B	5962-77026	II 3/	-
4001B	/05252	I 1/	P	4047B	81020	II 3/	-
4002A	/05203	III 1/	P	4048A	/05304	III 1/	-
4002B	/05253	I 1/	P	4048B	/05354	II 1/	-
4006A	/05701	III 5/	P	4049A	/05503	III 2/	P
4006B	/05751	II 5/	G	4049UB	/05553	I 2/	P
4007A	/05301	III 1/	P	4050A	/05504	III 2/	P
4007UB	/05351	I 1/	P	4050B	/05554	I 2/	P
4008A	/05401	III 4/	-	TMS4050	/23502	IV 6/	-
4008B	/05451	I 4/	G	TMS4050	/23504	IV 6/	-
4009A	/05501	III 2/	P	4052B	79015	II 18/	-
4009UB	/05551	II 2/	-	4053B	81018	II 18/	-
4010A	/05502	III 2/	P	4060A	77031	III 5/	-

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TABLE VI- Cross Reference (MIL-STD-1562R)(Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
TMS4060	/23501	IV 6/	-	4515B	/17302	II 4/	G
TMS4060	/23503	IV 6/	-	4520B	/77023	II 5/	-
4066A	/05802	III 4/	-	4528B	77045	II 3/	-
4066B	/05852	I 4/	G	4528B	77045	II 3/	-
4067B	/17801	II 4/	-	4532B	/17303	II 4/	G
MT4067-10	5962-87676	II 6/	-	4555B	/17304	II 4/	G
MT4067-12	5962-87676	II 6/	-	4556B	/17305	II 4/	G
MT4067-15	5962-87676	II 6/	-	4557B	79016	II 5/	-
MT4067-20	5962-87676	II 6/	-	4564	/24401	I 6/	-
4069UB	/17401	I 2/	-	4564	/24402	I 6/	P
4070B	/17203	I 1/	P	4564	/24403	I 6/	-
4071B	/17101	I 1/	P	4585B	77037	II 4/	-
4072B	/17102	I 1/	P	4741	/11003	I 9/	-
4073B	/17003	I 1/	-	4860	/14201	II 20/	-
4075B	/17103	I 1/	-	OPA501	5962-87620	II 9/	-
4076B	/17501	II 3/	G	5040	/10501	I 18/	-
4077B	/17204	I 1/	P	5041	/10502	I 18/	-
4078B	77044	II 1/	-	5041	81006	II 18/	-
4081B	/17001	I 1/	-	5042	/10503	I 18/	-
4082B	/17002	I 1/	-	5042	81006	II 18/	-
4085B	/17201	I 1/	-	5043	/10504	I 18/	-
4086B	/17202	I 1/	P	5043	81006	II 18/	-
4093B	/17701	I 1/	P	5044	/10505	I 18/	-
4094B	77025	II 5/	G	5045	/10506	I 18/	-
4095B	/17502	II 3/	-	5045	81006	II 18/	-
4096B	/17503	II 3/	-	5046	/10507	II 18/	-
MKB4096	/23602	IV 6/	-	5046	81006	II 18/	-
MKB4096	/23604	IV 6/	-	5047	/10508	II 18/	-
4097B	/17802	II 4/	-	5047	81006	II 18/	-
4098B	/17504	I 3/	-	506	/19001	I 18/	-
4099B	/17601	I 3/	-	506A	/19002	II 18/	-
LH0041	85087	II 9/	-	507	/19003	I 18/	-
4C1024	/24902	II 6/	-	507A	/19004	II 18/	-
LF411	/11904	I 9/	-	508	/19007	I 18/	-
411024	/24901	II 6/	-	508A	/19005	II 18/	-
4116	/24001	I 6/	P	UHC-508	85500	II 13/	-
4116	/24002	I 6/	P	UHD-508	85500	II 13/	-
4116	/24003	II 6/	-	509	/19008	I 18/	-
LF412	/11905	II 9/	-	509A	/19006	II 18/	-
41256N-12	/24603	II 6/	-	511000	/24903	II 6/	-
41256N-15	/24604	II 6/	-	I H5116	5962-85131	II 18/	-
41256P-12	/24601	II 6/	-	HPROM512	/20101	IV 7/	-
41256P-15	/24602	I 6/	-	D51256	/XXXXX	II 6/	-
4136	/11004	I 9/	-	NM51256	/XXXXX	II 6/	-
4156	/11003	I 9/	-	TL514	5962-86878	II 10/	-
4164-12	82010	II 6/	G	51C67	/29103	II 6/	-
4164-15	82010	II 6/	-	51C67	/29106	II 6/	-
4164-20	82010	II 6/	-	51C68-35	5962-86705	II 6/	-
41H68-825	5962-86705	II 6/	-	51C68-45	5962-86705	II 6/	-
41H68-835	5962-86705	II 6/	-	51C68-55	5962-86705	II 6/	-
4194	77054	II 12/	-	51C68-70	5962-86705	II 6/	-
4213	/13904	I 24/	-	51C98	/61301	II 6/	-
LM4250	77039	II 9/	-	51C98	/61302	II 6/	-
4256-20	85152	II 6/	-	51C98	/61303	II 6/	-
SMJ4256-12	85152	II 6/	-	5200	/12001	II 17/	-
SMJ4256-15	85152	III 6/	-	5201	/12003	II 17/	-
SMJ4256-20	85152	II 6/	-	5202	/12005	II 17/	-
4264-15	82010	II 6/	-	05203	/14201	II 20/	-
4264-20	82010	II 6/	-	5203	/12002	II 17/	-
TL431	84109	II 12/	-	5204	/12004	II 17/	-
MC4344	5962-87803	II 23/	-	5205	/12006	II 17/	-
MKB4501-80	/25002	I 8/	-	5206	/12007	II 17/	-
MKB4501-81	/25001	I 8/	-	5207	/12008	II 17/	-
MKB4501-88	/25003	II 8/	-	I H5208	5962-85131	II 18/	-
4502B	/17403	I 2/	P	521	5962-87516	II 10/	-
4508B	/17602	II 3/	G	5210	/12009	II 17/	-
4514B	/17301	II 4/	G	5211	/12011	II 17/	-

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TABLE VI- Cross Reference (MIL-STD-1562R) (Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
52116	/40301	IV 7/	-	54F04	/33002	I 1/	-
5212	/12013	II 17/	-	54H04	/02305	III 1/	-
5213	/12010	II 17/	-	54HC04	/65701	I 1/	-
5214	/12012	II 17/	-	54HCT04	/65751	II 1/	-
5215	/12014	II 17/	-	54HCU04	86010	II 1/	-
5216	/12015	II 17/	-	54L04	/02005	III 1/	-
I H5216	5962-85131	II 18/	-	54LS04	/30003	I 1/	P
5217	/12016	II 17/	-	54S04	/07003	III 1/	P
524S	/14301	II 9/	-	5405	/00108	III 1/	P
HI 524	5962-87618	II 18/	-	54LS05	/30004	I 1/	P
527	5962-87572	II 10/	-	54S05	/07004	III 1/	P
MM5280	/23505	IV 6/	-	5406	/00801	I 2/	P
MM5280	/23506	IV 6/	-	5407	/00803	I 2/	P
529	5962-87572	II 10/	-	5408	/01601	III 1/	P
5300-1	/20301	III 7/	-	54AC08	5962-87615	II 1/	-
5301-1	/20302	III 7/	-	54ALS08	/37401	I 1/	-
MCM5303	/20101	IV 7/	-	54C08	77036	II 1/	-
MCM5304	/20102	IV 7/	-	54F08	/34001	I 1/	-
5305-1	/20401	II 7/	-	54H08	/15501	IV 1/	-
5306-1	/20402	II 7/	-	54H08	/15504	IV 1/	-
53S1680	/21001	III 7/	-	54HC08	/65203	I 1/	-
53S1681	/21002	II 7/	-	54HCT08	5962-86883	II 1/	-
532S	/13903	I 24/	-	54LS08	/31004	I 1/	P
5330	/20701	II 7/	-	54S08	/08003	III 1/	P
5331	/20702	II 7/	-	5409	/01602	III 1/	P
53S3281	/21102	II 7/	-	54ALS09	84142	II 1/	-
53S3281B	5962-82008	II 7/	-	54LS09	/31005	I 1/	P
534S	/13902	I 24/	-	54S09	/08004	IV 1/	-
534T	/13901	I 24/	-	5410	/00103	III 1/	P
5340-1	/20801	II 7/	-	54AC10	/75002	II 1/	-
5341-1	/20802	II 7/	-	54ALS10	/37002	I 1/	-
53S440	/20601	II 7/	-	54F10	/33003	I 1/	-
53S441	/20602	I 7/	-	54H10	/02303	III 1/	-
5348-1	/20804	II 7/	-	54HC10	/65002	I 1/	-
5349-1	/20805	II 7/	-	54L10	/02003	III 1/	-
53S841	/20902	II 7/	-	54LS10	/30005	I 1/	P
53S841	/20908	I 7/	-	54S10	/07005	III 1/	P
5400	/00104	III 1/	P	54ALS1000	/38401	I 2/	-
54AC00	5962-87549	II 1/	-	54ALS1002	/38402	I 2/	-
54ALS00A	/37001	I 1/	-	54ALS1003	/38403	II 2/	-
54F00	/33001	I 1/	-	54ALS1004	/38409	II 2/	-
54H00	/02304	III 1/	-	54ALS1005	/38410	II 2/	-
54HC00	/65001	I 1/	-	54ALS1008	/38404	II 2/	-
54HCT00	5962-86831	II 1/	-	54H101	/02205	III 3/	-
54L00	/02004	III 1/	-	54ALS1010	/38405	II 2/	-
54LS00	/30001	I 1/	P	54ALS1011	/38406	II 2/	-
54S00	/07001	III 1/	P	54ALS1020	/38407	I 2/	-
5401	/00107	III 1/	P	54H103	/02206	III 3/	-
54H01	/02306	III 1/	-	54ALS1032	/38408	II 2/	-
54L01	/02006	III 1/	-	54ALS1034	/38411	I 2/	-
5402	/00401	III 1/	P	54ALS1035	/38412	II 2/	-
54ALS02	/37301	I 1/	-	54107	/00203	III 3/	P
54F02	/33301	I 1/	-	54HC107	/65303	II 3/	-
54HC02	/65101	I 1/	-	54LS107	/30108	I 3/	P
54L02	/02701	III 1/	-	54ALS109	/37102	I 3/	-
54LS02	/30301	I 1/	P	54F109	/34102	I 3/	-
54S02	/07301	III 1/	P	54HC109	/65304	I 3/	-
5403	/00109	III 1/	P	54LS109	/30109	I 3/	P
54HC03	5962-87647	II 1/	-	54AC11	5962-87611	II 1/	-
54L03	/02006	III 1/	-	54ALS11	/37402	I 1/	-
54LS03	/30002	I 1/	P	54F11	/34002	I 1/	-
54S03	/07002	III 1/	P	54H11	/15502	IV 1/	-
54030	81015	III 6/	-	54HC11	/65204	I 1/	-
5403004	81024	II 6/	-	54LS11	/31001	I 1/	P
5404	/00105	III 1/	P	54S11	/08001	III 1/	P
54AC04	5962-87609	II 1/	-	54AC11000	5962-87549	II 1/	-
54ALS04	/37006	I 1/	-	54AC11020	5962-87613	II 1/	-

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TABLE VI- Cross Reference (MIL-STD-1562R)(Cont'd)

Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
54ALS112A	/37103	I 3/	-	54F148	5962-86070	II 4/	-
54F112	/34103	I 3/	-	54HC148	/660XX	II 4/	-
54HC112	/65305	I 3/	-	54LS148	/36001	I 4/	-
54LS112	/30103	I 3/	P	54LS15	/31002	I 1/	-
54S112	/07102	III 3/	P	54S15	/08002	IV 1/	-
54AC11240	5962-87550	II 2/	-	54150	/01401	III 4/	P
54AC11244	5962-87552	II 2/	-	54151	/01406	III 4/	P
54F113	/XXXXX	II 3/	-	54AC151	5962-87691	II 18/	-
54LS113	/30104	I 3/	-	54ALS151	84141	II 4/	-
54S113	/07103	III 3/	P	54F151A	/33901	I 4/	-
54LS114	/30105	I 3/	P	54HC151	84128	II 4/	-
54S114	/07104	III 3/	-	54LS151	/30901	I 4/	P
54116	/01503	III 5/	-	54S151	/07901	III 4/	P
5412	/00106	III 1/	P	54153	/01403	III 4/	P
54LS12	/30006	I 1/	P	54AC153	5962-87625	II 18/	-
54121	/01201	III 3/	P	54ALS153	84134	II 4/	-
54L121	/04201	IV 3/	-	54F153	/33902	I 4/	-
54122	/01202	III 3/	P	54HC153	84093	II 4/	-
54L122	/04202	IV 3/	-	54LS153	/30902	I 4/	P
54LS122	/31403	I 3/	-	54S153	/07902	III 4/	-
54123	/01203	III 3/	P	54154	/15201	IV 4/	-
54HC123	5962-86847	II 3/	-	54HC154	/65804	II 4/	-
54HC123A	5962-86847	II 3/	-	54HCT154	5962-86701	II 4/	-
54LS123	/31401	I 3/	-	54LS154	83017	II 4/	-
54125	/15301	III 2/	-	54155	/15202	IV 4/	G
54HC125	5962-87721	II 2/	-	54LS155	/32601	I 4/	P
54LS125A	/32301	I 2/	-	54156	/15203	IV 4/	-
54126	/15302	III 2/	-	54LS156	/32602	I 4/	-
54HC126	5962-86848	II 2/	-	54157	/01405	III 4/	P
54LS126	/32302	I 2/	P	54ALS157	5962-86869	II 18/	-
5413	/15101	III 1/	-	54ALS157	5962-86869	II 18/	-
54LS13	/31301	I 1/	P	54F157A	/33903	I 4/	-
54132	/15103	III 1/	-	54HC157	/66203	II 4/	-
54HC132	/65005	I 1/	-	54LS157	/30903	I 4/	P
54LS132	/31303	I 1/	P	54S157	/07903	III 4/	P
54ALS133	/37005	I 1/	-	54F158A	/33904	I 4/	-
54HC133	5962-87723	II 1/	-	54HC158	5962-86823	II 4/	-
54S133	/07009	III 1/	-	54LS158	/30904	I 4/	P
54S134	/07010	IV 1/	-	54S158	/07904	III 4/	-
54S135	/07502	III 1/	-	5416	/00802	III 2/	P
54ACT138	5962-87554	II 18/	-	54160	/01303	III 5/	P
54ALS138	/37701	I 4/	-	54ALS160	/38101	II 5/	-
54F138	/33701	I 4/	-	54F160A	/34401	I 5/	-
54HC138	/65802	I 4/	-	54HC160	/66301	II 5/	-
54HCT138	/65852	II 4/	-	54LS160A	/31503	I 5/	-
54LS138	/30701	I 4/	P	54161	/01306	III 5/	P
54S138	/07701	III 4/	-	54ALS161B	/38001	I 5/	-
54ACT139	5962-87553	II 18/	-	54F161A	/34301	I 5/	-
54ALS139	5962-87683	II 23/	-	54HC161	/66302	II 5/	-
54F139	/33702	I 4/	-	54HCT161	5962-86854	II 5/	-
54HC139	/65803	I 4/	-	54LS161	/31504	I 5/	P
54HCT139	/65853	II 4/	-	54162	/01305	III 5/	-
54LS139	/30702	I 4/	P	54ALS162	/38102	II 5/	-
54S139	/07702	III 4/	P	54F162A	/34402	I 5/	-
5414	/15102	III 1/	-	54HC162	/66303	II 5/	-
54AC14	5962-87624	II 1/	-	54LS162A	/31511	I 5/	-
54HC14	/65702	I 1/	-	54163	/01304	III 5/	P
54HCT14	/65752	II 1/	-	54ALS163B	/38002	I 5/	-
54LS14	/31302	I 1/	P	54F163A	/34302	I 5/	-
54S140	/08101	I 2/	-	54HC163	/66304	II 5/	-
54145	/01005	III 4/	G	54LS163A	/31512	I 5/	-
54LS145	85084	II 4/	-	54164	/00903	III 5/	P
54147	/15601	IV 4/	G	54ALS164	5962-86870	II 23/	-
54HC147	84064	II 4/	-	54F164	5962-86071	II 5/	-
54148	/15602	IV 4/	G	54HC164	84162	II 5/	-
				54L164	/02802	III 5/	-
				54LS164	/30605	I 5/	P

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TABLE VI- Cross Reference (MIL-STD-1562R) (Cont'd)

Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
54165	/00904	III 5/	G	54ALS20	/37003	I 1/	-
54HC165	84095	II 5/	-	54F20	/33004	I 1/	-
54HCT165	5962-86855	II 5/	-	54H20	/02302	III 1/	-
54LS165	/30608	I 5/	P	54HC20	/65003	I 1/	-
54HC166	/665XX	II 5/	-	54L20	/02002	III 1/	-
54LS166	/30609	I 5/	-	54LS20	/30007	I 1/	P
54ALS168	/38103	II 5/	-	54S20	/07006	III 1/	P
54LS168	/31505	II 5/	-	54ALS21	84143	II 1/	-
54ALS169	/38003	I 5/	-	54AS21	5962-87804	II 1/	-
54F169	5962-86072	II 5/	-	54H21	/15503	IV 1/	-
54LS169A	/31506	I 5/	P	54LS21	/31003	I 1/	-
5417	/00804	III 2/	P	54H22	/02307	III 1/	-
54170	/01801	IV 5/	-	54LS22	/30008	I 1/	P
54LS170	/31902	II 5/	-	54S22	/07007	III 1/	P
54HC173	/65306	I 3/	-	54HC221	/659XX	II 3/	-
54LS173	/36101	I 5/	P	54LS221	/31402	I 3/	P
54174	/01701	III 3/	P	5423	/00402	III 1/	P
54AC174	5962-87626	II 3/	-	54HC238	5962-86884	II 4/	-
54ALS174	/37201	I 3/	-	54AC240	5962-87550	II 2/	-
54F174	/34107	I 3/	-	54ALS240	/38301	I 2/	-
54HC174	/65307	I 3/	-	54F240	/33201	I 2/	-
54LS174	/30106	I 3/	P	54HC240	/65703	I 2/	-
54S174	/07105	III 3/	P	54HCT240	/65753	II 2/	-
54175	/01702	III 3/	P	54LS240	/32401	I 2/	P
54ALS175	/37202	I 3/	-	54AC241	5962-87551	II 2/	-
54F175	/34104	I 3/	-	54ALS241	/38302	I 2/	-
54HC175	/65308	I 3/	-	54F241	/33202	I 2/	-
54LS175	/30107	I 3/	P	54HC241	/65704	I 2/	-
54S175	/07106	III 3/	P	54HCT241	/65754	II 2/	-
54180	/01901	III 4/	P	54LS241	/32402	I 2/	-
54181	/01101	III 4/	-	54ALS242	/38506	II 2/	-
54F181	/33801	I 4/	-	54F242	/34801	II 2/	-
54LS181	/30801	I 4/	P	54HC242	/65501	II 2/	-
54S181	/07801	III 4/	P	54LS242	/32801	I 2/	-
54182	/01102	III 4/	-	54ALS243	/38507	II 2/	-
54F182	/33802	II 4/	-	54F243	/34802	I 2/	-
54S182	/07802	III 4/	-	54HC243	/65502	II 2/	-
54185A	77030	III 4/	-	54LS243	/32802	I 2/	-
54S189	78015	II 6/	-	54AC244	5962-87552	II 2/	-
54F190	/34403	II 5/	-	54ALS244	/38303	I 2/	-
54LS190	/31513	I 5/	P	54F244	/33203	I 2/	-
54ALS191	5962-86840	II 5/	-	54HC244	/65705	I 2/	-
54F191	/34303	II 5/	-	54HCT244	/65755	II 2/	-
54HC191	/66305	II 5/	-	54LS244	/32403	I 2/	-
54LS191	/31509	I 5/	P	54ACT245	5962-87663	II 2/	-
54192	/01308	III 5/	G	54ALS245	84030	II 2/	-
54F192	/34404	I 5/	-	54F245	/34803	I 2/	-
54HC192	/66306	II 5/	-	54FCT245	5962-87629	II 2/	-
54LS192	/31507	I 5/	P	54HC245	/65503	I 2/	-
54193	/01309	III 5/	P	54HCT245	/65553	II 2/	-
54F193	/34304	I 5/	-	54LS245	/32803	I 2/	-
54HC193	/66307	II 5/	-	5425	/00403	III 1/	P
54L193	/02503	III 5/	-	54AC251	5962-87692	II 18/	-
54LS193	/31508	I 5/	P	54ALS251	84135	II 4/	-
54194	/00905	III 5/	P	54F251A	/33905	I 4/	-
54F194	/33601	I 5/	-	54HC251	85125	II 4/	-
54HC194	5962-86826	II 5/	-	54LS251	/30905	I 4/	P
54LS194A	/30601	I 5/	P	54S251	/07905	III 4/	-
54S194	/07601	III 5/	-	54AC253	5962-87693	II 18/	-
54195	/00906	III 5/	G	54ALS253	85096	II 4/	-
54HC195	5962-86827	II 5/	-	54F253	/33908	I 4/	-
54LS195A	/30602	I 5/	-	54HC253	/66206	II 4/	-
54S195	/07602	IV 5/	-	54LS253	/30908	I 4/	P
54LS196	/32001	II 5/	P	54S253	/07908	III 4/	P
54LS197	/32002	I 5/	-	54ALS257	85097	II 4/	-
5420	/00102	III 1/	P	54F257A	/33906	I 4/	-
54AC20	5962-87613	II 1/	-	54HC257	85124	II 4/	-

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TABLE VI- Cross Reference (MIL-STD-1562R)(Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
54LS257B	/30906	I 4/	P	54HC365	/65706	I 2/	-
54S257	/07906	III 4/	-	54LS365	/32201	I 2/	P
54F258A	/33907	I 4/	-	54366	/16302	III 2/	-
54LS258B	/30907	I 4/	-	54HC366	/65707	II 2/	-
54S258	/07907	III 4/	-	54LS366	/32202	I 2/	P
54HC259	/65402	II 3/	-	54367	/16303	III 2/	P
54LS259	/31603	I 3/	P	54HC367	/65708	I 2/	-
54LS259B	/31605	I 3/	-	54LS367	/32203	I 2/	-
5426	/00805	III 2/	P	54368	/16304	III 2/	P
54LS26	/32102	I 2/	P	54HC368	/65709	I 2/	-
54LS261	/31801	II 4/	-	54LS368	/32204	I 2/	-
54HC266	/65103	I 1/	-	5437	/00302	III 2/	P
54LS266	/30303	I 1/	P	54ALS37	/38401	I 2/	-
5427	/00404	III 1/	P	54F37	/35201	II 2/	-
54ALS27	/37302	I 1/	-	54LS37	/30202	I 2/	P
54HC27	/65102	I 1/	-	54AC373	5962-87555	II 3/	-
54LS27	/30302	I 1/	P	54ACT373	5962-87556	II 3/	-
54ALS273	84136	II 3/	-	54ALS373	/37203	I 3/	-
54FCT273	5962-87656	II 3/	-	54F373	/34601	I 3/	-
54HC273	/65601	I 3/	-	54HC373	/65403	I 3/	-
54LS273	/32501	I 3/	P	54HCT373	/65453	II 3/	-
54LS279	/31602	I 3/	P	54LS373	/32502	I 3/	P
5428	/16201	IV 2/	-	54ALS374	/37204	I 3/	-
54ALS28	/38402	I 2/	-	54F374	/34105	I 3/	-
54LS28	/30204	I 2/	P	54HC374	/65602	I 3/	-
54F280	/34901	I 4/	-	54HCT374	/65652	II 3/	-
54HC280	86077	II 4/	-	54LS374	/32503	I 3/	P
54LS280	/32901	I 4/	-	54LS375	/31604	I 3/	-
54F283	/34201	I 4/	-	54HC377	/65603	II 3/	-
54HC283	/667XX	II 4/	-	54LS377	/32504	I 3/	P
54LS283	/31202	I 4/	P	54F378	/34108	II 3/	-
54S287	/20302	I 7/	-	54F379	/34109	II 3/	-
54S288	/20702	I 7/	-	5438	/00303	III 2/	P
54LS290	/32003	I 5/	-	54ALS38	5962-86871	II 2/	-
54LS293	/32004	I 5/	-	54F38	/35202	I 2/	-
54LS295B	/30606	I 5/	P	54LS38	/30203	I 2/	P
54LS298	/30909	I 4/	P	54F381	/33803	II 4/	-
54ALS299	/37601	II 5/	-	54F382	/33804	II 4/	-
54FCT299	5962-86862	II 5/	-	54HC390	/66308	II 5/	-
54HC299	5962-87806	II 5/	-	54LS390	/32701	I 5/	P
54LS299	78024	II 5/	-	54HC393	/66309	II 5/	-
5430	/00101	III 1/	P	54LS393	/32702	I 5/	P
54AC30	/75004	II 1/	-	54LS395A	/30607	I 5/	P
54ALS30	/37004	I 1/	-	54F398	/35001	I 5/	-
54H30	/02301	III 1/	-	54F399	/35002	I 5/	-
54HC30	/65004	I 1/	-	54LS399	84154	II 5/	-
54L30	/02001	III 1/	-	5440	/00301	III 2/	P
54LS30	/30009	I 1/	P	54ALS40	/38407	I 2/	-
54S30	/07008	III 1/	P	54F40	/35203	II 2/	-
5432	/16101	III 1/	P	54H40	/02401	IV 2/	-
54AC32	5962-87614	III 1/	-	54LS40	/30201	I 2/	P
54ALS32	/37501	I 1/	-	54S40	/07201	III 2/	P
54F32	/33501	I 1/	-	54HC4002	/65104	I 1/	-
54HC32	/65201	I 1/	-	54HC4017	/66310	II 5/	-
54HCT32	5962-86852	II 1/	-	54HC4020	/66311	II 5/	-
54LS32	/30501	I 1/	P	54HC4024	/66312	II 5/	-
54ALS323	/37602	II 5/	-	54HC4040	/66313	II 5/	-
54LS33	85126	II 2/	-	54HC4049	5962-86819	II 2/	-
54LS348	/36002	I 4/	-	54HC4050	5962-86820	II 2/	-
54F350	5962-86075	II 23/	-	54HC4075	5962-87722	II 1/	-
54F352	/33909	I 4/	-	54S412	/42101	IV 4/	-
54F353	/33910	I 4/	-	5442	/01001	III 4/	P
54LS353	85508	II 4/	-	54HC42	/65801	II 4/	-
54HC354	/66208	II 4/	-	54L42	/02901	IV 4/	-
54HC356	/66209	II 4/	-	54LS42	/30703	I 4/	P
54365	/16301	III 2/	P	5443	/01002	IV 4/	-
54F365	/35101	II 13/	-	54L43	/02902	IV 4/	-

MILITARY PARTS

TABLE VI- Cross Reference (MIL-STD-1562R) (Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
5444	/01003	IV 4/	-	54HC595	5962-86816	II 5/	-
54L44	/02903	IV 4/	-	54LS595	5962-86717	II 5/	-
5445	/01004	III 4/	G	54HC597	5962-86817	II 5/	-
54HC4520	/XXXXX	II 5/	-	54HC620	/65504	II 2/	-
54HC4538	5962-86886	II 3/	-	54HC623	/65505	II 2/	-
5446	/01006	III 4/	-	54LS629	81021	II 24/	-
54L46	/02904	IV 4/	-	54F64	/33401	I 1/	-
5447	/01007	III 4/	-	54S64	/07402	III 1/	P
54L47	/02905	IV 4/	-	54ALS640	/38501	II 2/	-
54LS47	/30704	I 4/	-	54HC640	/65506	II 2/	-
54S472	/20805	II 7/	-	54LS640	84161	II 2/	-
54S473	/20804	II 7/	-	54ALS641	/38502	II 2/	-
54S474	/20802	I 7/	-	54ALS642	/38503	II 2/	-
54S475	/20801	II 7/	-	54ALS643	/38504	II 2/	-
5448	/01008	III 4/	G	54HC643	/65507	II 2/	-
5449	/01009	IV 4/	-	54LS645	/38505	II 2/	-
54LS490	/32703	I 5/	-	54ALS645A	5962-84033	II 23/	-
5450	/00501	III 1/	P	54AS646	5962-87595	II 13/	-
54H50	/04001	IV 1/	-	54HC646	/65508	II 2/	-
5451	/00502	III 1/	P	54LS646	/32804	II 2/	-
54H51	/04002	IV 1/	-	54HC648	/65509	II 2/	-
54L51	/04101	IV 1/	-	54LS648	/32805	II 2/	-
54LS51	/30401	I 1/	P	54S65	/07403	III 1/	-
54S51	/07401	III 1/	P	54LS668	5962-86876	II 5/	-
54F521	/34701	I 1/	-	54HC670	/666XX	II 5/	-
5453	/00503	III 1/	P	54LS670	/31901	I 5/	P
54H53	/04003	IV 1/	-	54HC682	/661XX	II 4/	-
54F533	/34602	I 3/	-	54LS682	84151	II 4/	-
54HC533	/65404	II 3/	-	54HC684	/661XX	II 4/	-
54F534	/34106	I 3/	-	54LS684	84152	II 4/	-
54HC534	/65605	II 3/	-	54HC686	/661XX	II 4/	-
5454	/00504	III 1/	P	54HC688	5962-86818	II 4/	-
54H54	/04004	IV 1/	-	54HCT688	5962-86857	II 10/	-
54L54	/04102	IV 1/	-	54LS688	84153	II 4/	-
54LS54	/30402	I 1/	P	5470	/00206	III 3/	P
54F540	/33204	II 2/	-	54L71	/02101	III 3/	-
54HC540	/65710	I 2/	-	5472	/00201	III 3/	P
54HCT540	/65760	II 2/	-	54H72	/02201	III 3/	-
54LS540	/32404	I 2/	-	54L72	/02102	III 3/	-
54HC541	/65711	I 2/	-	54HC7266	/65105	II 1/	-
54HCT541	/65761	II 2/	-	5473	/00202	III 3/	P
54LS541	/32405	I 2/	-	54H73	/02202	III 3/	-
54H55	/04005	IV 1/	-	54HC73	/65301	II 3/	-
54L55	/04103	IV 1/	-	54L73	/02103	III 3/	-
54ALS560	/38104	II 5/	-	54LS73	/30101	I 3/	-
54ALS561	/38004	II 5/	-	5474	/00205	III 3/	P
54F563	/34603	I 3/	-	54ALS74	/37101	I 3/	-
54HC563	/65405	II 3/	-	54F74	/34101	I 3/	-
54HC564	/65606	II 3/	-	54H74	/02203	III 3/	-
54ALS568	/38105	II 5/	-	54HC74	/65302	I 3/	-
54ALS569	/38005	II 5/	-	54HCT74	/65309	II 3/	-
54S570	/20401	II 7/	-	54HCT74	5962-86853	II 5/	-
54S571	/20402	I 7/	-	54L74	/02105	III 3/	-
54S572	/20601	II 7/	-	54LS74	/30102	I 3/	P
54ALS573	/38201	I 3/	-	54S74	/07101	III 3/	P
54F573	/34604	I 3/	-	5475	/01501	III 5/	P
54HC573	/65406	I 3/	-	54HC75	/65401	II 3/	-
54HCT573	5962-86856	II 23/	-	54LS75	/31601	I 3/	-
54S573	/20602	I 7/	-	5476	/00204	III 3/	P
54ALS574	/37104	I 3/	-	54H76	/02204	III 3/	-
54HC574	/65604	I 3/	-	54LS76A	/30110	I 3/	P
54ALS576	/37105	II 3/	-	5477	/01502	III 5/	-
54ALS580	/38202	II 3/	-	54L78	/02104	III 3/	-
54HC590	/664XX	II 5/	-	5479	/00207	III 3/	-
54HC592	/664XX	II 5/	-	5480	/00604	III 4/	-
54LS592	5962-87621	II 5/	-	5482	/00601	III 4/	G
54HC593	/664XX	II 5/	-	5483	/00602	III 4/	P

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TABLE VI- Cross Reference (MIL-STD-1562R)(Cont'd)

Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
54LS83A	/31201	I 4/	-	5560	5962-86722	II 24/	-
54ALS832	84145	II 13/	-	5564-250	/22810	II 7/	G
5485	/15001	III 4/	-	5564-250	/22811	II 7/	-
54HC85	86013	II 4/	-	AD558T	/14401	II 16/	-
54LS85	/31101	I 4/	P	DS0056H	78008	III 13/	-
54S85	/08201	III 4/	-	DS0056J	78008	III 13/	-
54ALS857	/37901	I 4/	-	MH0056	78008	III 13/	-
5486	/00701	III 1/	P	I M5603A	/20201	IV 7/	-
54F86	/34501	I 1/	-	AD561	/13301	I 16/	-
54HC86	/65202	I 1/	-	562	/12101	I 16/	-
54L86	/02601	III 1/	-	I M5623	/20202	IV 7/	-
54LS86	/30502	I 1/	P	563	/12102	II 16/	-
54S86	/07501	III 1/	-	565	/12103	I 16/	-
54ALS873	/38203	II 3/	-	566	/12104	II 16/	-
54ALS874	/37106	II 3/	-	567	5962-87003	II 24/	-
54ALS876	/37107	II 3/	-	AD567	5962-87801	II 16/	-
54ALS880	/38204	II 3/	-	AD570	5962-86802	II 17/	-
5490	/01307	III 5/	-	AD571	/13401	II 17/	-
54L90	/02501	III 5/	-	AD573	/132XX	II 17/	-
54LS90	/31501	I 5/	-	574AT	/14002	II 17/	-
54C906	77056	II 2/	-	574AT	/14004	II 17/	-
5492	/01301	III 5/	P	574AU	/14003	II 17/	-
54LS92	/31510	I 5/	-	574AU	/14001	II 17/	-
54C922	5962-87521	II 4/	-	AD584S	/12801	I 19/	-
54C929	/23901	IV 6/	G	AD584T	/12802	I 19/	-
5493	/01302	III 5/	-	AD585	5962-87540	II 20/	-
54L93	/02502	III 5/	-	AD590	5962-87571	II 24/	-
54LS93	/31502	I 5/	-	061	/11901	II 9/	-
54C930	/23902	IV 6/	G	6108	/19007	I 18/	-
5495	/00901	III 5/	P	6116	/19001	II 18/	-
54L95	/02801	III 5/	-	6116	/29101	IV 6/	G
54LS95B	/30603	I 5/	P	6116	/29104	IV 6/	-
5496	/00902	III 5/	-	6116	/29105	IV 6/	-
54LS96	/30604	I 5/	-	6116-35	84036	II 6/	-
55107	/10401	I 13/	-	6116LA120	84036	II 6/	-
55108	/10402	I 13/	-	6116LA45	84036	II 6/	-
55110A	5962-87547	II 13/	-	6116SA45	84036	II 6/	-
55113	/10405	I 13/	-	6116LA55	84036	II 6/	-
55114	/10403	I 13/	-	6116SA55	84036	II 6/	-
55115	/10404	I 13/	-	6116LA70	84036	II 6/	-
55182	79008	II 13/	-	6116SA70	84036	II 6/	-
55183	79009	II 13/	-	6116LA90	84036	II 6/	-
55188	5962-86889	II 13/	-	6N134	81028	II 22/	-
55189	5962-86888	II 13/	-	6N140A	83024	II 22/	-
55189A	5962-86888	II 13/	-	6164-55	5962-85525	II 6/	-
5532A	/13102	I 9/	P	6164-70	5962-85525	II 6/	-
55325	/13001	I 15/	-	6168LA25	5962-86705	II 6/	-
55326	/13002	I 15/	-	6168SA25	5962-86705	II 6/	-
55327	/13003	I 15/	-	6168LA35	5962-86705	II 6/	-
5534A	/13101	I 9/	-	6168SA35	5962-86705	II 6/	-
SE5537	/12502	II 20/	-	6168LA45	5962-86705	II 6/	-
5539	5962-86064	II 9/	-	6168SA45	5962-86705	II 6/	-
55450	/12901	IV 13/	-	6168LA55	5962-86705	II 6/	-
55451	/12902	I 13/	-	6168SA55	5962-86705	II 6/	-
55452	/12903	I 13/	-	6168LA70	5962-86705	II 6/	-
55453	/12904	I 13/	-	6168SA70	5962-86705	II 6/	-
55454	/12905	I 13/	-	062	/11902	II 9/	-
55460	/12906	IV 13/	-	6208	/19008	I 18/	-
55461	/12907	I 13/	-	6216	/19003	II 18/	-
55462	/12908	I 13/	-	6268-35	5962-86705	II 6/	-
55463	/12909	I 13/	-	6268-45	5962-86705	II 6/	-
55464	/12910	II 13/	-	6268-55	5962-86705	II 6/	-
555	/10901	I 14/	P	6268-70	5962-86705	II 6/	-
555	/10903	III 14/	-	BUS-63105	5962-86049	II 13/	-
55500	86018	II 13/	-	BUS-63125	5962-87579	II 13/	-
55501	86018	II 13/	-	AD637	/147XX	II 24/	-
556	/10902	I 14/	P	064	/11903	II 9/	-

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TABLE VI- Cross Reference (MIL-STD-1562R) (Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
AD650	/13803	II 17/	-	7181	/01101	III 4/	-
6504	/24501	I 6/	-	IDT7187	/29203	II 6/	-
6504-8	81024	II 6/	-	072	/11905	II 9/	-
6504B	81024	II 6/	-	7226	5962-87802	II 16/	-
6508	/23901	IV 6/	G	LM723	/10201	I 12/	P
BUS-65112	5962-87535	II 22/	-	MM7280	/23505	IV 6/	-
6514	/24502	I 6/	P	MM7280	/23506	IV 6/	-
6514-8	81024	II 6/	-	733	84185	II 24/	-
6514B	81024	II 6/	-	074	/11906	II 9/	-
6516	/29102	II 6/	-	LM741A	/10101	I 9/	-
6516-1	/61001	II 6/	-	7C412-10	/25002	II 8/	-
6516-2	/61002	II 6/	-	7C412-12	/25001	II 8/	-
6516-3	/61003	II 6/	-	7C412-80	/25003	II 8/	-
6516B	84036	II 6/	-	LM747A	/10102	I 9/	P
65162	/29101	II 6/	-	7520	/12702	I 16/	-
65162	/29104	I 6/	-	7521	/12703	I 16/	-
65162	/29105	II 6/	-	7523	/12701	II 16/	-
65162B	84036	II 6/	-	7528	5962-87701	II 16/	-
6518	/23902	IV 6/	G	7541	/12704	I 16/	-
65262	/29103	II 6/	G	7555	/149XX	II 14/	-
65642	/29205	I 6/	-	7556	/149XX	II 14/	-
65643	/29206	II 6/	-	AD7572	5962-87591	II 16/	-
MCM6604A	/23602	IV 6/	-	7602	/20701	III 7/	-
MCM6604A	/23604	IV 6/	-	7603	/20702	III 7/	-
MCM6605	/23601	IV 6/	-	7610	/20301	III 7/	-
MCM6605	/23603	IV 6/	-	7611	/20302	III 7/	-
I M6654	/21901	IV 7/	-	76160	/21001	III 7/	-
6665	/24401	III 6/	G	76161	/21002	II 7/	-
6665	/24402	III 6/	-	76165	/21005	III 7/	-
6665	/24403	III 6/	-	7620	/20401	III 7/	-
674AT	/14006	II 17/	-	7621	/20402	III 7/	-
674AU	/14005	II 17/	-	76321	/21102	II 7/	-
R675B-3	/13602	II 19/	-	7640	/20801	III 7/	-
R675B-4	/13601	II 19/	-	7641	/20802	III 7/	-
6800	/40001	IV 8/	-	7642	/20601	III 7/	-
68000-10	82921	II 8/	-	76L42A	/02906	IV 4/	-
68000-6	/54001	I 8/	-	7643	/20602	III 7/	-
68000-8	/54002	I 8/	-	7644	/20603	II 7/	-
68020-12	5962-86032	II 8/	-	76641	82009	II 7/	-
68020-16	5962-86032	II 8/	-	1 CL7667	5962-87660	II 13/	-
6810	/40201	IV 5/	-	76L70	/02805	III 5/	-
68172	5962-87705	II 8/	-	7680	/20903	III 7/	-
MC6821	/40101	IV 8/	-	7681	/20904	III 7/	-
S6831B	/40301	IV 7/	-	M-7681P-8	79024	III 7/	-
68A316E	/40301	IV 7/	-	7684	/20901	III 7/	-
685	86008	II 10/	-	7685	/20902	III 7/	-
AM686	78018	II 10/	-	771	/11904	I 9/	-
AM687	78019	II 10/	-	77S180	/20903	II 7/	-
68881-12	5962-86021	II 8/	-	77S181	/20904	I 7/	-
68881-16	5962-86021	II 8/	-	77S184	/20901	II 7/	-
OP07	/13502	I 9/	-	77S185	/20902	I 7/	-
OP07A	/13501	I 9/	-	77S190	/21001	II 7/	-
LH0070-0	5962-86882	II 19/	-	77S191	/21002	I 7/	-
LH0070-1	5962-86882	II 19/	-	772	/11905	I 9/	-
LH0070-2	5962-86882	II 19/	-	774	/11906	I 9/	-
LM709	78007	III 9/	-	78G	/11702	III 12/	-
071	/11904	II 9/	-	78MG	/11701	III 12/	-
710	/10301	III 10/	-	7805	/10706	I 12/	P
711	/10302	III 10/	-	78M05	/10702	I 12/	-
714	/13502	I 9/	-	7812	/10707	I 12/	P
7C147	/28901	I 6/	-	78M12	/10703	I 12/	-
7C147	/28903	I 6/	-	7815	/10708	I 12/	P
7C148	/28902	II 6/	-	78M15	/10704	I 12/	-
7C148	/28904	II 6/	-	7820A	79008	II 13/	-
7164S55	5962-85525	II 6/	-	AD7820TQ	/146XX	II 17/	-
7164S70	5962-85525	II 6/	-	AD7820UQ	/146XX	II 17/	-
1 CM7170	5962-87653	II 8/	-	7824	/10709	I 12/	-

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TABLE VI- Cross Reference (MIL-STD-1562R)(Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
78M24	/10705	II 12/	-	82S11	/23102	IV 6/	-
7831	/10406	I 13/	-	82S11	/23108	IV 6/	-
7832	/10407	I 13/	-	82S115	/20803	I 7/	-
79G	/11802	III 12/	-	82S1153A	5962-87682	II 7/	-
79MG	/11801	III 12/	-	8212	/42101	IV 4/	-
7905	/11505	I 12/	-	82S123A	/20702	I 7/	-
79M05	/11501	I 12/	-	82S123A	/20704	I 7/	-
7912	/11506	I 12/	-	82S126A	/20301	I 7/	-
79M12	/11502	I 12/	-	82S126A	/20303	I 7/	-
7915	/11507	I 12/	-	82S129A	/20302	I 7/	-
79M15	/11503	I 12/	-	82S129A	/20304	I 7/	-
7924	/11508	II 12/	-	82S130	/20401	I 7/	-
79M24	/11504	II 12/	-	82S130A	/20403	I 7/	-
DAC-08	/11301	I 16/	-	82S131	/20402	I 7/	-
DAC-08A	/11302	I 16/	-	82S131A	/20404	I 7/	-
Z80ACPU	/48001	I 8/	-	82S136	/20601	II 7/	-
Z80ACTC	/48301	IV 8/	-	82S137A	/20602	I 7/	-
Z80ADMA	/48201	IV 8/	-	82S137A	/20604	I 7/	-
Z80API O	/48401	IV 8/	-	82S140	/20801	II 7/	-
Z80ASI O/2	/48101	IV 8/	-	82S141	/20802	I 7/	-
Z80BCPU	/48003	II 8/	-	82S16	86023	II 6/	-
Z80CPU	/48002	I 8/	-	82S180	/20903	II 7/	-
Z80CTC	/48302	IV 8/	-	82S181A	/20904	I 7/	-
Z80DMA	/48202	IV 8/	-	82S181A	/20909	I 7/	-
Z80PI O	/48402	IV 8/	-	82S184	/20901	II 7/	-
Z80SI O/2	/48102	IV 8/	-	82S185A	/20902	I 7/	-
NSC800	83013	II 8/	-	82S185A	/20910	I 7/	-
NSC800-4	83013	II 8/	-	82188	5962-87672	II 23/	-
Z8001	/52001	II 8/	-	82S190	/21001	III 7/	-
Z8001A	/52003	II 8/	-	82S191A	/21002	I 7/	-
Z8001B	80003	II 8/	-	82S191A	/21004	I 7/	-
Z8002	/52002	I 8/	-	82HS195	/21005	II 7/	-
Z8002A	/52004	I 8/	-	82S23A	/20701	I 7/	-
Z8002B	80003	II 8/	-	82S23A	/20703	I 7/	-
ADC0801	/145XX	II 17/	-	8224	/42201	IV 13/	-
M80186	85010	II 8/	-	82S2708	/20905	I 7/	-
M80186	85010	II 8/	-	8228	/42301	IV 5/	-
80287-10	5962-85133	II 8/	-	82288-6	5962-85149	II 8/	-
80287-6	5962-85133	II 8/	-	82288-8	5962-85149	II 8/	-
80287-8	5962-85133	II 8/	-	82HS321A	/21101	II 7/	-
Z8030	5962-85518	II 8/	-	82HS321A	/21102	II 7/	-
Z8030A	5962-85518	II 8/	-	82384-12	5962-87669	II 8/	-
80C31	85064	II 8/	-	82384-16	5962-87669	II 8/	-
8035L	/49002	IV 8/	-	8250	/15204	IV 4/	-
Z8036	85517	II 8/	-	8251	/15205	IV 4/	-
Z8036A	85517	II 8/	-	8251A	5962-87548	II 8/	-
80386-12	5962-87668	II 8/	-	8251A	5962-87548	II 8/	-
80386-16	5962-87668	II 8/	-	8252	/15206	IV 4/	-
8048	/49001	IV 8/	-	82C52	85015	II 8/	-
80C51	85064	II 8/	-	82C54	84065	II 8/	-
8080A	/42001	III 8/	-	8255A	5962-87570	II 8/	-
8085A	79010	III 8/	-	82C55A-5/B	84066	II 8/	-
8086	/53001	I 8/	-	82C55A/B	84066	II 8/	-
80C86	84052	II 8/	-	8259A	5962-87518	II 23/	-
8088	5962-87685	II 8/	-	82C59	5962-85016	II 8/	-
8096	/XXXXX	II 8/	-	82C59-5	5962-85016	II 8/	-
8097	85063	II 8/	-	82C59A	5962-85016	II 8/	-
8155/BQA	5962-87593	II 6/	-	82C59A-5	5962-85016	II 8/	-
8156/BQA	5962-87593	II 6/	-	S82S62	5962-87543	II 4/	-
MPY008HC2V	/50004	IV 8/	-	8264	/24401	III 6/	G
ADC0820BD	/146XX	II 17/	-	8264	/24402	III 6/	-
ADC0820CD	/146XX	II 17/	-	8264	/24403	III 6/	-
82S10	/23101	IV 6/	-	82720	5962-86088	II 8/	-
82S10	/23107	IV 6/	-	8282	84179	II 3/	-
82S100	/50202	I 7/	-	MD82C82	84067	II 2/	-
82S101	/50201	I 7/	-	8283	84179	II 3/	-
82S105	5962-86709	II 7/	-	MD82C83H	84067	II 2/	-

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MILITARY PARTS

TABLE VI- Cross Reference (MIL-STD-1562R) (Cont'd)

Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
8284	/XXXXX	II 13/	F	930	/03001	III 1/	-
82C84A	84068	II 13/	-	9300	/15901	IV 5/	-
8286	5962-86868	II 8/	F	93L00	/02804	III 5/	-
82C86	5962-87577	II 13/	-	9301	/15206	IV 4/	-
8287	5962-86868	II 8/	F	93L01	/02907	IV 4/	-
82C87	5962-87577	II 13/	-	9304	/00603	III 4/	-
82C88	84069	II 8/	-	9308	/01503	III 5/	-
82C89	5962-85528	II 8/	-	93L08	/04502	IV 5/	-
8X305	85502	II 8/	-	9309	/01404	III 4/	-
8X305-10	85502	II 8/	-	93L09	/04601	IV 4/	-
8X320	5962-85503	II 8/	-	93L10	/02504	IV 5/	-
8X350	5962-86052	II 6/	-	9311	/15201	IV 4/	-
8X350	5962-86052	II 6/	-	9312	/01402	III 4/	-
8397	85520	II 8/	-	93L12	/04602	IV 4/	-
Z8420	84186	II 8/	-	9314	/01504	III 5/	-
Z8420A	84186	II 8/	-	93L14	/04501	IV 5/	-
Z8430	83016	II 8/	-	93L16	/02505	IV 5/	-
Z8430A	83016	II 8/	-	93S16	5962-86727	II 5/	-
Z8442	83015	II 8/	-	9317	/15802	IV 4/	-
Z8442A	83015	II 8/	-	9318	/15603	IV 4/	-
Z8530	5962-87527	II 8/	-	93L18	/04301	IV 4/	-
Z8530A	5962-87527	II 8/	-	932	/03101	IV 2/	-
Z8536	83001	II 8/	-	9321	/15801	IV 4/	-
Z8536A	83001	II 8/	-	9322	/01405	III 4/	-
Z0858106	5962-87526	II 13/	-	93L22	/04603	IV 4/	-
Z0858110	5962-87526	II 13/	-	9324	/15002	III 4/	-
DAC87	/13701	II 16/	-	93L24	/04401	IV 4/	-
DAC87	/13702	II 16/	-	9328	/15902	IV 5/	-
DAC87	/13703	II 16/	-	93L28	/02803	III 5/	-
8751H-8	84190	II 8/	-	933	/03105	IV 2/	-
87C51	5962-87684	II 7/	-	9334	/16001	IV 5/	-
9064-15	82010	II 6/	-	9338	/15701	IV 5/	-
9064-20	82010	II 6/	-	9341	/01101	III 4/	-
9085A	79010	III 8/	-	93410	/23001	IV 6/	-
9093	/03304	IV 3/	-	93411	/23003	IV 6/	-
AM9128-12	81039	II 6/	-	93412	/23109	II 6/	-
AM9128-20	81039	II 6/	-	93L412	/23111	II 6/	-
AM9128-90	81039	II 6/	-	93415	/23101	II 6/	-
AM9130ADM	/23704	IV 6/	-	93415	/23105	II 6/	-
AM9130AFC	/23702	IV 6/	-	93415	/23107	II 6/	-
AM9130AFM	/23704	IV 6/	-	93L415	/23103	I 6/	-
AM9130CDM	/23703	IV 6/	-	93417	/20301	III 7/	-
AM9130CFC	/23701	IV 6/	-	93419	/23201	II 6/	-
AM9130CFM	/23703	IV 6/	-	9342	/01102	III 4/	-
AM91L30ADM	/23708	IV 6/	-	93L420	/23004	IV 6/	-
AM91L30AF	/23706	IV 6/	-	93421	/23002	IV 6/	-
AM91L30AFM	/23708	IV 6/	-	93422	/23110	I 6/	-
AM91L30CDM	/23707	IV 6/	-	93422A	/23114	I 6/	-
AM91L30CF	/23705	IV 6/	-	93L422	/23112	I 6/	-
AM91L30CFM	/23707	IV 6/	-	93L422A	/23115	I 6/	-
AM9140ADM	/23712	IV 6/	G	93425	/23102	I 6/	-
AM9140AFC	/23710	IV 6/	G	93425	/23106	I 6/	-
AM9140AFM	/23712	IV 6/	G	93425A	/23108	I 6/	-
AM9140CDM	/23711	IV 6/	G	93L425	/23104	I 6/	-
AM9140CFC	/23709	IV 6/	-	93L425A	/23113	I 6/	-
AM9140CFM	/23711	IV 6/	G	93427	/20302	III 7/	G
AM91L40ADM	/23716	IV 6/	-	93436	/20401	II 7/	-
AM91L40AFC	/23714	IV 6/	G	93438	/20801	II 7/	-
AM91L40AFM	/23716	IV 6/	G	93446	/20402	II 7/	-
AM91L40CDC	/23713	IV 6/	-	93448	/20802	II 7/	-
AM91L40CDM	/23715	IV 6/	G	93Z450	/20903	II 7/	-
AM91L40CFM	/23715	IV 6/	G	93Z451	/20904	II 7/	-
9150-25	5962-87592	II 6/	-	93Z451	/20909	II 7/	-
9150-35	5962-87592	II 6/	-	93452	/20601	II 7/	-
9150-45	5962-87592	II 6/	-	93453	/20602	II 7/	-
9218	/40301	IV 7/	-	93458	/50201	II 7/	-
AM9256	/XXXXX	II 6/	-	93459	/50202	II 7/	-

MILITARY PARTS
TABLE VI- Cross Reference (MIL-STD-1562R)(Cont'd)

Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO	Generic/ Industry number	M38510/ or DESC Drawing or MIL Drawing	Table number	NATO
93Z460	/20906	II 7/	-				
93Z461	/20905	II 7/	-				
93470	/23301	III 6/	-				
93471	/23302	III 6/	-				
93S48	5962-86726	II 23/	-				
935	/03002	III 1/	-				
93Z510	/21003	II 7/	-				
93Z511	/21002	I 7/	-				
93Z511	/21004	I 7/	-				
93Z565	5962-82009	II 7/	-				
936	/03003	III 1/	-				
93Z665	5962-82009	II 7/	-				
93Z665-45	/21204	II 7/	-				
93Z665-50	/21203	II 7/	-				
93Z665-55	/21202	II 7/	-				
93Z665-70	/21201	II 7/	-				
93Z667	5962-82009	II 7/	-				
9380	/00604	III 4/	-				
9382	/00601	III 4/	-				
9383	/00602	III 4/	-				
940	/03002	III 1/	-				
944	/03102	IV 2/	-				
945	/03301	IV 3/	-				
F9450	84169	II 8/	-				
946	/03004	III 1/	-				
948	/03302	IV 3/	-				
950	/03303	IV 3/	-				
951	/03201	IV 3/	-				
9513A	5962-85523	II 8/	-				
9519A	5962-87597	II 8/	-				
957	/03103	IV 2/	-				
958	/03104	IV 2/	-				
9601	/01204	III 3/	-				
9602	/01205	III 3/	-				
9614	/10403	I 13/	-				
9615	/10404	I 13/	-				
962	/03005	III 1/	-				
9622	5962-87522	II 13/	-				
9637A	5962-87524	II 13/	-				
9638	5962-87546	II 13/	-				
SBP9900A	/46001	V 8/	-				
AM99C641	/29202	II 6/	-				
99C68-45	5962-86705	II 6/	-				
99C68-55	5962-86705	II 6/	-				
99C68-70	5962-86705	II 6/	-				
99CL68-45	5962-86705	II 6/	-				
99CL68-55	5962-86705	II 6/	-				
99CL68-70	5962-86705	II 6/	-				
99C88-10	5962-85525	II 6/	-				
99C88-12	5962-85525	II 6/	-				
99C88-15	5962-85525	II 6/	-				
99C88-70	5962-85525	II 6/	-				
SBP9989	/46501	IV 8/	-				

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Description	M38510/	Device	Source
DIGITAL			
Arithmetic Functions			
ALU/Function Generator			
07801	54S181	Signetics	
Arithmetic Logic/Function Generator			
01101	54181	National	
30801	54LS181	Motorola	
Decoder/Demultiplexer			
07801	54S181	National	
Look-Ahead Carry Generator			
07802	54S182	TI	
4-Bit ALU			
33801	54F181	National	
4-Bit Full Adder			
R05451	4008B	GE/RCA	
05401	4008A	Sprague	
4-Bit Magnitude Comparator			
08201	54S85	Signetics	
	54S85	TI	
15001	5485	National	
	5485	Signetics	
31101	54LS85	Motorola	
	54LS85	National	
	54LS85	Signetics	
	54LS85	TI	
4-Bit Binary Full Adder			
31201	54LS83A	Motorola	
	54LS83A	National	
	54LS83A	TI	
31202	54LS283	Motorola	
	54LS283	National	
	54LS283	TI	
4-Bit Binary Full Adder (Look-Ahead Carry)			
00602	5483	National	
	5483	TI	
34201	54F283	◊ National	
Buffers/Inverters			
Dual Complementary Pair plus Inverter			
05301	4007A	GE/RCA	
	4007A	National	
	4007A	Sprague	
05351	4007UB	GE/RCA	
	4007UB	Sprague	
Dual 4-Input Buffer NAND Gate			
38407	54ALS40	TI	
Dual 4-Input NAND Buffer			
00301	5440	National	
	5440	TI	
02401	54H40	TI	
07201	54S40	Signetics	
30201	54LS40	Motorola	
	54LS40	TI	
Quad Gated Buffer, TS			
15302	54126	Signetics	
32301	54LS125	Motorola	
	54LS125	Signetics	
	54LS125	TI	
32302	54LS126	Motorola	
	54LS126	TI	
Quad True/Complement Buffer			
R05555	4041UB	GE/RCA	
Quad 2-Input Buffer NAND Gate			
38401	54ALS37	TI	
Quad 2-Input NAND Buffer			
00302	5437	National	
	5437	TI	
(Continued)			

Description	M38510/	Device	Source
Quad 2-Input NAND Buffer			
30202	54LS37	Motorola	
	54LS37	Signetics	
	54LS37	TI	
35202	54F38	National	
Quad 2-Input NAND Buffer, O/C			
00303	5438	National	
	5438	TI	
Quad 2-Input NOR Buffer			
30204	54LS28	Motorola	
38402	54ALS28	TI	
Hex Buffer/Converter, Inverting			
H05553	4049UB	GE/RCA	
R05503	4049A	GE/RCA	
05501	4009A	Sprague	
05503	4049A	National	
	4049A	Sprague	
05553	4049UB	Sprague	
Hex Buffer/Converter, Non-Inverting			
H05554	5040B	GE/RCA	
R05504	4050A	GE/RCA	
05502	4010A	Sprague	
05504	4050A	National	
	4050A	Sprague	
05554	5040B	National	
	4050B	Sprague	
Hex Buffer, TS			
16301	54365	Signetics	
32201	54LS365	Motorola	
	54LS365	National	
	54LS365	Signetics	
	54LS365	TI	
32203	54LS367	Motorola	
	54LS367	National	
	54LS367	Signetics	
	54LS367	TI	
38411	54ALS1034	TI	
Hex Buffer, Three State			
16303	54367	Signetics	
Hex Inverter			
H17401	4069UB	GE/RCA	
00105	5404	National	
	5404	Signetics	
	5404	TI	
02005	54L04	National	
03003	936	National	
07003	54S04	National	
	54S04	Signetics	
	54S04	TI	
17401	4069UB	Sprague	
30003	54LS04	Motorola	
	54LS04	National	
	54LS04	Signetics	
	54LS04	TI	
33002	54F04	Motorola	
	54F04	◊ National	
	54F04	Signetics	
	54F04	TI	
37006	54ALS04	TI	
65701	54HC04	National	
	54HC04	TI	
Hex Inverter/Buffer			
R17403	4502B	GE/RCA	
Hex Inverter, O/C			
00108	5405	National	
	5405	TI	
07004	54S05	TI	
30004	54LS05	Motorola	
	54LS05	National	
	54LS05	TI	

Description	M38510/	Device	Source
Hex Inverter, Schmitt Trigger			
65702	54HC14	National	
Hex Inverter, TS			
16304	54368	Signetics	
32202	54LS366	Motorola	
	54LS366	National	
	54LS366	TI	
32204	54LS368	Motorola	
	54LS368	National	
	54LS368	Signetics	
	54LS368	TI	
Octal Buffer, Inverting			
38301	54ALS240	TI	
Octal Buffer, Line Driver			
65704	54HC241	National	
	54HC241	TI	
65705	54HC244	National	
	54HC244	TI	
Octal Buffer, Line Driver, Inverting			
65703	54HC240	TI	
Counters			
Divide-by-8 Counter			
H05654	4022B	GE/RCA	
Divide-by-8 Counter/Divider, Decoded Output			
H05604	4022A	GE/RCA	
05604	4022A	National	
	4022A	Sprague	
Divide-by-12 Counter			
31510	54LS92	Motorola	
	54LS92	TI	
Fully Synchronous Decade Counter			
01305	54162	National	
31511	54LS162	Motorola	
	54LS162	TI	
Fully Synchronous 4-Bit Binary Counter			
01304	54163	National	
	54163	Signetics	
31512	54LS163	Motorola	
	54LS163	Signetics	
	54LS163	TI	
34302	54F163A	◊ National	
	54F163A	◊ Signetics	
38002	54ALS163	TI	
Presettable Divide-by-N Counter			
H05652	4018B	GE/RCA	
05602	4018A	National	
	4018A	Sprague	
05652	4018B	National	
	4018B	Sprague	
Synchronous, Preset Input, Mode Control, Look-Ahead Carry, Counter			
31506	54LS169A	National	
Synchronous Binary Up/Down Counter			
31509	54LS191	Motorola	
	54LS191	National	
	54LS191	Signetics	
	54LS191	TI	
Synchronous Decade Counter			
01303	54160	National	
31503	54LS160	Motorola	
	54LS160	TI	
Synchronous Decade Up/Down Counter			
31513	54LS190	Motorola	
	54LS190	TI	
Synchronous 4-Bit Binary Counter			
01306	54161	National	
	54161	Signetics	
	54161	TI	
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Description M38510/	Device	Source	Description M38510/	Device	Source	Description M38510/	Device	Source
DIGITAL						Flip-Flops		
Counters								
(Cont'd)								
Synchronous 4-Bit Binary Counter (Cont'd)			14-Bit Binary Counter			J-K Master Slave Flip-Flop (AND Inputs)		
31504	54LS161	Motorola	H05653	4020B	GE/RCA	00201	5472	TI
	54LS161A	National	05603	4020A	GE/RCA	J-K Master-Slave Flip-Flop (AND Inputs)		
	54LS161	Signetics		4020A	National	02102	54L72	National
	54LS161	TI	Decoders			J-K Positive Edge-Triggered Flip-Flop		
34301	54F161A	◊ National	BCD to Decimal Decoder			00206	5470	TI
	54F161A	◊ Signetics	30703	54LS42	Motorola	Dual "D" Flip-Flop with Set/Reset		
38001	54ALS161	TI		54LS42	National	R05151	4013B	GE/RCA
Binary Up Counter				54LS42	TI	Dual D-Type Edge-Triggered Flip-Flop		
32002	54LS197	Signetics	BCD to 7-Segment Decoder			00205	5474	National
Binary Up/Down Counter			30704	54LS47	Motorola		5474	TI
31508	54LS193	Motorola		54LS47	TI	02105	54L74	National
	54LS193	National	BCD-to-Decimal Decoder			Dual D-Type Flip-Flop		
	54LS193	Signetics	R05951	4028B	GE/RCA	H05151	4013B	GE/RCA
	54LS193	TI	01001	5442	National	05151	4013B	National
	54LS193	TI	05901	4028A	Sprague		4013B	Sprague
34304	54F193	◊ National	05951	4028B	Sprague	Dual D-Type Flip-Flop with Set/Reset		
38003	54ALS169	TI	BCD-to-Decimal Decoder/Driver, 15V Output			05101	4013A	National
Dual Decade Counter, Ripple			01007	5447	National		4013A	Sprague
32701	54LS390	TI	Dual 2-Line to 4-Line Decoder/Demultiplexer			Dual D-Type Master Slave Flip-Flop		
32703	54LS490	TI	30702	54LS139	Motorola	06101	10531	Motorola
Dual 4-Bit Binary Counter, Ripple				54LS139	National	06102	10631	Motorola
32702	54LS393	Motorola		54LS139	TI	Dual D-Type Positive Edge-Triggered Flip-Flop with Preset and Clear		
	54LS393	National	33702	54F139	Motorola	30102	54LS74	Motorola
	54LS393	Signetics		54F139	◊ National		54LS74	National
	54LS393	TI		54F139	Signetics		54LS74	Signetics
Decade Count Up/Down, Synchronous, Preset Input			Dual 2-to-4 Line Decoder/Demultiplexer				54LS74	TI
34404	54F192	◊ National	32601	54LS155	Motorola	37101	54ALS74	TI
Decade Counter				54LS155	TI	65302	54HC74	TI
31501	54LS90	Motorola	32602	54LS156	Motorola	Dual Flip-Flop		
	54LS90	TI		54LS156	TI	07101	54S74	◊ Signetics
Decade Counter, Divide-by-2 and 5			Dual 2-to-4-Line Decoder/Demultiplexer				54S74	TI
32003	54LS290	Motorola	07702	54S139	National	Dual J-K Flip-Flop		
	54LS290	TI	65803	54HC139	TI	02204	54H76	TI
Decade Counter/Divider, Decoded Output			3- to 8-Line Decoder/Demultiplexer			65304	54HC109	TI
R05651	4017B	GE/RCA	33701	54F138	Motorola	Dual J-K Flip-Flop, Negative Edge-Triggered with Preset and Clear		
05601	4017A	GE/RCA		54F138	◊ National	65305	54HC112	TI
	4017A	National		54F138	Signetics	Dual J-K Master Slave		
	4017A	Sprague		54F138	TI	00202	5473	National
05651	4017B	Sprague	3-Line to 8-Line Decoder/Multiplexer				5473	TI
Decade Counter, Ripple			37701	54ALS138	TI	Dual J-K Master Slave Flip-Flop		
01307	5490	National	3-to-8-Line Decoder/Demultiplexer			00203	54107	National
02501	54L90	National	07701	54S138	National		54107	TI
Decade Counter, Synchronous, Preset Input				54S138	TI	30101	54LS73	Motorola
34401	54F160A	◊ National	30701	54LS138	Motorola		54LS73	Signetics
34402	54F162A	◊ National		54LS138	National		54LS73	TI
Decade Up/Down				54LS138	Signetics	Dual J-K Master Slave Flip-Flop with Preset and Clear		
01309	54193	Signetics		54LS138	TI	00204	5476	National
Decade Up/Down Counter			65802	54HC138	National		5476	TI
31507	54LS192	Motorola		54HC138	TI	Dual J-K Master-Slave Flip-Flop		
	54LS192	National	8-Input Priority Encoder			H05152	4027B	GE/RCA
	54LS192	TI	36001	54LS148	TI	02103	54L73	National
4-Bit Binary Counter			36002	54LS348	TI	02104	54L78	National
01302	5493	National	Drivers			05102	4027A	GE/RCA
	5493	Signetics	Quad 2-Input NAND Buffer/Driver, O/C				4027A	National
02502	54L93	National	00805	5426	National		4027A	Sprague
31502	54LS93	Motorola	Hex Buffer/Driver, O/C High Voltage Output			05152	4027B	Sprague
	54LS93	National	00803	5407	National	06104	10535	Motorola
	54LS93	TI		5407	TI	Dual J-K Negative Edge-Triggered Flip-Flop		
4-Bit Binary Counter, Ripple			00804	5417	National	07102	54S112	National
32004	54LS293	Motorola		5417	TI		54S112	Signetics
	54LS293	TI	Hex Inverter Buffer/Driver, O/C High Voltage Output				54S112	TI
7-Bit Binary Counter			00801	5406	National	34103	54F112	Signetics
H05655	4024B	GE/RCA		5406	TI	Dual J-K Negative Edge-Triggered Flip-Flop Separate Preset and Clock (no clear)		
05605	4024A	GE/RCA	00802	5416	National	07103	54S113	National
	4024A	National		5416	TI		54S113	Signetics
	4024A	Sprague						
7-Stage Counter								
05655	4024B	Sprague						

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MILITARY PARTS—QPL Selection Guide (Cont'd)

Description M38510/ Device Source	Description M38510/ Device Source	Description M38510/ Device Source
DIGITAL		
Flip-Flops (Cont'd)		
Dual J-K Negative Edge-Triggered Flip-Flop with Preset and Clear	Hex Edge-Triggered Flip-Flop with Clear	Dual 4-Input NAND Gate, Expandable, DTL
30103 54LS112 Motorola	34101 54F174 Motorola	03001 930 National
54LS112 National	54F174 National	
54LS112 Signetics	54F174 Signetics	Dual 4-Input NAND Gate, O/C
54LS112 TI	54F174 TI	07007 54S22 TI
		30008 54LS22 Motorola
30104 54LS113 Motorola	34107 54F174 Motorola	54LS22 National
54LS113 National	54F174 National	54LS22 TI
54LS113 TI		
30105 54LS114 Motorola	Hex Edge-Triggered with Clear	Triple 3-Input AND Gate
54LS114 National	37201 54ALS174 TI	R17003 4073B GE/RCA
54LS114 TI		08001 54S11 National
	Octal D-Type Edge-Triggered Flip-Flop with Clear	54S11 Signetics
37103 54ALS112A TI	32501 54LS273 Motorola	54S11 TI
	54LS273 National	
	54LS273 Signetics	17003 4073B Sprague
	54LS273 TI	31001 54LS11 Motorola
		54LS11 National
	Octal D-Type Edge-Triggered Flip-Flop, Three State	54LS11 TI
	32503 54LS374 Motorola	
	54LS374 Signetics	34002 54F11 Motorola
	54LS374 TI	54F11 National
		54F11 Signetics
Dual J-K Positive Edge-Triggered Flip-Flop with Preset and Clear	37104 54ALS574 TI	54F11 TI
30109 54LS109 Motorola	37204 54ALS374 TI	
54LS109 National	65602 54HC374 National	37402 54ALS11 TI
54LS109 Signetics		65204 54HC11 TI
54LS109 TI		
34102 54F109 Motorola	Octal D-Type, Edge-Triggered, TS	Triple 3-Input AND Gate, O/C
54F109 National	34105 54F374 Motorola	31002 54LS15 Motorola
54F109 Signetics	54F374 National	54LS15 TI
	54F374 Signetics	
Dual J-K Type Positive Edge-Triggered Flip-Flop with Preset and Clear	Octal D-Type Flip-Flop, Three State	Triple 3-Input NAND Gate
37102 54ALS109 TI	65604 54HC574 TI	H05053 4023B GE/RCA
		R05053 4023B GE/RCA
Dual J-K Master Slave Flip-Flop with Preset and Clear	Octal D-Type Flip-Flop, TS	00103 5410 National
30110 54LS76 Motorola	65403 54HC373 National	5410 TI
54LS76 TI	54HC373 TI	
	65602 54HC374 TI	02003 54L10 National
Dual Master Slave Flip-Flop	Octal D-Type Flip-Flop with Enable	02303 54H10 TI
30108 54LS107 Motorola	32504 54LS377 Motorola	05003 4023A National
54LS107 TI	54LS377 Signetics	4023A Sprague
	54LS377 TI	
Quad D-Type Edge-Triggered Flip-Flop with Clear	65601 54HC273 TI	05053 4023B Sprague
30107 54LS175 Motorola		54S10 National
54LS175 National	Octal D-Type Positive Edge-Triggered Flip-Flop, TS	54S10 Signetics
54LS175 Signetics	34106 54F534 Motorola	54S10 TI
54LS175 TI	54F534 National	
34104 54F175 Motorola		30005 54LS10 Motorola
54F175 National		54LS10 National
		54LS10 Signetics
37202 54ALS175 TI		54LS10 TI
Quad D-Type Flip-Flop		33003 54F10 National
01702 54175 National	Dual 4-Input AND Gate	54F10 Signetics
54175 Signetics	R17002 4082B GE/RCA	54F10 TI
54175 TI	17002 4082B Sprague	
	31003 54LS21 Motorola	37002 54ALS10 National
07106 54S175 AMD	54LS21 National	54ALS10 TI
54S175 TI	54LS21 TI	
		65002 54HC10 National
33107 25LS175 Motorola	Dual 4-Input NAND Gate	54HC10 TI
65308 54HC175 TI	H05052 4012B GE/RCA	
	R05052 4012B GE/RCA	Triple 3-Input NAND Gate, DTL
	00102 5420 National	03005 962 National
Quad D-Type Three-State Flip-Flop	5420 TI	
36101 54LS173A Signetics		
	02002 54L20 National	Triple 3-Input NAND Gate, O/C
Quad D-Type Three-State Flip-Flop	02302 54H20 TI	00106 5412 TI
36101 54LS173A TI	05002 4012A National	30006 54LS12 Motorola
	4012A Sprague	54LS12 National
Hex D-Type Flip-Flop		54LS12 TI
01701 54174 National	05052 4012B Sprague	
54174 Signetics	07006 54S20 National	Quad 2-Input AND Gate
54174 TI	54S20 Signetics	01601 5408 National
	54S20 TI	08003 54S08 National
07105 54S174 AMD		54S08 Signetics
54S174 Signetics	30007 54LS20 Motorola	
54S174 TI	54LS20 National	17001 4081B Sprague
	54LS20 Signetics	31004 54LS08 Motorola
30106 54LS174 Motorola	54LS20 TI	54LS08 National
54LS174 National		54LS08 Signetics
54LS174 Signetics	33004 54F20 Motorola	54LS08 TI
54LS174 TI	54F20 National	
	54F20 Signetics	31005 54LS09 Motorola
33106 25LS174 Motorola	54F20 TI	34001 54F08 Motorola
25LS174 TI		54F08 National
		54F08 Signetics
65307 54HC174 TI	37003 54ALS20 TI	
	65003 54HC20 National	
Hex D-Type Master Slave Flip-Flop	54HC20 TI	
06103 10576 Motorola		

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Description M38510/ Device Source	Description M38510/ Device Source	Description M38510/ Device Source
DIGITAL Gates, AND/NAND (Cont'd)	8-Input NAND Gate (Cont'd)	Dual 4-Input OR Gate
Quad 2-Input AND Gate (Cont'd)	37004 54ALS30 TI	R17102 4072B GE/RCA
37401 54ALS08 TI	65004 54HC30 National	Triple 2-3-2-Input OR/NOR Gate
65203 54HC08 National	54HC30 TI	06003 10505 Motorola
54HC08 TI		Triple 3-Input NOR Gate
Quad 2-Input AND Gate, O/C	13-Input NAND Gate	H17103 4075B GE/RCA
01602 5409 National	07009 54S133 National	00404 5427 TI
	54S133 Signetics	05204 4025A GE/RCA
Quad 2-Input NAND Gate	37005 54ALS133 TI	4025A National
H05051 4011B GE/RCA	Gates, AND-OR/ AND-OR-Invert	4025A Sprague
R05051 4011B GE/RCA	Dual 2-Input 2-Wide AOI Gate	05254 4025B Sprague
00104 5400 National	H17201 4085B GE/RCA	17103 4075B Sprague
5400 Signetics	00502 5451 TI	30302 54LS27 Motorola
5400 TI	07401 54S51 National	54LS27 National
02004 54L00 National	17201 4085B Sprague	54LS27 TI
02304 54H00 TI	Dual 2-Input 2-Wide AOI Gate, Expandable	37302 54ALS27 TI
05001 4011A National	00501 5450 National	65102 54HC27 TI
4011A Sprague	5450 TI	Triple 3-Input OR Gate
05051 4011B Sprague	Dual 2-Input 4-Wide AOI Gate	R17103 4075B GE/RCA
06201 10504 Motorola	07401 54S51 Signetics	Triple 3-4-3-Input OR/NOR Gate
07001 54S00 National	Dual 2-2-Input AOI Gate	06004 10506 Motorola
54S00 Signetics	30401 54LS51 Motorola	Quad 2-Input Gate (3 NOR, 1 OR/NOR)
54S00 TI	54LS51 National	06002 10502 Motorola
30001 54LS00 Motorola	54LS51 TI	Quad 2-Input NOR Gate
54LS00 National	Quad AND/OR Select Gate	R05202 4001A GE/RCA
54LS00 Signetics	05352 4019B Sprague	R05252 4001B GE/RCA
54LS00 TI	Quad AND-OR Select Gate	00401 5402 National
33001 54F00 Motorola	H05352 4019B National	5402 TI
54F00 National	05302 4019A GE/RCA	02701 54L02 National
54F00 Signetics	4019A National	05202 4001A National
54F00 TI	4019A Sprague	4001A Sprague
37001 54ALS00 National	05352 4019B National	05252 4001B National
54ALS00 TI	2-Input AOI Gate	4001B Sprague
65001 54HC00 GE/RCA	07402 54S64 TI	07301 54S02 National
54HC00 National	2-Input 4-Wide AOI Gate	54S02 Signetics
54HC00 TI	00504 5454 National	54S02 TI
	5454 TI	30301 54LS02 Motorola
Quad 2-Input NAND Gate, DTL	2-Input 4-Wide AOI Gate, Expandable	54LS02 National
03004 946 National	H17202 4086B GE/RCA	54LS02 Signetics
Quad 2-Input NAND Gate, O/C	00503 5453 National	54LS02 TI
00107 5401 National	5453 TI	33301 54F02 Motorola
5401 TI	17202 4086B Sprague	54F02 National
00109 5403 National	2-2-2-3-Input AOI Gate	54F02 Signetics
5403 TI	30402 54LS54 Motorola	54F02 TI
02306 54H01 TI	54LS54 National	37301 54ALS02 National
07002 54S03 TI	54LS54 TI	54ALS02 TI
30002 54LS03 Motorola	4-2-3-2-Input AOI Gate	38402 54ALS1002 TI
54LS03 National	07402 54S64 National	65101 54HC02 National
54LS03 TI	33401 54F64 Motorola	54HC02 TI
30203 54LS38 Motorola	54F64 National	
54LS38 National	54F64 Signetics	Quad 2-Input OR Gate
54LS38 TI	Gates, OR/NOR	H17101 4071B GE/RCA
Quad 2-Input NAND O/C to 15V	triple 3-Input Triple 3-Input NOR Gate	16101 5432 Signetics
32102 54LS26 Motorola	H05254 4025B Sprague	17101 4071B Sprague
54LS26 TI	Dual 3-Input NOR Gate plus Inverter	30501 54LS32 Motorola
Quad-2-Input AND Gate	05201 4000A GE/RCA	54LS32 National
R17001 4081B GE/RCA	4000A Sprague	54LS332 National
Hex AND Gate	Dual 4-Input NOR Gate	54LS32 Signetics
06202 10597 Motorola	R05203 4002A GE/RCA	54LS32 TI
8-Input NAND Gate	R05253 4002B GE/RCA	33501 54F32 Motorola
00101 5430 National	05203 4002A National	54F32 National
5430 TI	4002A Sprague	54F32 Signetics
02001 54L30 National	65104 54HC4002 TI	37501 54ALS32 National
02301 54H30 TI	Dual 4-Input NOR Gate with Strobe	54ALS32 TI
07008 54S30 National	00402 5423 National	65201 54HC32 National
54S30 TI	00403 5425 TI	54HC32 TI
30009 54LS30 Motorola	Dual 4-Input NOR Gate with Strobe, Expandable	Quad 2-Input OR/NOR Gate
54LS30 National	00402 5423 TI	06001 10501 Motorola
54LS30 TI		4-5-Input OR/NOR Gate
(Continued)		06006 10509 Motorola

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MILITARY PARTS—QPL Selection Guide (Cont'd)

Description M38510/ Device Source	Description M38510/ Device Source	Description M38510/ Device Source
DIGITAL		
(Cont'd)		
Gates, Exclusive OR/NOR		
Triple 2-Input Exclusive OR/NOR Gate 06005 10507 Motorola		
Quad Exclusive OR Gate H17203 4070B National R17204 4077B GE/RCA 05303 4030A National 4030A Sprague		
17203 4070B Sprague 17204 4077B Sprague		
Quad 2-Input Exclusive NOR Gate, O/C 30303 54LS266 Motorola 54LS266 National 54LS266 TI		
65103 54HC266 TI		
Quad 2-Input Exclusive OR 30502 54LS86 Motorola 54LS86 National 54LS86 Signetics 54LS86 TI		
Quad 2-Input Exclusive OR Gate 00701 5486 National 5486 TI		
02601 54L86 National 07501 54S86 Signetics 54S86 TI		
65202 54HC86 TI		
Quad 2-Input, Totem Pole Outputs 34501 54F86 Motorola 54F86 ♦ National		
Latches		
Complementary Output 01501 5475 National		
Quad Bistable Latch 31601 54LS75 Motorola 54LS75 Signetics 54LS75 TI		
31604 54LS375 Motorola 54LS375 TI		
Quad NOR R/S Latch 05103 4043A Sprague		
Quad Set Reset Latch 31602 54LS279 Motorola 54LS279 National 54LS279 TI		
Octal D-Type Latch, TS, Cascadable 34604 54F573 National		
Octal D-Type Latch with Inverted Outputs, TS 34603 54F563 National		
8-Bit Addressable Latch R17601 4099B GE/RCA 31603 54LS259 Motorola		
8-Bit Addressable, with Clear 31605 54LS259B TI		
8-Bit Latch, Transparent D-Type, Three State 32502 54LS373 Motorola 54LS373 Signetics 54LS373 TI		
34601 54F373 ♦ National 54F373 Signetics		
35601 54F373 National 38201 54ALS573 TI		
8-Bit Transparent, D-Type, Inverting, Three-State 34602 54F533 ♦ Motorola 54F533 ♦ National		

Description M38510/ Device Source	Description M38510/ Device Source	Description M38510/ Device Source
8-Bit Transparent, D-Type, TS 37203 54ALS373 TI		
8-Bit Addressable Latch 31603 54LS259 National		
Multiplexers		
Dual 3-Input Multiplexer, Inverting, TS 33910 54F353 Motorola 54F353 ♦ National		
Dual 4-Channel Data Selector/Multiplexer 01403 54153 National 30902 54LS153 Motorola 54LS153 National 54LS153 Signetics 54LS153 TI		
33902 54F153 Motorola 54F153 ♦ National		
Dual 4-Input Multiplexer 01404 9309 National 07902 54S153 National 54S153 Signetics 54S153 TI		
Dual 4-Input Multiplexer, Inverting 33909 54F352 Motorola 54F352 ♦ National		
Dual 4-Input Multiplexer, TS 30908 54LS253 Motorola 54LS253 National 54LS253 TI		
33908 54F253 Motorola 54F253 National		
Dual 4-Input Multiplexer, Three State 07908 54S253 National 54S253 Signetics		
Quad 2-Input Data Selector/Multiplexer (Non-Inverting) 01405 54157 ♦ National		
Quad 2-Input Multiplexer, Inverting 07904 54S158 Signetics 54S158 TI		
30904 54LS158 Motorola 54LS158 National 54LS158 TI		
33904 54F158 National		
Quad 2-Input Multiplexer, Inverting, TS 30907 54LS258 Motorola 54LS258 National 54LS258 Signetics 54LS258 TI		
33907 54F258 National 54F258A National		
Quad 2-Input Multiplexer, Non-Inverting 07903 54S157 Signetics 54S157 TI		
30903 54LS157 Motorola 54LS157 National 54LS157 TI		
33903 54F157 National 54F157A ♦ National		
Quad 2-Input Multiplexer, Non-Inverting, TS 07906 54S257 AMD 54S257 TI		
30906 54LS257 Motorola 54LS257 National 54LS257 Signetics 54LS257 TI		
33906 54F257 National		
Quad 2-Input Multiplexer with Output Register 30909 54LS298 Motorola 35002 54F399 National 54F399 Signetics		

Description M38510/ Device Source	Description M38510/ Device Source	Description M38510/ Device Source
Quad 2-Input with Output Register 35001 54F398 National 54F398 Signetics		
Hex 2-Input Three-State Multiplexer 37901 54ALS857 TI		
8-Input Multiplexer 01406 54151 National 07901 54S151 Signetics 54S151 TI		
30901 54LS151 Motorola 54LS151 National 54LS151 TI		
33901 54F151A Motorola 54F151 National 54F151A ♦ National		
8-Input Multiplexer, Complementary Input, Strobe, TS 07905 54S251 Signetics 30905 54LS251 Motorola 54LS251 National 54LS251 TI		
33905 54F251 National 54F251A ♦ National		
16-Channel Data Selector/Multiplexer 01401 54150 National		
Multivibrators		
Monostable Multivibrator 01201 54121 National		
Retriggerable Monostable Multivibrator with Clear 01202 54122 National 01203 54123 National 54123 Signetics		
Dual Monostable Multivibrator R17504 4098B GE/RCA		
Dual Monostable Multivibrator, Schmitt Trigger Input 31402 54LS221 Motorola 54LS221 TI		
Dual Retriggerable Monostable Multivibrator with Clear 31401 54LS123 Motorola 54LS123 TI		
31403 54LS122 Motorola 54LS122 TI		
Dual One Shot Multivibrator 01205 9602 National		
One Shot Multivibrator 01204 9601 National		
Miscellaneous		
Bus Driver, Octal Inverter 65710 54HC540 TI		
Bus Transceiver, Quad Non-Inverting 34802 54F533 Motorola		
Bus Transceiver, Octal Non-Inverting 34803 54F245 Motorola 54F245 National 54F245 Signetics 54F245 TI		
Octal Bus Driver, Non-Inverting, Three State 33203 54F244 TI		
Remote Terminal Interface 55501 UT1553B UTMC (4305)		
Dual 4-Input NAND Schmitt Trigger 31301 54LS13 Motorola		
Quad Bus Transceiver 32801 54LS242 Motorola 54LS242 TI		
32802 54LS243 Motorola 54LS243 TI		

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Description M38510/ Device Source	Description M38510/ Device Source	Description M38510/ Device Source
DIGITAL		
Miscellaneous (Cont'd)		
Quad TTL to ECL OR/NOR Translator 06301 10524 Motorola 17701 4093B Sprague	2xSPST, Bipolar 12301 HI200 Siliconix	D/A Converter, 8-Bit 11301 DAC08 $\diamond$ PMI (3017) DAC08 Raytheon (3025)
Quad 2-Input NAND Gate Schmitt Trigger 65005 54HC132 National	2xSPST, CMOS 10502 5041 GE/Intersil 11601 DG300 GE/Intersil (2671) DG300 Siliconix	11302 DAC08A PMI (3017) DAC08A Raytheon (3025)
Quad 2-Input NAND Schmitt Trigger 31303 54LS132 Motorola 54LS132 Signetics	11605 DG304 Siliconix	D/A Converter, 10-Bit 12702 7520 AD 7520 GE/Intersil
Hex Bus Driver 35101 54F365 National	2xSPST, JFET 11101 DG181A GE/Intersil DG181A Siliconix	13301 AD561 AD (2411, 2462)
Hex Schmitt Trigger, Inverting 15102 5414 National 31302 54LS14 Motorola 54LS14 Signetics	11102 DG182A GE/Intersil DG182A Siliconix	D/A Converter, 12-Bit 12101 562 AD 12103 565 AD
Octal Bus Driver 65711 54HC541 TI	4xSPST, CMOS H05852 4066B GE/RCA R05852 4066B GE/RCA 05801 4016A Sprague 05802 4066A Sprague 05852 4066B Sprague 12302 DG201 GE/Intersil 201 Harris DG201 Siliconix	Line Drivers and Receivers
Octal Bus Driver, Inverting 32401 54LS240 Motorola 54LS240 National 54LS240 Signetics 54LS240 TI	SPST, CMOS 10501 5040 GE/Intersil	Differential Line Receiver 10401 55107 Motorola 55107 National 55107 TI
32404 54LS540 TI	2xSPDT, CMOS 10504 5043 GE/Intersil 11604 DG303 GE/Intersil DG303 Siliconix	10402 55108 TI
Octal Bus Driver, Inverting, Three State 33201 54F240 Motorola 54F240 $\diamond$ National 54F240 Signetics 54F240 TI	11608 DG307 Siliconix	Memory Driver 13001 55325 SiliconG 55325 TI
33204 54F540 National	2xSPDT, JFET 11107 DG190A GE/Intersil DG190A Siliconix	13002 55326 SiliconG 55326 TI
Octal Bus Driver, Non-Inverting, Three State 32402 54LS241 Motorola 54LS241 National 54LS241 Signetics 54LS241 TI	11108 DG191A GE/Intersil DG191A Siliconix	13003 55327 TI
32403 54LS244 Motorola 54LS244 National 54LS244 Signetics 54LS244 TI	SPDT, CMOS 10503 5042 GE/Intersil 11602 DG301 GE/Intersil DG301 Siliconix	Dual Differential Line Driver 10403 9614 National 55114 TI
32405 54LS541 TI	11606 DG305 Siliconix	Dual Differential Line Driver, Three-State 10405 55113 TI
33202 54F241 $\diamond$ National 54F241 $\diamond$ Signetics 54F241 $\diamond$ TI	SPDT, JFET 11105 DG187A GE/Intersil DG187A Siliconix	Dual Differential Line Receiver 10404 9615 National 55115 TI
33203 54F244 $\diamond$ National 54F244 Signetics	11106 DG188A GE/Intersil DG188A Siliconix	Dual Peripheral AND Driver 12902 55451 TI 12907 55461 TI
38303 54ALS244A TI	2xDPST, CMOS 10506 5045 GE/Intersil 11603 DG302 GE/Intersil DG302 Siliconix	Dual Peripheral OR Driver 12904 55453 TI
Octal Bus Transceiver, Non-Inverting 65503 54HC245 TI	11607 DG306 Siliconix	Dual 4-Input Positive NAND Line Driver 08101 54S140 Signetics
Octal Bus Transceiver, Three State 32803 54LS245 Motorola 32803 Signetics 54LS245 TI	2xDPST, JFET 11103 DG184A GE/Intersil DG184A Siliconix	Peripheral Drivers
9-Bit Odd/Even Parity Generator/Checker 01901 54180 National 32901 54LS280 Motorola 54LS280 TI	11104 DG185A GE/Intersil DG185A Siliconix	Driver, 7-Channel 14101 2001 Sprague 14102 2002 Sprague 14103 2003 Motorola 2003 Sprague
34901 54F280 $\diamond$ National 54F280 Signetics	DPST, CMOS 10505 5044 GE/Intersil	14104 2004 Sprague 14105 2005 Sprague
MICROPROCESSORS		
Microprocessor 48002 Z80 Zilog	Quad Bilateral Switch 05851 4016B Sprague	Driver, 8-Channel 14106 2801 Sprague 14107 2802 Sprague 14108 2803 Sprague 14109 2804 Sprague 14110 2805 Sprague
52004 Z8002A CPU Zilog	4-Channel Multiplexer Differential, Latched 19008 6208 GE/Intersil 509 Siliconix	Dual Peripheral NAND Driver 12903 55452 TI 12908 55462 TI
53001 8086 $\diamond$ Intel	8-Channel Multiplexer 19007 6108 GE/Intersil 6108 Siliconix	Dual Peripheral NOR Driver 12905 55454 TI
		Dual Peripheral OR Driver 12909 55463 TI

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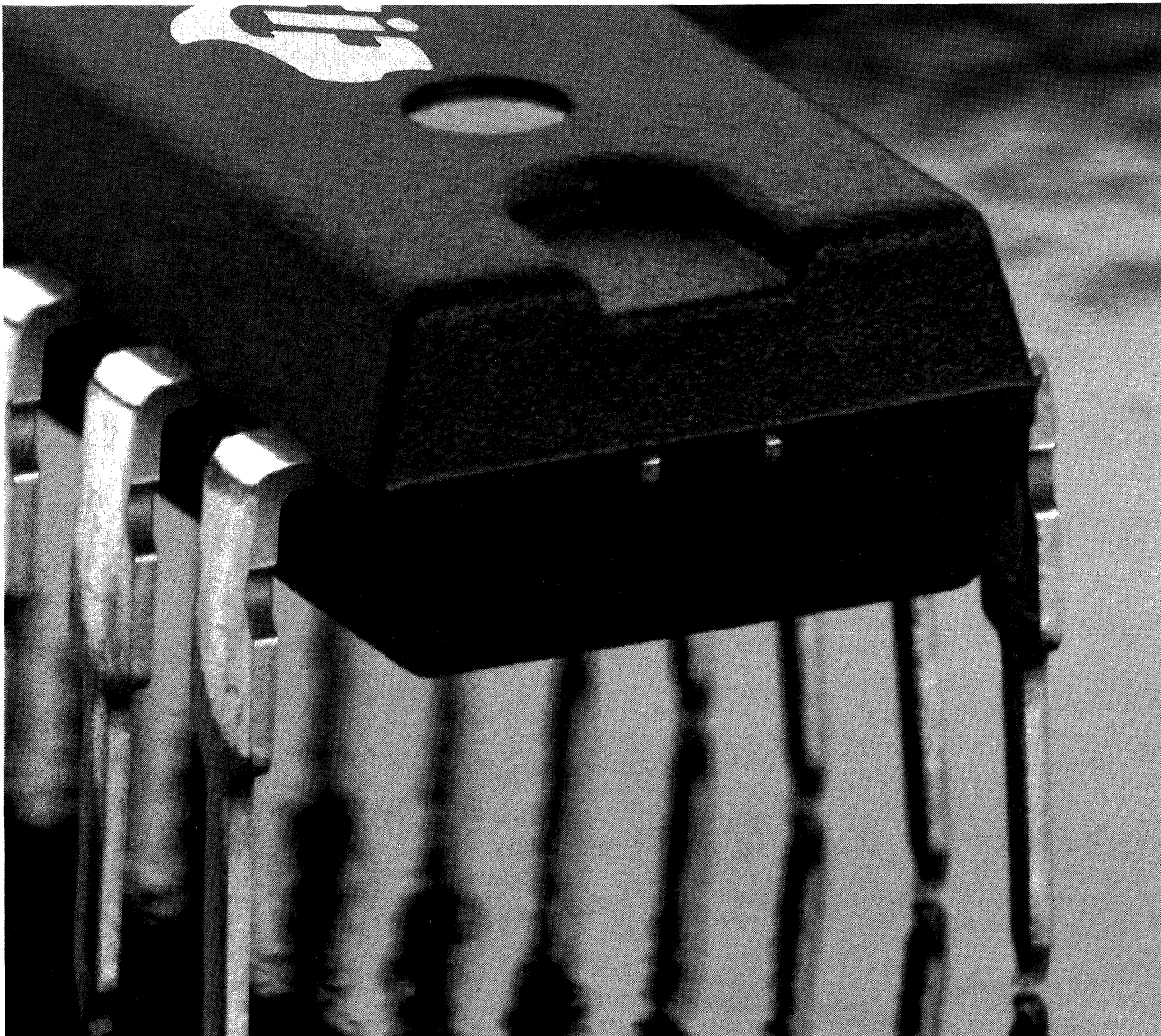
MILITARY PARTS—QPL Selection Guide (Cont'd)

Description M38510/ Device	Source	Description M38510/ Device	Source	Description M38510/ Device	Source
LINEAR		Quad Operational Amplifier 11005 LM124 National LM124 Raytheon (3025)		Miscellaneous	
Amplifiers		Comparators		Multiplier/Divider	
Operational Amplifier		Voltage Comparator		13901 534T AD	
10101 741 National		10301 710 National		13903 532S AD	
LM741A PMI		10304 111 National		Voltage Reference	
741 Raytheon		111 PMI		12801 584S AD	
10103 LM101A National		111 Raytheon		MEMORY	
LM101A Raytheon (3024)		34701 54F521 National		RAMs	
LM101A SiliconG		54F521 TI		256x4, TS	
10104 LM108A LinearTech		Dual Voltage Comparator		23110 93422 (60 ns) National	
LM108A National		10302 711 National		23112 93L422 (75 ns) Motorola	
LM108A PMI		10305 LH2111 National		93L422 (75 ns) National	
LM108A Raytheon (3024)		LH2111 Raytheon (3025)		23114 93422a (45 ns) National	
10107 LM118 AMD		11202 LM193 National		23115 93L422A (55 ns) National	
LM118 LinearTech		Quad Voltage Comparator		512x9, TS	
LM118 ♦ National		11201 139 AMD		25001 MKB4501-81 SGS-Thomson	
11401 LF155 LinearTech		LM139 National		25002 MKB4501-80 SGS-Thomson	
LF155 National		139 National		25003 MKB4501-88 SGS-Thomson	
LF155 PMI		LM139 PMI		1024x1, OC	
11402 LF156 LinearTech		139 Raytheon		23103 93L415 (60 ns) National	
PM156 LinearTech		Timers		1024x1, TS	
PM156 National		Timer		23102 93425 (60 ns) National	
LF156 PMI		10901 555 National		23104 93L425 (70 ns) National	
PM156 PMI		555 Signetics		23106 93425 ♦ National	
11403 PM157 PMI		Dual Timer		23108 93425A (45 ns) National	
11404 LF155A LinearTech		10902 556 Signetics		23113 93L425A (50 ns) National	
LF155A PMI		Voltage Regulators		1024x4, TS	
11405 LF156A LinearTech		Voltage Reference		23806 2148H Intel	
PM156A LinearTech		12802 AD584T AD (2426, 2462)		24502 HM6514 ♦ Harris (2748)	
PM156A ♦ PMI		13902 534S AD		2048x8, TS	
11406 PM157A PMI		Voltage Regulator		29102 6516 Harris	
12202 HA2600 Harris		10201 LM723 National		29104 65162 Harris	
12203 HA2620 ♦ Harris		LM723 SiliconG		4096x1, TS	
12204 HA2500 Harris		10701 LM109 National		23801 2147H (85 ns) Intel	
12205 HA2510 Harris		10702 78M05 National		23803 2147H (70 ns) Intel	
12206 HA2520 ♦ Harris		10703 78M12 National		23805 2147H (55 ns) Intel	
13101 5534A Raytheon		10704 78M15 National		23807 2147H (45 ns) Intel	
13501 OP07A LinearTech		10706 7805 National		24501 6504 Harris	
OP07A PMI		10707 7812 National		28901 7C147 (35 ns) Cypress	
4021B PMI		10708 7815 National		28903 7C147 (55 ns) Cypress	
OP07A Raytheon (3024)		10709 7824 National		8192x8	
13502 714 LinearTech		11501 79M05 National		29205 65642 Harris	
714 PMI		11502 79M12 National		16384x1, TS	
714 Raytheon		11503 79M15 National		24001 4116 (200 ns) SGS-Thomson	
13503 OP07 LinearTech		11505 7905 National		24002 4116 (250 ns) SGS-Thomson	
OP07 ♦ PMI		7905 Siliconix		29103 65262 Harris	
OP07 Raytheon (3024)		11506 7912 National		16384x4	
Sample/Hold Amplifier		11507 7915 National		61302 51C98 Intel	
12501 LF198 LinearTech		11703 LM117H LinearTech		61303 51C98 Intel	
Dual Operational Amplifier		LM117H National		16384x8	
10102 747 National		LM117H Siliconix		61301 51C98 Intel	
747 Raytheon		11704 LM117K LinearTech		65536x1, TS	
10105 LH2101A National		LM117K National		24401 4564 (150 ns) SGS-Thomson	
LH2101A Raytheon (3024)		LM117K Siliconix		24402 4564 (150 ns) SGS-Thomson	
LH2101A Signetics		LM117K Unitrode		24403 4564 (200 ns) SGS-Thomson	
10106 PM2108A LinearTech		11706 LM138K LinearTech		262144x1	
PM3108A National		LM137H LinearTech		24602 MT1257-12 MicronTech	
PM2108A PMI		LM137H National		24603 MT1259-12 MicronTech	
PM2108A Raytheon		11804 LM137K LinearTech		24604 MT1259-15 MicronTech	
10108 1558 National		Transistor Arrays		PROMs	
11905 LF153 National		Transistor Array		32x8, OC	
772 National		10802 3045 National		20701 82S23 Signetics	
13102 5532A Raytheon		14103 2003 SiliconG		20703 82S23A Signetics	
Quad Operational Amplifier				32x8, TS	
11001 LM148 National				20702 54S288 National	
LM148 Raytheon (3025)				82S123 Signetics	
11003 4156 Raytheon				20704 82S123A Signetics	
4136 National					
4136 PMI					
4136 Raytheon					
(Continued)					

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Description M38510/	Device	Source	Description M38510/	Device	Source	Description M38510/	Device	Source
MEMORY						Programmable Logic		
PROMs (Cont'd)						FPLA		
256x4, OC			Dual 4-Bit Static S.R.			50201	82S101	Signetics
20301	82S126	Signetics	05703	4015A	GE/RCA	50202	82S100	Signetics
20303	82S126A	Signetics		4015A	National			
				4015A	Sprague			
256x4, TS			4-Bit Bidirectional, Cascadable S.R.					
20302	54S287	National	33601	54F194	National			
	82S129	Signetics		54F194	Signetics			
20304	82S129A	Signetics	4-Bit Parallel Access S.R.					
			00901	5495	National			
512x4, OC			02801	54L95	National			
20401	82S130	Signetics	30603	54LS95	Motorola	50301	PAL10H8	MMI
20403	82S130A	Signetics		54LS95	National	50302	PAL12H6	MMI
				54LS95B	Signetics	50303	PAL14H4	MMI
512x4, TS				54LS95	TI	50306	PAL10L8	MMI
20402	54S571	National	4-Bit Parallel In, Parallel Out, Cascadable S.R.			50307	PAL12L6	MMI
	82S131	Signetics	30607	54LS395A	Signetics	50308	PAL14L4	MMI
20404	82S131A	Signetics		54LS395	TI	50401	PAL16L8A	MMI
512x8, TS			4-Bit Parallel In, Parallel Out, Right/Left S.R.				PAL16L8A	TI
20802	54S474	National	30606	54LS295	Signetics	50402	PAL16R8A	MMI
	82S141	Signetics		54LS295	TI		PAL16R8A	TI
20803	82S115	Signetics	4-Bit Parallel In, Parallel Out, S.R.			50403	PAL16R6A	MMI
1024x4			30602	54LS195	Motorola		PAL16R6A	TI
20602	5353-1	MMI		54LS195	Signetics	50404	PAL16R4	MMI
1024x4, TS				54LS195	TI		PAL16R4A	TI
20602	54S573	National	30606	54LS295B	Signetics	50407	PAL16L8A-2	MMI
	82S137	Signetics	4-Bit Universal Bidirection S.R.				PAL16L8A-2	TI
20604	82S137A	Signetics	07601	54S194	AMD	50408	PAL16R8A-2	MMI
				54S194	TI		PAL16R8A-2	TI
1024x8, TS			4-Bit Universal Bidirectional S.R.			50409	PAL16R6A-2	MMI
20904	77S181	National	30601	54LS194	Motorola		PAL16R6A-2	TI
	29631	Raytheon		54LS194	National	50410	PAL16R4A-2	MMI
	82S181	Signetics		54LS194	TI		PAL16R4A-2	TI
20905	82S2708	Signetics	4-Bit Universal S.R.			50501	PAL20L8A	MMI
20909	82S181A	Signetics	00905	54194	National	50502	PAL20R8A	MMI
				54194	Signetics	50503	PAL20R6A	MMI
2048x4			4x4 Register File, TS			50504	PAL20R4A	MMI
20902	77S185	National	31901	54LS670	Motorola			
	29651	Raytheon		54LS670	National			
	82S185	Signetics	5-Bit S.R.					
2048x4, TS			30604	54LS96	TI			
20908	53S841	MMI	8-Bit Asynchronous Parallel In/Serial Out or Synchronous Serial In/Out S.R.					
2048x4, TS			R057054	4021B	GE/RCA			
20910	82S185A	Signetics	8-Bit Parallel Load S.R., Complementary Outputs					
2048x8			30608	54LS165	Motorola			
21002	77S191	AMD		54LS165	TI			
2048x8, TS			8-Bit Parallel-In, Serial-Out S.R.					
21002	93Z511	National	30609	54LS166	Motorola			
	82S191	Signetics		54LS166	TI			
21004	93Z511	National	8-Bit Serial In, Parallel Out, S.R.					
	82S191A	Signetics	30605	54LS164	Motorola			
22702	X2816A-35	Xicor (3411, 3451)		54LS164	National			
2048x8, TS				54LS164	Signetics			
21002	77S191	National	8-Bit Serial-In Parallel-Out S.R.					
	29681	Raytheon	00903	54164	Signetics			
4096x4, TS			8-Bit Static S.R. Asynchronous					
21005	76165	Signetics	H05754	4021B	GE/RCA			
4096x8, TS			05704	4021A	GE/RCA			
21101	82HS321A	Signetics		4021A	National			
8192x8				4021A	Sprague			
22808	2864-250	SEEQ	05754	4021B	Sprague			
8192x8, TS			18-Bit Static S.R.					
2864-350	SEEQ		05701	4006A	GE/RCA			
32768x8, TS				4006A	National			
22401	27256-250	Intel	18-Bit Static S.R. (Synchronous)					
22402	27256-200	AMD	H05752	4014B	GE/RCA			
	27256-200	Intel	05702	4014A	GE/RCA			
				4014A	National			
Shift Registers			64-Bit Static S.R.					
Dual 4-Bit Serial Input, Parallel Output, S.R.			05705	4031A	GE/RCA			
R05753	4015B	GE/RCA						

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INTRODUCTION TO DIGITAL

Digital devices are listed by major product families: CMOS, ECL, GaAs, or TTL, and within them by functional groups such as arithmetic, buffers and inverters. The adjacent table shows how these families and functional groups are organized. Digital circuits not in the major logic families are listed under the heading Digital-Special.

A separate guide for circuits specifically directed to Digital Signal Processing (DSP) applications is included within the Digital section. Some of these circuits may also be repeated in the Digital families, the Interface, or Microprocessor portions of IC Master.

A few digital devices, such as watch, clock, speech and music circuits, are not covered in the digital section, but are included in the Linear — Consumer guide.

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Digital Logic Topics

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DIGITAL—CMOS

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Arithmetic Functions				Address Comparator, 12-Bit HC HD74HC679 Hitachi HD74HC680 Hitachi				Equality Comparator, 8-Bit HC CD54HC688 † GE/RCA (2641, 2649) CD74HC688 GE/RCA (2641, 2649) HD74HC688 Hitachi 74HC688 † Signetics (3057) TC74HC688 Toshiba (3340) TC74HC688A Toshiba (3340)			
Adder				Address Comparator, 12-Bit to 4-Bit AHCT KS54AHCT679 † Samsung KS54AHCT680 † Samsung KS74AHCT679 Samsung (3035) KS74AHCT680 Samsung (3035)				HCT CD54HCT688 † GE/RCA (2641, 2649) CD74HCT688 GE/RCA (2641, 2649) GD74HCT688 † GoldStar (2709) HD74HCT688 Hitachi 74HCT688 † Signetics (3057)			
HC	CD54HC583 † GE/RCA (2641) CD74HC583 GE/RCA (2641) 74HC583 Signetics (3057)			HC	SN54HC679 † TI SN54HC680 † TI SN74HC679 TI SN74HC680 TI			Fast Carry Look Ahead, 32-Bit ACT 54ACT11882 † TI 74ACT11882 TI (3310)			
HCT	CD54HCT583 † GE/RCA (2641) CD74HCT583 GE/RCA (2641) 74HCT583 Signetics (3057)			Address Comparator, 16-Bit HC HD74HC677 Hitachi HD74HC678 Hitachi				Fast Fourier Transform Controller and ALU, 16-Bit, 20 MHz C TMS2310 TRWLSI			
Adder, NBCD (natural binary coded decimal) 4XXX GD4560B GoldStar MC14560BA † Motorola (2947) MC14560BC Motorola (2947) TC4560B Toshiba (3341)				Address Comparator, 16-Bit to 4-Bit HC SN54HC677 † TI SN54HC678 † TI SN74HC677 TI SN74HC678 TI				Fixed-Point Multiplier (8x8) ADSP1080A AD (2436) ADSP1081A AD (2436, 2462)			
Adder, Triple Serial, Negative Logic, with Internal Carry 4XXX CD4038A † GE/RCA (2639) CD4038AE GE/RCA (2639) CD4038B † GE/RCA (2639) CD4038BE GE/RCA (2639) MC14038BA † Motorola (2947) MC14038BC Motorola (2947) HCC4038B † SGS-Thomson HCF4038B † SGS-Thomson TC4038B Toshiba (3341)				Address Generator, 16 Bit with Look-Ahead Pipeline ADSP1410J AD (2438, 2462) ADSP1410K AD (2438, 2462) ADSP1410S † AD (2438, 2462) ADSP1410T † AD (2438, 2462)				Fixed-Point Multiplier (12x12) ADSP1012A † AD (2436, 2462)			
Adder, Triple Serial, Positive Logic, with Internal Carry 4XXX CD4032B † GE/RCA (2639) CD4032BE GE/RCA (2639) MC14032BA † Motorola (2947) MC14032BC Motorola (2947) HCF4032B † SGS-Thomson TC4032B Toshiba (3341)				ALU Function Generator AC 74AC11181 TI (3310)				Fixed-Point Multiplier (16x16) ADSP1016A † AD (2436, 2462)			
Adder, 4-Bit, Full AC CD54AC283 † GE/RCA (2643) CD74AC283 GE/RCA (2643)				Arithmetic Logic Unit (ALU), 16-bit Cascadable S614381 Gould/AMI				Fixed-Point Multiplier (24x24) ADSP1024A AD (2436, 2462)			
ACT CD54ACT283 † GE/RCA (2643) CD74ACT283 GE/RCA (2643)				Arithmetic Logic Unit/Function Generator ACT 54ACT11181 † TI 74ACT11181 TI (3310)				Floating Point Accelerator, MIL-STD-1750A, 8 MFLOPs C TMC3202 TRWLSI			
C MM54C83 † National MM74C83 National				Arithmetic Logic Unit, 32-Bit AM29C332 AMD				Floating Point Chipset (multiplier and ALU) ADSP3211 AD (2437) ADSP3212 AD (2437) ADSP3221 AD (2437) ADSP3222 AD (2437, 2455)			
Cell HC SN74283-Cell † TI CD54HC283 † GE/RCA (2640) CD74HC283 GE/RCA (2640) GD74HC283 † GoldStar (2709) HD74HC283 Hitachi HD74HC83 Hitachi MC74HC283 Motorola MM54HC283 † National MM74HC283 National M74HC283 SGS-Thomson 74HC283 Signetics (3057) SN54HC283 † TI SN74HC283 TI TC74HC283 Toshiba (3340) TC74HC283A Toshiba (3340)				Barrel-Shifter, 32-bit LSH32-1C † LogicDev LSH32-1M † LogicDev				Floating Point Divider, 32-Bit TMC3210 TRWLSI			
HCT CD54HCT283 † GE/RCA (2640) CD74HCT283 GE/RCA (2640) GD74HCT283 GoldStar (2709) 74HCT283 Signetics (3057)				Bit Multiplier, 2's Complement (12x12) MPY012-1 IMI MPY012-5 IMI				Floating Point Multiplier and ALU, 32-Bit TMC3032 TRWLSI TMC3032-1 TRWLSI TMC3033 TRWLSI TMC3033-1 TRWLSI			
4XXX CD4008B † GE/RCA (2639) CD4008BE GE/RCA (2639) GD4008B † GoldStar (2710) CD4008A † Micrel CD4008B † Micrel MC14008BA † Motorola (2947) MC14008BC Motorola (2947) CD4008BC National CD4008BM † National F4008BC National F4008BM † National HCC4008B † SGS-Thomson HCF4008B SGS-Thomson HEF4008B Signetics 883C4008B † Sprague TC4008B Toshiba (3341)				Cache Address Comparator (512x8 Internal RAM) ACT TACT2150-20 TI (3298) VT7150-20 VLSI Tech (3346, 3361)				Floating Point Processor ACT SN74ACT8837 TI (3290, 3297)			
Adder-Subtractor L4C381-1C † LogicDev L4C381-1M † LogicDev				Cache Address Comparator, 512x9 ACT TACT2150-30 TI (3298) VT7150-30 VLSI Tech (3346, 3361)				Floating Point Processor, 32-Bit AM29C325 AMD L64132 LSI Logic L64132A LSI Logic L64132B LSI Logic			
				Comparator HC HCC4585B SGS-Thomson				Floating Point Processor, 64-Bit ACT SN74ACT8847 TI (3290, 3295, 3297)			
				Comparator, 8-Bit HCT P54PCT521 Performance P54PCT521A † Performance P54PCT521B † Performance P74PCT521 Performance P74PCT521A Performance P74PCT521B Performance				Identity Comparator 4-Bit HC GD74HC85 GoldStar (2709) HCT GD74HCT85 GoldStar (2709)			
				Correlator, 1x128, 20 MHz C TMC2221 TRWLSI				Identity Comparator (8-bit) AC 54AC11521 † TI AHCT IDT54AHCT521 † IDT KS54AHCT682 † Samsung KS54AHCT684 † Samsung KS54AHCT686 † Samsung KS74AHCT682 Samsung (3035) KS74AHCT684 Samsung (3035) KS74AHCT686 Samsung (3035) KS74AHCT688 † Samsung (3035)			
				Correlator, 64x1, 30 MHz C TMC2023 TRWLSI				FCT IDT54FCT521A † IDT IDT74FCT521A † IDT			
				Data Access Register (for memory address arithmetic) 4XXX GD4707B GoldStar (2710) F4707BC National F4707BM † National				HC GD74HC688 GoldStar (2709) HD74HC682 Hitachi HD74HC684 Hitachi HD74HC686 Hitachi			
				Data Path Switch 4XXX GD4704B GoldStar (2710) F4704BC National F4704BM † National				(Continued)			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

° Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Arithmetic Functions (Cont'd)				Logic Unit 4-Bit 4XXX				Magnitude Comparator 4-Bit 4XXX			
Identity Comparator 8-Bit HC				(Cont'd)				(Cont'd)			
MC54HC688 † Motorola (2946)				GD4581B † GoldStar				GD40085B GoldStar (2710)			
MC74HC688 Motorola (2946)				MC14581BA † Motorola (2947)				MC14585BA † Motorola (2946)			
MM54HC688 † National				MC14581BC Motorola (2947)				MC14585BC Motorola (2946)			
MM74HC688 National				HCC40181B † SGS-Thomson				F40085BC National			
M74HC688 SGS-Thomson				HCF40181B † SGS-Thomson				F40085BM † National			
LR74HC688 † Sharp				883C4581B † Sprague				MN4585B † Panasonic			
SN54HC682 † TI				Logic Unit, 16-Bit Cascadable				Logic Unit, 16-Bit Slice, 12 MHz			
SN54HC684 † TI				IDT7381 IDT				L429C01C † LogicDev			
SN54HC686 † TI				Logic Unit, 16-Bit Slice, 12 MHz				L429C01M † LogicDev			
SN54HC688 † TI				Look-Ahead Carry Block				Microprogram Sequencer, 16-Bit			
SN74HC682 TI				HC MC74HC182 Motorola				AM29C331 AMD			
SN74HC684 TI				Look-Ahead Carry Generator				Multi-Level Pipeline Register			
SN74HC686 TI				AHCT IDT54AHCT182 † IDT				HCT P29PCT520 † Performance			
HCT MM54HCT688 † National				FCT IDT54FCT182 † IDT				P29PCT521 † Performance			
MM74HCT688 National				IDT54FCT182A † IDT				Multilevel Pipeline Register			
Identity Comparator 8-Bit with Open Drain Outputs AHCT				IDT74FCT182 † IDT				L29C520C LogicDev			
KS74AHCT689 † Samsung				IDT74FCT182A † IDT				L29C520M LogicDev			
KS74AHCT689 Samsung (3035)				HC				Multiplier			
Identity Comparator 8-Bit AC				CD54HC182 † GE/RCA (2640)				ACT SN74ACT8836 TI (3290, 3294, 3297)			
54AC11520 † TI				CD74HC182 GE/RCA (2640)				Multiplier/Accumulator with Pipeline and Scan Test (16x16)			
74AC11521 TI (3310)				HD74HC182 Hitachi				L64012 † LSI Logic			
ACT 54ACT11520 † TI				MM54HC182 † National				L64012A † LSI Logic			
74ACT11520 TI (3310)				MM74HC182 National				Multiplier/Accumulator with Pipeline (16x16)			
74ACT11521 TI (3310)				M74HC182 SGS-Thomson				L64011 LSI Logic			
Identity Comparator 8-Bit with Pullup Resistors AC				74HC182 Signetics (3057)				L64011A LSI Logic			
74AC11520 TI (3310)				TC74HC182 Toshiba (3340)				Multiplier/Accumulator (8x8)			
Image Filter, 10x11x4, 30 MHz C				HCT				C TMC2208 TRWLSI			
TMS2246 TRWLSI				CD54HCT182 † GE/RCA (2640)				Multiplier/Accumulator (12x12)			
Integer Divider, 32-Bit, 25 MHz (16-bit divisor) C				CD74HCT182 GE/RCA (2640)				AM29C509 AMD			
TMC3211 TRWLSI				74HCT182 Signetics (3057)				ADSP1009AJ † AD (2436)			
Logic Register Stack 4XXX				4XXX				ADSP1009AK † AD (2436)			
GD4705B GoldStar (2710)				CD40182B † GE/RCA (2639)				ADSP1009AS † AD (2436)			
F4705BC National				CD40182BE GE/RCA (2639)				ADSP1009AT † AD (2436)			
F4705BM † National				GD4582B GoldStar (2710)				IDT7209L † IDT			
Logic Unit, Floating Point ALU, 22-Bit TDC1032 TRWLSI				MC14582BA † Motorola (2947)				IDT7209LB † IDT			
Logic Unit, Floating Point, IEEE 754				MC14582BC Motorola (2947)				LMA1009C † LogicDev			
ADSP3220J AD (2437, 2462)				F4582BC National				LMA1009M † LogicDev			
ADSP3220K AD (2437, 2462)				F4582BM † National				Multiplier/Accumulator (16x16)			
ADSP3220S † AD (2437, 2462)				HCC40182 † SGS-Thomson				CY7C510C † Cypress (2590)			
ADSP3220T † AD (2437, 2462)				HCF40182 † SGS-Thomson				CY7C510M † Cypress (2590)			
Logic Unit, Floating Point, 32–34-Bit TMC3200 TRWLSI				883C4582B † Sprague				IDT7243LB † IDT			
Logic Unit, Registered, 16-Bit ACT				Look-Ahead Carry Generator, 32-Bit				Multiplier/Accumulator (16x16)			
SN74ACT8816 TI				AC				CY7C510C † Cypress (2590)			
Logic Unit, Registered, 32-Bit ACT				54AC11882 † TI				CY7C510M † Cypress (2590)			
SN74ACT8832 TI (3290, 3293, 3297)				74AC11882 TI (3310)				IDT7243LB † IDT			
Logic Unit 4-Bit AC				Magnitude Comparator 4-Bit				Multiplier/Accumulator (16x16)			
54AC11181 † TI				C				L64010 LSI Logic (2888)			
54AC11881 † TI				MM54C85 † Micrel				L64010A LSI Logic (2888)			
74AC11881 TI (3310)				MM54C85 † National				THCT1010-100 † TI (3297)			
ACT 54ACT11881 † TI				MM74C85 National				TMC2210-1 TRWLSI			
74ACT11881 TI (3310)				HC				TMC2210-2 TRWLSI			
HC				CD54HC85 † GE/RCA (2640)				TMC2210-3 TRWLSI			
CD54HC181 † GE/RCA (2640)				CD74HC85 GE/RCA (2640)				WS59510 Waferscale			
HD74HC181 Hitachi				HD74HC85 Hitachi				Multiplier, Floating Point, IEEE 754			
HD74HC881 Hitachi				MC54HC85 † Motorola (2946)				ADSP3210J AD (2437)			
MC74HC181 Motorola				MC74HC85 Motorola (2946)				ADSP3210K AD (2437)			
MM54HC181 † National				MM54HC521 † National				ADSP3210S † AD (2437)			
MM74HC181 National				MM54HC85 † National				ADSP3210T † AD (2437)			
M74HC181 SGS-Thomson				MM74HC521 National				Multiplier, Parallel (16x16)			
74HC181 Signetics (3057)				MM74HC85 National				AM29C516A AMD			
TC74HC181 Toshiba (3340)				MN74HC85 Panasonic				AM29C517A AMD			
HCT				M74HC85 SGS-Thomson				Multiplier, Serial, 8-Bit			
CD54HCT181 † GE/RCA (2640)				LR74HC85 Sharp				HC			
CD74HCT181 GE/RCA (2640)				74HC85 Signetics (3057)				74HC384 Signetics (3057)			
74HCT181 Signetics (3057)				SN54HC85A † TI				Multiplier, 2's Complement (8x8)			
TC74HCT181 Toshiba (3340)				SN74HC85 TI				LMU08C † LogicDev			
HCT				TC74HC85 Toshiba (3340)				Multiplier (2x2) Parallel			
CD54HCT85 † GE/RCA (2640)				TC74HC85A Toshiba (3340)				4XXX			
CD74HCT85 GE/RCA (2640)				HCT				MC14554BA † Motorola (2947)			
74HCT85 Signetics (3057)				CD54HCT85 † GE/RCA (2640)				MC14554BC Motorola (2947)			
TC74HCT85 Toshiba (3340)				CD74HCT85 GE/RCA (2640)				Multiplier (8x8) Divider (16÷8)			
4XXX				MM54HCT521 † National				MSM6203 OKI			
CD4063B † GE/RCA (2639)				MM74HCT521 † National				MSM80C58 OKI			
CD4063BE GE/RCA (2639)				74HCT85 Signetics (3057)				Logic Unit 4-Bit 4XXX			
CD4585B † GE/RCA (2639)				Look-Ahead Carry Block				GD4581B † GoldStar			
CD4585BE GE/RCA (2639)				HC				MC14581BA † Motorola (2947)			
(Continued)				CD4063B † GE/RCA (2639)				MC14581BC Motorola (2947)			
				CD4063BE GE/RCA (2639)				HCC40181B † SGS-Thomson			
				CD4585B † GE/RCA (2639)				HCF40181B † SGS-Thomson			
				CD4585BE GE/RCA (2639)				883C4581B † Sprague			
				(Continued)				Logic Unit, 16-Bit Cascadable			
								IDT7381 IDT			
								Logic Unit, 16-Bit Slice, 12 MHz			
								L429C01C † LogicDev			
								L429C01M † LogicDev			
								Look-Ahead Carry Block			
								HC MC74HC182 Motorola			
								Look-Ahead Carry Generator			
								AHCT IDT54AHCT182 † IDT			
								FCT IDT54FCT182 † IDT			
								IDT54FCT182A † IDT			
								IDT74FCT182 † IDT			
								IDT74FCT182A † IDT			
								HC			
								CD54HC182 † GE/RCA (2640)			
								CD74HC182 GE/RCA (2640)			
								HD74HC182 Hitachi			
								MM54HC182 † National			
								MM74HC182 National			
								M74HC182 SGS-Thomson			
								74HC182 Signetics (3057)			
								TC74HC182 Toshiba (3340)			
								HCT			
								CD54HCT182 † GE/RCA (2640)			
								CD74HCT182 GE/RCA (2640)			
								74HCT182 Signetics (3057)			
								4XXX			
								CD4063B † GE/RCA (2639)			
								CD4063BE GE/RCA (2639)			
								CD4585B † GE/RCA (2639)			
								CD4585BE GE/RCA (2639)			
								(Continued)			

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Arithmetic Functions (Cont'd)								Parity Generator/Checker, 9-Bit Odd/Even (Cont'd)			
Multiplier (8x8) Unsigned Magnitude				Multiplier (24x24)				65			
ADSP1081AJ AD (2436, 2462)				ADSP1024AJ AD (2436)				Parity Generator/Checker, 9-Bit Odd/Even			
ADSP1081AK AD (2436, 2462)				ADSP1024AK AD (2436)				HC			
ADSP1081AS † AD (2436, 2462)				ADSP1024AS AD (2436)				(Cont'd)			
ADSP1081AT † AD (2436, 2462)				ADSP1024AT AD (2436)				MM74HC280 National			
LMU8UC † LogicDev				Multiplier 32-Bit Parallel				M74HC280 SGS-Thomson			
LMU8UM † LogicDev				AM29C323 AMD				74HC280 Signetics (3057)			
TMC28 TRWLSI				Multiplier-Accumulator (8x8)				HCT			
TMC28-1 TRWLSI				ADSP1008A AD (2436, 2462)				CD54HCT280 † GE/RCA (2640)			
				ADSP1008AJ AD (2436)				CD74HCT280 GE/RCA (2640)			
				ADSP1008AK AD (2436)				74HCT280 Signetics (3057)			
				ADSP1008AS † AD (2436)				Parity Generator/Checker, 9-Bit Odd/Even			
				ADSP1008AT † AD (2436)				AC			
				Multiplier-Accumulator (12x12)				54AC11286 † TI			
				ADSP1009A † AD (2436, 2462)				74AC11286 TI (3310)			
				Multiplier-Accumulator (16x16)				ACT			
				ADSP1010A † AD (2436, 2462)				54ACT11286 † TI			
				ADSP1010AJ † AD (2436)				74ACT11280 TI (3310)			
				ADSP1010AK † AD (2436)				74ACT11286 TI (3310)			
				ADSP1010AS † AD (2436)				Pipeline Register, Multilevel			
				ADSP1010AT † AD (2436)				FCT			
				ADSP1101 AD (2436)				IDT29FCT520A IDT			
				ADSP1110AJ AD (2436)				IDT29FCT521A IDT			
				ADSP1110AK AD (2436)				Priority Encoder, 10-Line Decimal to 4-Line BCD			
				ADSP1110AS † AD (2436)				HC			
				ADSP1110AT † AD (2436)				LR74HC147 Sharp			
				ADSP1110AS † AD (2436)				SN74HC147 TI			
				ADSP1110AT † AD (2436)				Processor, Simulator/Assembler for Geometric Arithmetic Parallel Processor			
				C77C510 † Cypress (2590)				NCR45GS4 NCR			
				ISP9210 GE/Intersil (2681)				Program Sequencer, 16 Bit with Look-Ahead Pipeline			
				ISP9210M † GE/Intersil (2681)				ADSP1401J AD (2438)			
				IDT7210L † IDT				ADSP1401K AD (2438)			
				IDT7210LB † IDT				ADSP1401S AD (2438)			
				IDT7213L † IDT				ADSP1401T AD (2438)			
				IDT7213LB † IDT				ADSP3220J AD (2437, 2462)			
				LMA1010C † LogicDev				ADSP3220K AD (2437, 2462)			
				LMA1010M † LogicDev				ADSP3220S † AD (2437, 2462)			
				LMA2010C † LogicDev				ADSP3220T † AD (2437, 2462)			
				LMA2010M † LogicDev				Successive Approximation Register, 12-Bit (serial to parallel converter)			
				WTL2010C Weitek				HC			
				WTL2010M † Weitek				SI25HC04C Siliconix			
				Multiplier-Accumulator (16x16) Expandable				Dual 16x4 Register File			
				WTL2245C Weitek				AC			
				WTL2245M † Weitek				54AC11870 † TI			
				Multiplier-Accumulator (16x16) Multiply Only or Multiply-Accumulate Modes				74AC11870 TI (3310)			
				WTL2044C Weitek				Dual-Port 16x5 Register File			
				WTL2044M † Weitek				AC			
				Multiplier-Accumulator (32x32)				54AC11858 † TI			
				L64032 † LSI Logic (2890)				74AC11858 TI (3310)			
				L64032A † LSI Logic (2890)				ACT			
				L64032B † LSI Logic (2890)				54ACT11858 † TI			
				Multiplier-Divider, 16-bit				74ACT11858 TI (3310)			
				67C7560 MMI				Dual-Port 32x4 Register File			
				Multiplier-Summer (12x12)				AC			
				LMS12C LogicDev				54AC11859 † TI			
				LMS12M † LogicDev				74AC11859 TI (3310)			
				Parity Generator and Checker, 9-Bit				ACT			
				4XXX				54ACT11859 † TI			
				CD40101B † GE/RCA (2639)				74ACT11859 TI (3310)			
				CD40101BE GE/RCA (2639)				Nines Complementer			
				HCC40101B † SGS-Thomson				4XXX			
				HCF40101B † SGS-Thomson				GD4561B GoldStar			
				Parity Generator/Checker, 9-Bit Odd/Even				MC14561BA † Motorola (2947)			
				AC				MC14561BC Motorola (2947)			
				CD54AC280 † GE/RCA (2643)				TC4561B Toshiba (3341)			
				CD74AC280 GE/RCA (2643)				4-Bit Magnitude Comparator			
				54AC11280 † TI				HC			
				74AC11280 TI (3310)				M74HC85 Mitsubishi			
				ACT				HCF4585B SGS-Thomson			
				CD54ACT280 † GE/RCA (2643)				4-Stage Pipeline Register			
				CD74ACT280 GE/RCA (2643)				29C520C MMI			
				54ACT11280 † TI				29C521C MMI			
				HC				8 to 3-Line Priority Encoder			
				CD54HC280 † GE/RCA (2640)				AHCT			
				CD74HC280 GE/RCA (2640)				KS74AHCT148 Samsung (3035)			
				HD74HC280 Hitachi				HC			
				M74HC280 Mitsubishi				GD74HC148 GoldStar (2709)			
				MC54HC280 † Motorola (2947)				HD74HC148 Hitachi			
				MC74HC280 Motorola (2947)				SN74HC148 TI			
				MM54HC280 † National				HCT			
								GD74HCT148 GoldStar (2709)			
								8-Bit Magnitude Comparator			
								AC			
								54AC11860 † TI			
								54AC11865 † TI			
								54AC11885 † TI			
								74AC11860 TI (3310)			
								74AC11865 TI (3310)			
								74AC11885 TI (3310)			

[illegible]

♦ Available in Surface Mount Package

† Military Temperature Range (-55° to 125°C) ‡ High Radiation Resistance *Typical Value °Macrocell ◇ Available in Surface Mount Packages

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Buffers (Cont'd)				Octal Non-Inverting Buffer				Hex			
Octal Buffer/Line Driver, Three State HCT				FCT IDT54FCT541 † IDT IDT54FCT541A † IDT IDT74FCT541 IDT				AC (Cont'd)			
74HCT541 Marconi				Nine Wide HCT MC74HCT9035 Motorola				CD54AC05 † GE/RCA (2642)			
MIC74HCT540 Micrel				Nine Wide, Open Drain HC MC54HC9135 † Motorola				CD74AC04 GE/RCA (2642)			
MIC74HCT541 Micrel				Nine Wide Schmitt Trigger HC MC54HC9015 † Motorola				CD74AC05 GE/RCA (2642)			
MC54HCT540 † Motorola				Nine Wide Schmitt Trigger, Open Drain HC HC74HC9114 Motorola				54AC04 † National			
MC54HCT541 † Motorola				7-Line High Voltage 5XXX TC5066B Toshiba (3341) TC5067B Toshiba (3341)				74AC11004 † TI (3310)			
MC74HCT540 Motorola				10-Bit Buffer/Line Driver, Inverting AM29C828 AMD				ACT CD54ACT04 † GE/RCA (2642)			
MC74HCT541 Motorola				AC V74FCT828A † VTC (3389)				CD54ACT05 † GE/RCA (2642)			
MM54HCT540 † National				FCT IDT54FCT828A † IDT				CD74ACT04 GE/RCA (2642)			
MM54HCT541 † National				IDT54FCT828B † IDT				CD74ACT05 GE/RCA (2642)			
MM74HCT540 National				IDT74FCT828A † IDT				54ACT04 † National			
MM74HCT541 National				IDT74FCT828B † IDT				54ACT11004 † TI			
P54PCT240A † Performance				10-Bit Buffer/Line Driver, Non-Inverting AM29C827 AMD				74ACT11004 TI (3310)			
P54PCT241A † Performance				AC V74FCT827A † VTC (3389)				AHCT KS74AHCT04 Samsung (3035)			
P54PCT244A † Performance				C IDT54FCT827A † IDT				KS74AHCT05 Samsung (3035)			
P74PCT240A Performance				FCT IDT54FCT827B † IDT				C MM54C04 † Micrel			
P74PCT241A Performance				IDT74FCT827A † IDT				MM54C04 † National			
P74PCT244A Performance				HCT IDT74FCT827B † IDT				MM74C04 National			
MV74HCT540 Plessey				10-Bit, Three-State AC 54AC11828 † TI (3310) 74AC11828 TI (3310)				HC CD54HC04 † GE/RCA (2642, 2649)			
MV74HCT541 Plessey				10-Bit Buffer/Line Driver, Inverting ACT 54ACT11828 † TI (3310) 74ACT11828 TI (3310) V54ACT828 † VTC (3389) V74ACT828 VTC (3389)				CD54HC04 † GE/RCA (2642, 2649)			
KS74HCTL5540 Samsung				C IDR39C828 IDT				CD74HC04 GE/RCA (2642, 2649)			
KS74HCTL5541 Samsung				FCT IDR74FCT828B IDT				GD74HC04 GoldStar (2709)			
M74HCT540 SGS-Thomson				10-Bit Buffer/Line Driver, Non-Inverting ACT 54ACT11827 † TI (3310) 74ACT11827 TI (3310) V54ACT827 † VTC (3389) V74ACT827 VTC (3389)				GD74HC05 GoldStar (2709)			
M74HCT541 SGS-Thomson				FCT IDT54DCT827B † Motorola				HD74HC04 Hitachi			
74HCT540 Signetics (3057)				Inverters				M74HCV04 Mitsubishi			
74HCT541 Signetics (3057)				Dual Complementary Pair Plus Inverter 4XXX CD4007A † GE/RCA (2637) CD4007AE GE/RCA (2637) CD4007UB † GE/RCA (2637) CD4007UBE GE/RCA (2637) GD4007UB † GoldStar (2710) CD4007A † Micrel CD4007UB † Micrel MC14007UBA † Motorola (2939) MC14007UBC Motorola (2939) CD4007C National CD4007M † National F4007UBC National F4007UBM † National MN4007UB † Panasonic HCC4007UB † SGS-Thomson HCF4007UB SGS-Thomson HEF4007UB Signetics 883C4007UB † Sprague TC4007UB Toshiba (3341)				MC54HC04 † Motorola MC54HCT04 † Motorola MC54HCT05 † Motorola MC54HCT34 † Motorola MC74HCT04A Motorola MM54HCT04 † National MM54HCT05 † National MM54HCT34 † National MM74HCT04 National MM74HCT05 National MM74HCT34 National KS74HCTL504 Samsung KS74HCTL505 Samsung M74HCT04 SGS-Thomson 74HCT04 Signetics (3057) SN54HCT04 † TI TC74HCT04 Toshiba			
54HCT540 † Supertex				Hex MM74PC04 National				HCT CD54HCT04 † GE/RCA (2639)			
54HCT541 † Supertex				AC CD54AC04 † GE/RCA (2642)				CD74HCT04 GE/RCA (2639)			
74HCT540 Supertex								GD74HCT04 GoldStar (2709)			
74HCT541 Supertex								GD74HCT05 GoldStar (2709)			
SN54HCT541 TI								M74HCT04 Mitsubishi			
SN74HCT541 † TI								MC54HCT04 † Motorola			
TC74HCT540 Toshiba								MC54HCT05 † Motorola			
SC 74SC540 Supertex								MC74HCT04A Motorola			
74SC541 Supertex								MM54HCT05 † National			
Octal Buffers and Line Drivers with 3-State Outputs								MM74HC04 National			
AC 54AC11543 † TI								BU74HCU04 ROHM			
74AC11543 TI (3310)								M74HC04 SGS-Thomson			
ACT 54ACT11543 † TI								LR74HC04 Sharp			
74ACT11543 TI (3310)								74HC04 Signetics (3057)			
Octal Buffers/Line Drivers with Parity and Inverting 3-State Outputs								SN54HC04 † TI			
AC 54AC11655 † TI								SN54HC05 † TI			
74AC11655 TI (3310)								SN54HC4049 † TI			
ACT 54ACT11655 † TI								SN74HC04 TI			
74ACT11655 TI (3310)								SN74HC05 TI			
Octal Buffers/Line Drivers with Parity and 3-State Outputs								TC74HCU04A Toshiba			
AC 54AC11656 † TI								TC74HC04 Toshiba (3340)			
74AC11656 TI (3310)								TC74HC04A Toshiba (3340)			
ACT 54ACT11656 † TI								HCT CD54HCT04 † GE/RCA (2639)			
74ACT11656 TI (3310)								CD74HCT04 GE/RCA (2639)			
Octal Bus Driver, Inverting, Three-State								GD74HCT04 GoldStar (2709)			
AC CD54AC240 GE/RCA (2642)								GD74HCT05 GoldStar (2709)			
CD74AC240 GE/RCA (2642)								M74HCT04 Mitsubishi			
Octal Bus Driver, Non-Inverting, Three State, Complementary Controls								MC54HCT04 † Motorola			
AC CD54AC241 † GE/RCA (2642)								MC54HCT05 † Motorola			
CD54AC244 † GE/RCA (2642)								MC54HCT34 † Motorola			
CD74AC241 GE/RCA (2642)								MC74HCT04A Motorola			
CD74AC244 GE/RCA (2642)								MM54HCT04 † National			
Octal, Inverting HC M74HC540 Mitsubishi								MM54HCT05 † National			
Octal Inverting Buffer FCT IDT54FCT540 † IDT								MM74HCT04 National			
IDT54FCT540A † IDT								MM74HCT05 National			
IDT74FCT540 IDT								MM74HCT34 National			
IDT74FCT540A IDT								KS74HCTL504 Samsung			
Octal, Non-Inverting FCT IDT74FCT541A IDT								KS74HCTL505 Samsung			
								M74HCT04 SGS-Thomson			
								74HCT04 Signetics (3057)			
								SN54HCT04 † TI			
								TC74HCT04 Toshiba			
								4XXX CD4069UB † GE/RCA (2637)			
								CD4069UBE GE/RCA (2637)			
								GD4069UB † GoldStar (2710)			
								CD4069A † Micrel			
								CD4069UB † Micrel			
								MC14069UBA † Motorola (2939)			
								(Continued)			

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Inverters (Cont'd)				Presettable Fully Synchronous, Synchronous Clear				Presettable Synchronous, Asynchronous Clear (Cont'd)			
Hex				AC	CD54AC163	† GE/RCA (2642)		FCT	IDT74FCT161	◊ IDT	
4XXX		(Cont'd)			CD74AC163	GE/RCA (2642)	60		IDT74FCT161A	◊ IDT	
	MC14069UBC	Motorola (2939)			74AC11163	TI (3310)		HC	CD54HC161	† GE/RCA (2640)	
	CD4069C	National		ACT	CD54ACT163	† GE/RCA (2642)			CD74HC161	GE/RCA (2640)	
	CD4069M	† National			CD74ACT163	GE/RCA (2642)			GD74HC161A	GoldStar (2709)	135
	F4069UBC	National			54ACT11163	† TI	65		HD74HC161	Hitachi	
	F4069UBM	† National	5		74ACT11163	TI (3310)			MC54HC161	† Motorola (2942)	
	MN4069UB	◊ Panasonic		AHCT	IDT54AHCT163	◊ IDT			MC74HC161	Motorola (2942)	
	LC4069UB	◊ Sanyo			KS74AHCT163	Samsung (3035)			MM54HC161	† National	140
	HCC4069UB	† SGS-Thomson		C	MM54C163	± Micrel			MM74HC161	National	
	HCF4069UB	◊ SGS-Thomson			MM54C163	† National	70		MN74HC161	◊ Panasonic	
	HEF4069UB	† Signetics	10		MM74C163	National			M74HC161	SGS-Thomson	
	883C4069UB	† Sprague		Cell	SN74163A-Cell	° TI			LR74HC161	Sharp	
	883C4449UB	† Sprague		FCT	IDT54FCT163	◊ IDT			74HC161	Signetics (3057)	
	TC4069UB	Toshiba (3341)			IDT54FCT163A	◊ IDT			SN54HC161	† TI	145
	TC4584B	Toshiba (3341)			IDT74FCT163	◊ IDT	75		SN74HC161	TI	
Hex Schmitt Trigger					IDT74FCT163A	◊ IDT			TC74HC161	Toshiba (3340)	
HC	TC74HC14	Toshiba (3340)	15	HC	CD54HC163	† GE/RCA (2640)			TC74HC161A	Toshiba (3340)	
	TC74HC14A	Toshiba (3340)			CD74HC163	GE/RCA (2640)			US74HC161	Universal	
4XXX	MC14106	Motorola (2940)			GD74HC163	GoldStar (2709)		HCT	CD54HCT161	† GE/RCA (2640)	150
Hex Unbuffered					GD74HC163	GoldStar (2709)			CD74HCT161	GE/RCA (2640)	
HC	GD74HC04	GoldStar			HD74HC163	Hitachi	80		GD74HCT161A	GoldStar (2709)	
	MC54HC04	† Motorola (2939)			MC54HC163	† Motorola (2942)			MM74HCT161	National	
	MC74HC04	Motorola (2939)	20		MC74HC163	Motorola (2942)			KS74HCTLS161	Samsung	155
	MM54HC04	† National			MM54HC163	† National			74HCT161	Signetics (3057)	
	MM74HC04	National			MM74HC163	National		4XXX	CD40161B	† GE/RCA (2638)	
	M74HC04	SGS-Thomson			MN74HC163	◊ Panasonic	85		CD40161BE	GE/RCA (2638)	
	74HC04	Signetics			M74HC163	SGS-Thomson			GD40161B	GoldStar (2710)	
	SN54HC04	TI	25		LR74HC163	Sharp			CD40161B	± Micrel	
	SN74HC04	TI			74HC163	Signetics (3057)			MC14161BA	† Motorola (2942)	160
	TC74HC04	Toshiba			SN54HC163	TI			MC14161BC	Motorola (2942)	
Hex Three-State	MM70C96	± Micrel			SN74HC163	TI	90		CD40161BC	National	
	MM70C98	± Micrel			TC74HC163	Toshiba (3340)			CD40161BM	† National	
	MM70C96	† National			US74HC163	Universal			F40161BC	National	165
	MM70C98	† National	30		HCT	CD54HCT163	† GE/RCA (2640)		F40161BM	† National	
	MM80C96	National			CD74HCT163	GE/RCA (2640)			MN40161B	◊ Panasonic	165
	MM80C98	National			GD74HCT163	GoldStar (2709)			HCC40161B	† SGS-Thomson	
4XXX	GD40098B	GoldStar (2710)	35		GD74HCT163	GoldStar (2709)			HCF40161B	◊ SGS-Thomson	
	F40098BC	National			MM74HCT163	National			HEF40161B	Signetics	
	F40098BM	† National			KS74HCTLS163	Samsung			883C4161B	† Sprague	170
	HEF40098B	Signetics			74HCT163	Signetics (3057)			TC40161B	Toshiba (3341)	
Octal Inverter/Line Driver, Three-State				4XXX	CD40163B	† GE/RCA (2638)	100	Presettable Up/Down			
ACT	V54ACT466	† VTC (3389)			CD40163BE	GE/RCA (2638)		AC	CD54AC191	† GE/RCA (2642)	
	V54ACT466	VTC (3389)			GD40163B	GoldStar (2710)			CD54AC193	† GE/RCA (2642)	
	V54ACT466	† VTC (3389)	40		CD40163B	± Micrel			CD74AC191	GE/RCA (2642)	
	V54ACT466	VTC (3389)			MC14163BA	† Motorola (2942)			CD74AC193	GE/RCA (2642)	175
	V54ACT468	† VTC (3389)			MC14163BC	Motorola (2942)	105		54AC11168	† TI	
	V54ACT468	VTC (3389)			CD40163BC	National			54AC11191	† TI	
	V74ACT466	VTC (3389)			CD40163BM	† National			54AC11193	† TI	
	V74ACT466	VTC (3389)	45		F40163BC	National			54AC11569	† TI	
	V74ACT468	VTC (3389)			F40163BM	† National			74AC11168	TI (3310)	180
	AHCT	KS54AHCT466	† Samsung		HCC40163B	† SGS-Thomson	110		74AC11191	TI (3310)	
		KS54AHCT468	† Samsung		HCF40163	SGS-Thomson			74AC11193	TI (3310)	
		KS74AHCT466	Samsung (3035)		HEF40163B	Signetics			74AC11569	TI (3310)	
		KS74AHCT468	Samsung (3035)	50	883C4163B	† Sprague		ACT	CD54ACT191	† GE/RCA (2642)	
					TC40163B	Toshiba (3341)			CD54ACT193	† GE/RCA (2642)	185
Octal Inverter/Line Driver, Three-State				Presettable Synchronous, Asynchronous Clear					CD74ACT191	GE/RCA (2642)	
ACT	V54ACT468	† VTC (3389)		AC	CD54AC161	† GE/RCA (2642)	115		CD74ACT193	GE/RCA (2642)	
	V54ACT468	VTC (3389)			CD74AC161	GE/RCA (2642)			54ACT11168	† TI	
	V74ACT468	VTC (3389)			74AC11161	TI (3310)			54ACT11191	† TI	
					TC74AC161	Toshiba (3340)			54ACT11193	† TI	190
Nine Wide				ACT	CD54ACT161	† GE/RCA (2642)			54ACT1569	† TI	
HCT	MC74HCT9034	Motorola			CD74ACT161	GE/RCA (2642)	120		54ACT11579	† TI	
Nine Wide Schmitt Trigger					54ACT11161	† TI			74ACT11168	TI (3310)	
HC	MC54HC9014	† Motorola	55		74ACT11161	TI (3310)			74ACT11191	TI (3310)	
				AHCT	IDT54AHCT161	◊ IDT			74ACT11193	TI (3310)	195
					KS74AHCT161	Samsung (3035)			74ACT1569	TI (3310)	
				C	MM54C161	± Micrel	125		74ACT11579	TI (3310)	
					MM54C161	† National		C	MM54C193	± Micrel	
					MM74C161	National			MM54C193	† National	200
				Cell	SN74161A-Cell	° TI			MM74C193	National	
				FCT	IDT54FCT161	◊ IDT					
					IDT54FCT161A	◊ IDT	130	FCT	IDT54FCT191	◊ IDT	
									IDT54FCT191A	◊ IDT	
				(Continued)				(Continued)			

(Continued)

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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Counters, Binary (Cont'd)				Presettable 8-Bit Down 4XXX				Dual 4-Bit HC			
Presettable Up/Down FCT (Cont'd)				CD40103BE GE/RCA (2638)				CD54HC393 † GE/RCA (2641)			
IDT74FCT191 ♦ IDT				HCC40103B † SGS-Thomson				CD74HC393 GE/RCA (2641)			
IDT74FCT191A ♦ IDT				HCF40103B SGS-Thomson				GD74HC393 GoldStar (2709)			
HC CD54HC191 † GE/RCA (2640)				TC40103B Toshiba (3341)				HD74HC393 Hitachi			
CD54HC193 † GE/RCA (2640)				Programmable Divide-by-N, 4-Bit 4XXX				MM54HC393 † National			
CD54HC4516 † GE/RCA (2641)				GD4526B GoldStar (2710)				MM74HC393 National			
CD74HC191 GE/RCA (2640)				MC145268A † Motorola (2943)				MN74HC393 ♦ Panasonic			
CD74HC193 GE/RCA (2640)				MC145268C Motorola (2943)				M74HC4520 SGS-Thomson			
CD74HC4516 GE/RCA (2641)				CD4526BC National				74HC393 Signetics (3057)			
GD74HC191 GoldStar (2709)				CD4526BM † National				TC74HC393 Toshiba (3340)			
GD74HC193 GoldStar (2709)				F4526BC National				TC74HC393A Toshiba (3340)			
HD74HC191 Hitachi				F4526BM † National				HCT CD54HCT393 † GE/RCA (2641)			
HD74HC193 Hitachi				HEF4526B Signetics				CD74HCT393 GE/RCA (2641)			
MC74HC168 Motorola (2943)				883C4526B † Sprague				GD74HCT393 GoldStar (2709)			
MC74HC191 Motorola				TC4526B Toshiba (3341)				KS74HCTLS393 Samsung			
MC74HC193 Motorola				Synchronous 8-Bit Up/Down Counter				74HCT393 Signetics (3057)			
MM54HC191 † National				AC 54AC11469 † TI				CD74HCT393 GE/RCA (2640)			
MM54HC193 † National				74AC11469 TI (3310)				GD74HC393 GoldStar (2709)			
MM74HC191 National				ACT 54ACT11469 † TI				HD74HC393 Hitachi			
MM74HC193 National				74ACT11469 TI (3310)				74HC393 Signetics (3057)			
MN74HC193 ♦ Panasonic				Synchronous 8-Bit Binary Counter				HCT CD54HCT93 † GE/RCA (2640)			
M74HC191 SGS-Thomson				AC 54AC11461 † TI				CD74HCT93 GE/RCA (2640)			
M74HC193 SGS-Thomson				54AC11463 † TI				GD74HCT93 GoldStar (2709)			
74HC191 Signetics (3057)				54AC11463 † TI				74HCT93 Signetics (3057)			
74HC193 Signetics (3057)				74AC11461 TI (3310)				4-Bit Synchronous, Asynchronous Clear			
74HC4516 Signetics (3057)				74AC11463 TI (3310)				AC 54AC11161 † TI			
TC74HC193 Toshiba (3340)				ACT 54ACT11461 † TI				54AC11163 † TI			
US74HC191 Universal				54ACT11463 † TI				4-Bit Synchronous with Output Registers, Asynchronous Clear			
US74HC193 Universal				74ACT11463 TI (3310)				HC TC74HC691 Toshiba (3340)			
HCT CD54HCT191 † GE/RCA (2640)				Up/Down, Synchronous, 4-Bit				4-Bit Synchronous with Output Registers, Synchronous Clear			
CD54HCT193 † GE/RCA (2640)				HC HD74HC669 Hitachi				HC TC74HC693 Toshiba (3340)			
CD54HCT4516 † GE/RCA (2641)				Dual				4-Bit Synchronous Binary Up/Down with Output Registers			
CD74HCT191 GE/RCA (2640)				HC CD54HC4520 † GE/RCA (2641)				HC TC74HC697 Toshiba (3340)			
CD74HCT193 GE/RCA (2640)				CD74HC4520 GE/RCA (2641)				TC74HC699 Toshiba (3340)			
CD74HCT4516 GE/RCA (2641)				TC74HC4520 Toshiba (3340)				4-Bit Up/Down, Asynchronous Load			
GD74HCT191 GoldStar (2709)				TC74HC4520A Toshiba (3340)				AHCT IDT54AHCT191 ♦ IDT			
GD74HCT193 GoldStar (2709)				HCT CD54HCT4520 † GE/RCA (2641)				KS74AHCT191 Samsung (3035)			
MM54HCT191 † National				CD74HCT4520 GE/RCA (2641)				Cell SN74191-Cell * TI			
MM54HCT193 † National				Dual Synchronous				SN74193-Cell * TI			
MM74HCT191 National				AHCT KS74AHCT393 Samsung (3035)				HC SN54HC191 † TI			
MM74HCT193 National				Cell SN74393-Cell * TI				SN54HC193 † TI			
74HCT191 Signetics (3057)				HC HD74HC4520 Hitachi				SN74HC191 TI			
74HCT193 Signetics (3057)				MC54HC393 † Motorola (2942)				SN74HC193 TI			
74HCT4516 Signetics (3057)				MC74HC393 Motorola (2942)				TC74HC191 Toshiba (3340)			
4XXX CD40193B † GE/RCA (2638)				M74HC393 SGS-Thomson				HCT KS74HCTLS191 Samsung			
CD40193BE GE/RCA (2638)				LR74HC393 Sharp				4-Bit Up/Down Synchronous			
CD4516B † GE/RCA (2638)				74HC4520 Signetics (3057)				AC 74AC169 National			
CD4516BE GE/RCA (2638)				HCT 74HCT4520 Signetics (3057)				54AC11169 † TI			
GD40193B GoldStar (2710)				54HCT393 † Supertex				74AC11169 TI (3310)			
GD4516B † GoldStar (2710)				74HCT393 Supertex				ACT 54ACT11169 † TI			
CD40193B † Micrel				SC 74SC393 Supertex				74ACT11169 TI (3310)			
CD4516B † Micrel				4XXX CD4520B † GE/RCA (2638)				HC MC74HC169 Motorola (2943)			
MC145168A † Motorola (2942)				CD4520BE GE/RCA (2638)				MM74HC169 National			
MC145168C Motorola (2942)				GD4520B GoldStar (2710)				5, 6, 7, 8, 9-Stage			
CD40193BC National				CD4520B † Micrel				5XXX TC5048 Toshiba (3341)			
CD40193BM † National				MC145208A † Motorola (2942)				7-Stage			
CD4516BC National				MC145208C Motorola (2942)				HC CD54HC4024 † GE/RCA (2641)			
CD4516BM † National				CD4520BC National				CD74HC4024 GE/RCA (2641)			
F40193BC National				CD4520BM † National				HD74HC4024 Hitachi			
F40193BM † National				F4520BC National				MC54HC4024 † Motorola (2943)			
F4516BC National				F4520BM † National				MC74HC4024 Motorola (2943)			
F4516BM † National				MN4520B ♦ Panasonic				MM74HC4024 National			
MN4516B † Panasonic				HCC4520B † SGS-Thomson				(Continued)			
HCC4516B † SGS-Thomson				HCF4520B ♦ SGS-Thomson							
HCF4516B SGS-Thomson				HEF4520B Signetics							
HEF40193B Signetics				883C4520B † Sprague							
HEF4516B Signetics				TC40193B Toshiba (3341)							
883C4193B † Sprague				TC4516B Toshiba (3341)							
883C4516B † Sprague				Presettable 8-Bit Down							
HC TC74HC40103 Toshiba (3340)				HC TC74HC40103 Toshiba (3340)							
4XXX CD40103B † GE/RCA (2638)				4XXX CD40103B † GE/RCA (2638)							
(Continued)				(Continued)							
				Dual BCD Programmable							
				HC M74HC40102 SGS-Thomson							

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Counters, Binary (Cont'd)				8-Bit with Output Registers (Cont'd)				14, 15, 16-Stage (with reset) 5XXX TC5036 Toshiba (3341)			
7-Stage HC		(Cont'd)		HC	KS74AHCT590 Samsung (3035) KS74AHCT591 Samsung (3035)			14-Stage HC	CD54HC4020 † GE/RCA (2641) CD74HC4020 GE/RCA (2641) HD74HC4020 Hitachi MC54HC4020 † Motorola (2943) MC74HC4020 Motorola (2943) MM54HC4020 † National MM74HC4020 † National M74HC4020 SGS-Thomson 74HC4020 Signetics (3057) SN54HC4020 † TI SN74HC4020 TI TC74HC4020 Toshiba (3340) TC74HC4020A Toshiba (3340)	130	
	M74HC4024 SGS-Thomson LR74HC4024 Sharp 74HC4024 Signetics (3057) SN54HC4024 † TI SN74HC4024 TI TC74HC4024 Toshiba (3340)		5	HCT	GD74HCT590 GoldStar (2709) MM74HCT590 National		65	HCT	CD54HCT4020 † GE/RCA (2641) CD74HCT4020 GE/RCA (2641) 74HCT4020 Signetics (3057)	135	
HCT	CD54HCT4024 † GE/RCA (2641) CD74HCT4024 GE/RCA (2641) 74HCT4024 Signetics (3057)		10	HCT	GD74HCT590 GoldStar (2709) MM74HCT590 National		70	4XXX	CD4020A † GE/RCA (2638) CD4020AE GE/RCA (2638) CD4020B † GE/RCA (2638) CD4024BE GE/RCA (2638) GD4024B † GoldStar (2710) CD4024A † Micrel CD4024B † Micrel MC14024BA † Motorola (2943) MC14024BC Motorola (2943) CD4024BC National CD4024BM † National F4024BC National F4024BM † National MN4024B † Panasonic HCC4024B † SGS-Thomson HCF4024B † SGS-Thomson HEF4024B Signetics 883C4024B † Sprague TC4024B Toshiba (3341)	140	
4XXX	CD4024A † GE/RCA (2638) CD4024AE GE/RCA (2638) CD4024B † GE/RCA (2638) CD4024BE GE/RCA (2638) GD4024B † GoldStar (2710) CD4024A † Micrel CD4024B † Micrel MC14024BA † Motorola (2943) MC14024BC Motorola (2943) CD4024BC National CD4024BM † National F4024BC National F4024BM † National MN4024B † Panasonic HCC4024B † SGS-Thomson HCF4024B † SGS-Thomson HEF4024B Signetics 883C4024B † Sprague TC4024B Toshiba (3341)		15	8-Bit Binary Counters with Input Registers AC	54AC11592 † TI 54AC11593 † TI 74AC11592 TI (3310) 74AC11593 TI (3310)		75	HCT	CD54HCT4020 † GE/RCA (2641) CD74HCT4020 GE/RCA (2641) 74HCT4020 Signetics (3057)	145	
			20	ACT	54ACT11592 † TI 54ACT11593 † TI 74ACT11592 TI (3310) 74ACT11593 TI (3310)		80	4XXX	CD4020A † GE/RCA (2638) CD4020AE GE/RCA (2638) CD4020B † GE/RCA (2638) CD4020BE GE/RCA (2638) GD4020B † GoldStar (2710) CD4020A † Micrel CD4020B † Micrel MC14020BA † Motorola (2943) MC14020BC Motorola (2943) CD4020BC National CD4020BM † National F4020BC National F4020BM † National HCC4020B † SGS-Thomson HCF4020B † SGS-Thomson HEF4020B Signetics 883C4020B † Sprague TC4020B Toshiba (3341)	150	
			25	8-Bit Binary Counters with Output Registers AC	54AC11590 † TI 74AC11590 TI (3310)		85	14-Stage Ripple Counter HC	M74HC4020 Mitsubishi	155	
			30	ACT	54ACT11590 † TI 74ACT11590 TI (3310)		90	14-Stage Ripple Counter with Oscillator AC	CD54AC7060 † GE/RCA (2643) CD74AC7060 GE/RCA (2643)	160	
7-Stage Counter	GD4727B GoldStar (2710) GD4737B GoldStar (2710)		35	8-Bit Binary Programmable HC	M74HC40103 SGS-Thomson		95	ACT	CD54ACT7060 † GE/RCA (2643) CD74ACT7060 GE/RCA (2643)	165	
7-Stage Ripple Counter HC	M74HC4024 Mitsubishi		40	8-Stage Synchronous 4XXX	883C4404B † Sprague		100	14-Stage with Oscillator HC	CD54HC4060 † GE/RCA (2641) CD74HC4060 GE/RCA (2641) HD74HC4060 Hitachi MC54HC4060 † Motorola (2943) MC74HC4060 Motorola (2943) MM54HC4060 † National MM74HC4060 † National M74HC4060 SGS-Thomson 74HC4060 † Signetics (3057) SN54HC4060 † TI SN74HC4060 TI TC74HC4060 Toshiba (3340) TC74HC4060A Toshiba (3340)	170	
8-Bit AC	TC74AC393 Toshiba (3340) 54ACT11269 † TI 74ACT11269 TI (3310)		45	HCT	CD54HCT4040 † GE/RCA (2641) CD74HCT4040 GE/RCA (2641) 74HCT4040 Signetics (3057)		105	4XXX	CD4060A † GE/RCA (2638) CD4060AE GE/RCA (2638) CD4060B † GE/RCA (2638) CD4060BE GE/RCA (2638) GD4060B † GoldStar (2710) CD4060A † Micrel CD4060B † Micrel MC14060BA † Motorola (2943) MC14060BC Motorola (2943) CD4060BC National CD4060BM † National F4060BC National F4060BM † National MN4060B † Panasonic HCC4060B † SGS-Thomson HCF4060B † SGS-Thomson HEF4060B Signetics 883C4060B † Sprague TC4060B Toshiba (3341)	175	
ACT			50	4XXX	CD4040A † GE/RCA (2638) CD4040AE GE/RCA (2638) CD4040B † GE/RCA (2638) CD4040BE GE/RCA (2638) GD4040B † GoldStar (2710) CD4040A † Micrel CD4040B † Micrel MC14040BA † Motorola (2943) MC14040BC Motorola (2943) CD4040BC National CD4040BM † National F4040BC National F4040BM † National MN4040B † Panasonic HCC4040B † SGS-Thomson HCF4040B † SGS-Thomson HEF4040B Signetics 883C4040B † Sprague TC4040B Toshiba (3341)		110	HCT	CD54HCT4060 GE/RCA (2641) CD74HCT4060 GE/RCA (2641) 74HCT4060 † Signetics (3057)	180	
HC	M74HC590 SGS-Thomson M74HC592 SGS-Thomson M74HC593 SGS-Thomson		55	HCT	CD54HCT4040 † GE/RCA (2641) CD74HCT4040 GE/RCA (2641) 74HCT4040 Signetics (3057)		115	4XXX	CD4060A † GE/RCA (2638) CD4060AE GE/RCA (2638) CD4060B † GE/RCA (2638) CD4060BE GE/RCA (2638) GD4060B † GoldStar (2710) CD4060A † Micrel CD4060B † Micrel MC14060BA † Motorola (2943) MC14060BC Motorola (2943) CD4060BC National CD4060BM † National F4060BC National F4060BM † National MN4060B † Panasonic HCC4060B † SGS-Thomson HCF4060B † SGS-Thomson HEF4060B Signetics 883C4060B † Sprague TC4060B Toshiba (3341)	185	
8-Bit, Down HC	CD54HC40103 † GE/RCA (2642) CD74HC40103 GE/RCA (2642) 74HC40103 Signetics (3057)		60	12-Stage HC	CD54HC4040 † GE/RCA (2641) CD74HC4040 GE/RCA (2641) HD74HC4040 Hitachi MC54HC4040 † Motorola (2943) MC74HC4040 Motorola (2943) MM54HC4040 † National MM74HC4040 † National MN74HC4040 † Panasonic M74HC4040 SGS-Thomson 74HC4040 Signetics (3057) SN54HC4040 † TI SN74HC4040 TI TC74HC4040 Toshiba (3340) TC74HC4040A Toshiba (3340)		120	HCT	CD54HCT4060 GE/RCA (2641) CD74HCT4060 GE/RCA (2641) 74HCT4060 † Signetics (3057)	190	
HCT	CD54HCT40103 † GE/RCA (2642) CD74HCT40103 GE/RCA (2642) 74HCT40103 Signetics (3057)			4XXX	CD4040A † GE/RCA (2638) CD4040AE GE/RCA (2638) CD4040B † GE/RCA (2638) CD4040BE GE/RCA (2638) GD4040B † GoldStar (2710) CD4040A † Micrel CD4040B † Micrel MC14040BA † Motorola (2943) MC14040BC Motorola (2943) CD4040BC National CD4040BM † National F4040BC National F4040BM † National MN4040B † Panasonic HCC4040B † SGS-Thomson HCF4040B † SGS-Thomson HEF4040B Signetics 883C4040B † Sprague TC4040B Toshiba (3341)		125	16-Bit Synchronous FCT	IDT49FCT661 IDT		
8-Bit Synchronous AC	54AC11579 † TI 74AC11579 TI (3310)			HCT	CD54HCT4040 † GE/RCA (2641) CD74HCT4040 GE/RCA (2641) 74HCT4040 Signetics (3057)						
8-Bit with Input Registers AHCT	KS54AHCT592 † Samsung KS54AHCT593 † Samsung KS74AHCT592 Samsung (3035) KS74AHCT593 Samsung (3035)			4XXX	CD4040A † GE/RCA (2638) CD4040AE GE/RCA (2638) CD4040B † GE/RCA (2638) CD4040BE GE/RCA (2638) GD4040B † GoldStar (2710) CD4040A † Micrel CD4040B † Micrel MC14040BA † Motorola (2943) MC14040BC Motorola (2943) CD4040BC National CD4040BM † National F4040BC National F4040BM † National MN4040B † Panasonic HCC4040B † SGS-Thomson HCF4040B † SGS-Thomson HEF4040B Signetics 883C4040B † Sprague TC4040B Toshiba (3341)						
HC	HD74HC592 Hitachi HD74HC593 Hitachi			HCT	CD54HCT4040 † GE/RCA (2641) CD74HCT4040 GE/RCA (2641) 74HCT4040 Signetics (3057)						
8-Bit with Input Registers HC	MC74HC592 Motorola MC74HC593 Motorola			4XXX	CD4040A † GE/RCA (2638) CD4040AE GE/RCA (2638) CD4040B † GE/RCA (2638) CD4040BE GE/RCA (2638) GD4040B † GoldStar (2710) CD4040A † Micrel CD4040B † Micrel MC14040BA † Motorola (2943) MC14040BC Motorola (2943) CD4040BC National CD4040BM † National F4040BC National F4040BM † National MN4040B † Panasonic HCC4040B † SGS-Thomson HCF4040B † SGS-Thomson HEF4040B Signetics 883C4040B † Sprague TC4040B Toshiba (3341)						
8-Bit with Input Registers HC	MM54HC592 † National MM54HC593 † National MM74HC592 National MM74HC593 National TC74HC592 Toshiba (3340) TC74HC593 Toshiba (3340)			12-Stage Ripple Counter HC	M74HC4040 Mitsubishi						
8-Bit with Output Registers AHCT	KS54AHCT590 † Samsung KS54AHCT591 † Samsung										

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line											
Counters, Decade (Cont'd)				(Cont'd)				(Cont'd)														
Presettable Up/Down 4XXX				5	Up/Down, Synchronous HC	CD54HC190 † GE/RCA (2640) CD74HC190 GE/RCA (2640) HD74HC190 Hitachi HD74HC668 Hitachi MC74HC190 Motorola MM54HC190 † National MM74HC190 National M74HC190 SGS-Thomson M74HC696 SGS-Thomson M74HC698 SGS-Thomson SN54HC190 † TI SN74HC190 TI TC74HC190 Toshiba (3340) US74HC190 Universal	60	Dual Synchronous 4XXX	883C4518B † Sprague TC4518B Toshiba (3341)	130												
					10	HCT	CD54HCT190 † GE/RCA (2640) CD74HCT190 GE/RCA (2640)	65	Dual BCD Programmable Down Counter HC	TC74HC40102 Toshiba (3340)												
						15	Up/Down, Synchronous with Output Registers HC	TC74HC696 Toshiba (3340) TC74HC698 Toshiba (3340)	70	Decade Counter HC	M74HC690 SGS-Thomson M74HC692 SGS-Thomson											
							20	Up/Down, Three-State AC	54AC11568 † TI 74AC11568 TI (3310)	75	3- 1/2 Digit Counter to BCD Driver HC6010 Hughes HCT HC4010 Hughes	135										
								25	ACT	54ACT11568 † TI 74ACT11568 TI (3310)	80	3-Decade Multiplexed Output 4XXX	GD4553B GoldStar (2710) MC14553BA † Motorola (2943) MC14553BC Motorola (2943) F4553BC National F4553BM † National	140								
									30	Dual HC	CD54HC390 † GE/RCA (2641) CD74HC390 GE/RCA (2641) GD74HC390 GoldStar (2709) HD74HC390 Hitachi HD74HC490 Hitachi MC54HC390 † Motorola (2942) MM54HC390 † National MM74HC390 National MN74HC390 † Panasonic LR74HC390 Sharp 74HC390 Signetics (3057) SN54HC390 † TI SN54HC490 † TI SN74HC390 TI SN74HC490 TI TC74HC390 Toshiba (3340) TC74HC390A Toshiba (3340)	85	4- 1/2 Digit ICM7236 GE/Intersil 4- 1/2 Digit Counter/Timer ICM7236A GE/Intersil									
										35	HCT	CD54HCT390 † GE/RCA (2641) CD74HCT390 GE/RCA (2641) GD74HCT390 GoldStar (2709) 74HCT390 Signetics (3057)	90	4- 1/2 Digit Up Counter ICM7224 GE/Intersil (2684) ICM7224A GE/Intersil (2684) ICM7225 GE/Intersil (2684) ICM7225A GE/Intersil (2684)	145							
											40	40HXXX	TC40HC390 Toshiba	95	4- 1/2 Digit Up Counter/Decoder/Driver ICM7224 † Maxim ICM7225 † Maxim							
												45	Dual Synchronous HC	CD54HC4518 † GE/RCA (2641) CD74HC4518 GE/RCA (2641) HD74HC4518 Hitachi MC74HC390 Motorola (2942) M74HC390 SGS-Thomson M74HC4518 SGS-Thomson 74HC4518 Signetics TC74HC4518 Toshiba (3340) TC74HC4518A Toshiba (3340)	100	4- 1/2 Digit Up-Down Counter/Latch/Decoder Driver, LCD C MM74C946 National	150					
													50	HCT	CD54HCT4518 † GE/RCA (2641) CD74HCT4518 GE/RCA (2641) 74HCT4518 Signetics (3057)	105	4- 1/2-Digit, Programmable TC9122 Toshiba					
														55	4XXX	CD4518B † GE/RCA (2638) CD4518BE GE/RCA (2638) GD4518B † GoldStar (2710) CD4518B † Micrel MC14518BA † Motorola (2942) MC14518BC Motorola (2942) CD4518BC National CD4518BM † National F4518BC National F4518BM † National MN4518B † Panasonic HCC4518B † SGS-Thomson HCF4518B SGS-Thomson HEF4518B Signetics	110	4-Bit AC 54AC11269 † TI 74AC11269 TI (3310)	155			
															60	Up/Down Counter/Decoder/Latch/Driver (direct 7-segment driver) 4XXX	CD40110B † GE/RCA (2639, 2656) CD40110BE GE/RCA (2639, 2656)	115	4-Digit, Multiplexed Output, Left Digit Counts to 2-(Maximum count 1999.) C MM74C928 National			
																65	Up/Down, Programmable HC	CD54HC4510 † GE/RCA (2641) CD74HC4510 GE/RCA (2641) 74HC4510 Signetics (3057)	120	4-Digit, Multiplexed Output, Second Digit Counts to 6 (Maximum count 9599.) C MM74C927 National	160	
																	70	HCT	CD54HCT4510 † GE/RCA (2641) CD74HCT4510 GE/RCA (2641) HCT4510 Signetics	125	4-Digit Up/Down, Counter/Latch/Decoder Driver, LCD C MM74C945 † Maxim MM74C947 † Maxim MM74C945 National MM74C947 National	165
																		75	Up/Down, Synchronous AC	54AC11190 † TI 74AC11190 TI (3310)	130	4-Digit Up/Down Counter/Latch/Display Driver ICM7217 GE/Intersil (2684) ICM7217A GE/Intersil (2684) ICM7217B GE/Intersil (2684) ICM7217C GE/Intersil (2684) ICM7227 GE/Intersil (2684) ICM7227A GE/Intersil (2684) ICM7227B GE/Intersil (2684) ICM7227C GE/Intersil (2684)
			80	ACT															54ACT11190 † TI 74ACT11190 TI (3310)			
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† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Decoders (Cont'd)				4-Bit Latch/4-to-16-Line Decoder (high)				10-Line to 4-Line Priority Encoder			
3-Line to 8-Line Decoder/Demultiplexer with Input Latches HC (Cont'd)				4XXX CD4514B † GE/RCA (2637)				HC CD54HC147 † GE/RCA (2640)			
GD74HC137 GoldStar (2709)				CD4514BE GE/RCA (2637)				CD74HC147 GE/RCA (2640)			
HD74HC137 Hitachi				CD4515B † GE/RCA (2637)				GD74HC147 GoldStar (2709)			
HD74HC237 Hitachi				CD4515BE GE/RCA (2637)				HD74HC147 Hitachi			
M74HC137 Mitsubishi				GD4514B † GoldStar (2710)				MC54HC147 † Motorola			
MC54HC137 † Motorola (2945)				GD4515B † GoldStar				MC74HC147 Motorola			
MC54HC237 † Motorola (2945)				CD4514B ‡ Micrel				M74HC147 SGS-Thomson			
MC74HC137 Motorola (2945)				CD4515B ‡ Micrel				74HC147 Signetics (3057)			
MC74HC237 Motorola (2945)				MC14514BA † Motorola (2945)				HCT CD54HCT147 † GE/RCA (2640)			
MM54HC137 † National				MC14514BC Motorola (2945)				CD74HCT147 GE/RCA (2640)			
MM54HC237 † National				MC14515BA † Motorola (2945)				GD74HCT147 GoldStar (2709)			
MM74HC137 National				MC14515BC Motorola (2945)				74HCT147 Signetics (3057)			
MM74HC237 National				CD4514BC National							
74HC137 Samsung				CD4514BM † National							
74HC237 Samsung				CD4515BC National							
M74HC137 SGS-Thomson				CD4515BM † National							
M74HC237 SGS-Thomson				F4514BC National							
LR74HC137 Sharp				F4514BM † National							
74HC137 Signetics (3057)				F4515BC National							
SN54HC137 † TI				F4515BM † National							
SN74HC137 TI				HCC4514B † SGS-Thomson							
TC74HC137 Toshiba (3340)				HCC4515B † SGS-Thomson							
TC74HC137A Toshiba (3340)				HCF4514B SGS-Thomson							
HCT CD54HCT137 † GE/RCA (2640)				HCF4515B SGS-Thomson							
CD54HCT237 † GE/RCA (2640)				HEF4514B Signetics							
CD74HCT137 GE/RCA (2640)				HEF4515B Signetics							
CD74HCT237 GE/RCA (2640)				883C4514B † Sprague							
GD74HCT137 GoldStar (2709)				883C4515B † Sprague							
HD74HCT137 Hitachi				TC4514B Toshiba (3341)							
54HCT137SOS ‡ Marconi				TC4515B Toshiba (3341)							
54HCT237SOS ‡ Marconi				4-Line to 16-Line Decoder/Demultiplexer, Inverting							
74HCT137 Marconi				HC HD74HC4515 Hitachi							
74HCT237 Marconi				SN74HC4515 TI							
MV74HCT137 Plessey				TC74HC4515 Toshiba (3340)							
MV74HCT237 Plessey				TC74HC4515A Toshiba (3340)							
74HCT137 Signetics (3057)				4-Line to 16-Line Decoder/Demultiplexer, Non-Inverting							
54HCT137 † Supertex				HC LR74HC4514 Sharp							
54HCT237 † Supertex				SN74HC4514 TI							
74HCT137 Supertex				TC74HC4514 Toshiba (3340)							
74HCT237 Supertex				TC74HC4514A Toshiba (3340)							
SN54HCT137 † TI				4-Line-to-16-Line Decoder/Demultiplexer							
SN54HCT137 † TI				AHCT KS74AHCT154 Samsung (3035)							
SN74HCT137 TI				C MM54C154 † National							
TC74HCT137 Toshiba				MM74C154 National							
SC MV74SC137 Plessey				HC CD54HC154 † GE/RCA (2640)							
MV74SC237 Plessey				CD74HC154 GE/RCA (2640)							
74SC137 Supertex				GD74HC154 GoldStar (2709)							
74SC237 Supertex				HD74HC154 Hitachi							
3-Line to 8-Line Decoder/Latch				MC54HC154 † Motorola (2945)							
HC M74HC131 SGS-Thomson				MC74HC154 Motorola (2945)							
TC74HC131 Toshiba (3340)				MM54HC154 † National							
TC74HC131A Toshiba (3340)				MM74HC154 National							
4-Bit Latch/4-to-16-Line Decoder (high)				MN74HC154 † Panasonic							
HC CD54HC4514 † GE/RCA (2641)				M74HC154 SGS-Thomson							
CD54HC4515 † GE/RCA (2641)				74HC154 Signetics (3057)							
CD74HC4514 GE/RCA (2641)				SN74HC154 TI							
CD74HC4515 GE/RCA (2641)				TC74HC154 Toshiba (3340)							
HD74HC4514 Hitachi				TC74HC154A Toshiba (3340)							
MC54HC4514 † Motorola (2945)				US74HC154 Universal							
MC74HC4514 Motorola (2945)				HCT CD54HCT154 † GE/RCA (2640)							
MC74HC4515 Motorola				CD74HCT154 GE/RCA (2640)							
MM54HC4514 † National				74HCT154 Signetics (3057)							
MM74HC4514 National				4-Line-to-16-Line Decoder/Demultiplexer							
M74HC4514 SGS-Thomson				AHCT KS54AHCT148 † Samsung							
74HC4514 Signetics (3057)				8-Line to 3-Line Priority Encoder							
74HC4515 Signetics (3057)				HC M74HC148 SGS-Thomson							
HCT CD54HCT4514 † GE/RCA (2641)				TC74HC148 Toshiba (3340)							
CD54HCT4515 † GE/RCA (2641)				HCT GD74HCT154 GoldStar (2709)							
CD74HCT4514 GE/RCA (2641)				8-Line to 8-Line Priority Encoder							
CD74HCT4515 GE/RCA (2641)				HC MM54HC149 † National							
74HCT4514 Signetics (3057)				MM74HC149 National							
74HCT4515 Signetics (3057)				HCT MM54HCT149 † National							
(Continued)				MM74HCT149 National							

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Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Flip-Flops, D-Type (Cont'd)				Quad Three-State 4XXX (Cont'd)				Hex with Enable (Cont'd)			
Quad				Quad				Hex			
AHCT C	KS74AHCT175	Samsung (3035)		CD4076B	‡ Micrel			ACT	54ACT11378	† TI	
	MM54C175	‡ Micrel		MC14076BA	Motorola (2942)				74ACT11378	TI	(3310)
	MM54C175	† National		MC14076BC	Motorola (2942)			HC	SN54HC378	† TI	
	MM74C175	National		CD4076BC	National				SN74HC378	TI	
Cell HC	SN74175-Cell	° TI	5	CD4076BM	† National		75	Octal			
	CD54HC175	† GE/RCA (2640)		F4076BC	National			HC	M74HC574	Mitsubishi	
	CD74HC175	GE/RCA (2640)		F4076BM	† National				M74HC377	SGS-Thomson	
	GD74HC175	GoldStar (2709)		MN4076B	‡ Panasonic			HCT	M74HCT564	SGS-Thomson	
	HD74HC175	Hitachi		HCC4076B	† SGS-Thomson		80		M74HCT574	SGS-Thomson	
	MC54HC175	† Motorola (2942)	10	HCF4076B	° SGS-Thomson			Octal D-Type Flip-Flops W/ Clear			
	MC74HC175	Motorola (2942)		HEF4076B	Signetics			AC	54AC11273	† TI	
	MM54HC175	† National		883C4076B	† Sprague				74AC11273	TI	(3310)
	MM74HC175	National		TC4076B	Toshiba (3341)			ACT	54ACT11273	† TI	
	M74HC175	SGS-Thomson							74ACT11273	TI	(3310)
	LR74HC175	Sharp					15	Octal D-Type Flip-Flops W/ Enable			
	74HC175	Signetics (3057)		AC	CD54AC174	† GE/RCA (2642)		AC	54AC11377	† TI	
	SN54HC175	† TI			CD74AC174	GE/RCA (2642)			74AC11377	TI	(3310)
	SN74HC175	TI			54AC174	† National		ACT	54ACT11377	† TI	
	TC74HC175	Toshiba (3340)			74AC174	† National			74ACT11377	TI	(3310)
	TC74HC175A	Toshiba (3340)			54AC11174	† TI					
	US74HC175	Universal			74AC11174	TI (3310)		Octal D-Type, Inverting, Three-State			
HCT	CD54HCT175	† GE/RCA (2640)		ACT	CD54ACT174	† GE/RCA (2642)		AC	CD54ACT564	† GE/RCA (2643)	
	CD74HCT175	GE/RCA (2640)			CD74ACT174	GE/RCA (2642)			CD74ACT564	GE/RCA (2643)	
	GD74HCT175	GoldStar (2709)			54ACT174	† National		ACT	CD54ACT564	† GE/RCA (2643)	
	KS74HCTLS175	Samsung	25		74ACT174	† National			CD74ACT564	GE/RCA (2643)	
	74HCT175	Signetics (3057)			54ACT11174	† TI					
					74ACT11174	TI (3310)		Octal D-Type with Enable			
4XXX	CD40175B	† GE/RCA (2638)		AHCT C	KS74AHCT174	Samsung (3035)		HC	M74HC377	Mitsubishi	
	CD40175BE	GE/RCA (2638)			MM54C174	‡ Micrel		Octal Edge-Triggered with Clear			
	GD40175B	GoldStar (2710)			MM54C174	† National		AC	CD74AC273	GE/RCA (2643)	
	MC14175BA	† Motorola (2942)			MM74C174	National			54AC273	† National	
	MC14175BC	Motorola (2942)							74AC273	National	
	CD40175B	National		HC	CD54HC174	† GE/RCA (2640)			TC74AC273	Toshiba (3340)	
	F40175BC	National			CD74HC174	† GE/RCA (2640)		ACT	CD54ACT273	† GE/RCA (2643)	
	F40175BM	† National			GD74HC174	† GoldStar (2709)			CD74ACT273	GE/RCA (2643)	
	HEF40175B	Signetics			HD74HC174	† Hitachi		AHCT	KS74AHCT273	Samsung (3035)	
	TC40175B	Toshiba (3341)			MC54HC174	† Motorola (2942)		Cell	SN74273-Cell	° TI	
					MC74HC174	† Motorola (2942)		FCT	IDT54FCT273	‡ IDT	
Quad with Enable					MM54HC174	† National			IDT54FCT273A	‡ IDT	
AC	54AC11379	† TI			MM74HC174	National			IDT54FCT273A	‡ IDT	
	74AC11379	TI (3310)			MN74HC174	‡ Panasonic			IDT74FCT273	‡ IDT	
ACT	54ACT11379	† TI		</							

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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Flip-Flops, D-Type (Cont'd)				Octal Three-State, Inverting HC (Cont'd)				Octal Three-State, Non-Inverting AC (Cont'd)				
Octal, TTL Input, Three-State, Inverting HC	MM54HC4303	† National		HD74HC534	Hitachi		70	TC74AC374	Toshiba	(3340)		
	MM74HC4303	National		HD74HC564	Hitachi			TC74AC574	Toshiba	(3340)		
				IDT54AHCT534	† IDT							
Octal with Enable AC	54AC377	† National		IDT74AHCT534	† IDT			ACT	CD74ACT574	GE/RCA	(2643)	
	74AC377	National		MC54HC534	† Motorola	(2942)		54ACT374	† National		145	
ACT	54ACT377	† National		MC54HC564	† Motorola	(2942)	75	54ACT574	† National			
	74ACT377	National		MC74HC534	Motorola	(2942)		74ACT374	National			
AHCT	KS54AHCT377	† Samsung		MC74HC564	Motorola	(2942)		74ACT574	National			
	KS74AHCT377	Samsung	(3035)	MM54HC534	† National			54ACT11374	† TI		150	
FCT	IDT54FCT377	† IDT		MM54HC564	† National			74ACT11374	TI	(3310)		
	IDT54FCT377A	† IDT		MM74HC534	National		80	V54ACT374	† VTC	(3389)		
	IDT54FCT521	† IDT		MM74HC564	National			V54ACT574	† VTC	(3389)		
	IDT74FCT377	† IDT		74HC534	Samsung			V54ACT825	† VTC	(3389)		
	IDT74FCT377A	† IDT		74HC564	Samsung			V74ACT374	VTC	(3389)	155	
	IDT74FCT521	† IDT		M74HC534	SGS-Thomson			V74ACT574	VTC	(3389)		
HC	CD54HC377	† GE/RCA	(2641)	M74HC564	SGS-Thomson		85					
	CD74HC377	GE/RCA	(2641)	LR74HC534	Sharp			AHCT	IDT54AHCT574	† IDT		
	GD74HC377	GoldStar	(2709)	74HC534	Signetics	(3057)			IDT74AHCT574	† IDT		
	HD74HC377	Hitachi		74HC564	Signetics	(3057)			KS74AHCT374	Samsung	(3035)	
	IDT54AHCT377	† IDT		SN54HC534	† TI				KS74AHCT574	Samsung	(3035)	
	74HC377	Signetics	(3057)	SN54HC564	† TI		90	BCT	SN54BCT374	† TI		
	SN54HC377	† TI		SN74HC534	TI				SN74BCT374	TI	(3317)	
	SN74HC377	TI		SN74HC564	TI			C	MM54C374	† Micrel		
	TC74HC377	Toshiba	(3340)	TC74HC534	Toshiba	(3340)			MM54C374	† National		
HCT	CD54HCT377	† GE/RCA	(2641)	TC74HC534A	Toshiba	(3340)	95		MM74C374	National	165	
	CD74HCT377	GE/RCA	(2641)	TC74HC564	Toshiba	(3340)		FCT	IDT54FCT374	† IDT		
	GD74HCT377	GoldStar	(2709)	TC74HC564A	Toshiba	(3340)			IDT54FCT374A	† IDT		
	74HCT377	Signetics	(3057)						IDT54FCT574	† IDT		
Octal, with Master Reset HCT	P54PCT273A	† Performance		HCT	CD54HCT534	† GE/RCA	(2641)		IDT54FCT574A	† IDT		
	P74PCT273A	Performance			CD54HCT564	† GE/RCA	(2641)		IDT54FCT825A	† IDT		
					CD74HCT534	GE/RCA	(2641)	100	IDT54FCT825B	† IDT		
Octal Three-State, Inverting AC	CD54AC534	† GE/RCA	(2643)		CD74HCT564	GE/RCA	(2641)		IDT74FCT374	† IDT		
	CD74AC534	GE/RCA	(2643)		GD74HCT534	GoldStar	(2709)		IDT74FCT374A	† IDT		
	54AC11534	† TI			GD74HCT564	GoldStar			IDT74FCT574	† IDT		
	74AC11534	TI	(3310)		HD74HCT534	Hitachi			IDT74FCT574A	† IDT		
	TC74AC534	Toshiba	(3340)		HD74HCT564	Hitachi			IDT74FCT825A	† IDT		
	TC74AC564	Toshiba	(3340)		54HCT534SOS	† Marconi			IDT74FCT825B	† IDT		
ACT	CD54ACT534	† GE/RCA	(2643)		54HCT564SOS	† Marconi			V54FCT374	† VTC	(3389)	
	CD74ACT534	GE/RCA	(2643)		74HCT534	Marconi			V54FCT574	† VTC	(3389)	
	54ACT11534	TI			74HCT564	Marconi			V54FCT825A	† VTC	(3389)	
	54ACT11826	† TI			MIC74HCT534	Micrel		110	V74FCT374	† VTC	(3389)	
	74ACT11534	TI	(3310)		MIC74HCT564	Micrel			V74FCT574	† VTC	(3389)	
	74ACT11826	TI	(3310)		MC54HCT534	† Motorola			V74FCT825A	† VTC	(3389)	
	V54ACT534	† VTC	(3389)		MC74HCT534	Motorola						
	V54ACT564	† VTC	(3389)		MM54HCT534	† National			HC	CD54HC374	† GE/RCA	(2641, 2653)
	V54ACT576	† VTC	(3389)		MM74HCT534	† National		115		CD54HC574	† GE/RCA	(2641)
	V54ACT826	† VTC	(3389)		P54PCT534	Performance				CD74HC374	GE/RCA	(2641, 2653)
	V74ACT534	VTC	(3389)		MV74HCT534	Plessey				CD74HC574	GE/RCA	(2641)
	V74ACT564	VTC	(3389)		MV74HCT564	Plessey				GD74HC374	GoldStar	(2709)
	V74ACT576	VTC	(3389)		KS74HCTLS534	Samsung		120		GD74HC574	GoldStar	
	V74ACT826	VTC	(3389)		KS74HCTLS564	Samsung				HD74HC374	Hitachi	190
AHCT	KS74AHCT534	Samsung	(3035)		74HCT534	Signetics	(3057)			HD74HC574	Hitachi	
	KS74AHCT564	Samsung	(3035)		74HCT564	Signetics	(3057)			IDT54AHCT374	† IDT	
FCT	IDT54FCT534	† IDT			54HCT534	† Supertex				MC54HC374	† Motorola	(2942)
	IDT54FCT534A	† IDT			54HCT564	† Supertex		125		MC54HC574	† Motorola	(2942)
	IDT54FCT826A	† IDT			74HCT534	Supertex				MC74HC374	Motorola	(2942)
	IDT54FCT826B	† IDT			74HCT564	Supertex				MC74HC574	Motorola	(2942)
	IDT74FCT534	† IDT			SN74HCT534	† TI				MM54HC374	† National	
	IDT74FCT534A	† IDT			SN74HCT564	† TI				MM54HC574	† National	
	IDT74FCT826A	† IDT			TC74HCT564	Toshiba		130		MM74HC374	National	
	IDT74FCT826B	† IDT								MM74HC574	National	200
	V54FCT534	† VTC	(3389)		PCT	P74PCT534	Performance			MN74HC374	Panasonic	
	V54FCT826A	† VTC	(3389)		SC	74SC534	Supertex			74HC374	Samsung	
	V74FCT534	† VTC	(3389)			74SC564	Supertex			74HC574	Samsung	
	V74FCT826A	† VTC	(3389)							M74HC374	SGS-Thomson	205
HC	CD54HC534	† GE/RCA	(2641)							M74HC574	SGS-Thomson	
	CD54HC564	† GE/RCA	(2641)							LR74HC374	Sharp	
	CD74HC534	GE/RCA	(2641)							LR74HC574	Sharp	
	CD74HC564	GE/RCA	(2641)							74HC374	Signetics	(3057)
	GD74HC534	GoldStar	(2709)							74HC574	Signetics	(3057)
	GD74HC564	GoldStar								SN54HC374	† TI	210
										SN54HC574	† TI	
										SN74HC574	TI	
										TC74HC374	Toshiba	(3340)
										TC74HC374A	Toshiba	(3340)
												(Continued)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◇ Available in Surface Mount Package

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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Flip-Flops, D-Type (Cont'd)				9-Bit Three-State, Inverting FCT (Cont'd)				Dual HC (Cont'd)			
Octal Three-State, Non-Inverting HC				IDT74FCT824A ◊ IDT				M74HC76 SGS-Thomson			
				IDT74FCT824B ◊ IDT				LR74HC109 Sharp			
				V54FCT824A ◊† VTC (3389)				LR74HC76 Sharp			
				V74FCT824A ◊† VTC (3387, 3389)				74HC109 Signetics (3057)			
HCT	CD54HCT374	† GE/RCA (2641, 2653)	5	9-Bit Three-State, Non-Inverting ACT				SN54HC109 † TI			130
	CD54HCT574	† GE/RCA (2641)		54ACT11823 † TI				SN74HC109 TI			
	CD74HCT374	GE/RCA (2641, 2653)		74ACT11823 TI (3310)				SN74HC76 TI			135
	CD74HCT574	GE/RCA (2641)		V54ACT823 † VTC (3389)				TC74HC109A Toshiba (3340)			
	GD74HCT374	GoldStar (2709)		V74ACT823 VTC (3389)				TC74HC112 Toshiba (3340)			
GD74HCT574 GoldStar			10	10-Bit Parallel, Inverting AC				TC74HC76A Toshiba (3340)			140
HD74HCT374 Hitachi				54AC11822 † TI				HCT			
HD74HCT574 Hitachi			15	74AC11822 TI (3310)				CD54HCT109 † GE/RCA (2640)			145
54HCT374SOS ‡ Marconi				10-Bit Parallel, Non-Inverting AC				CD74HCT109 GE/RCA (2640)			
54HCT574SOS ‡ Marconi			20	54AC11821 † TI				GD74HCT109 GoldStar (2709)			150
74HCT374 Marconi				74AC11821 TI (3310)				GD74HCT76 GoldStar (2709)			
74HCT574 Marconi			25	10-Bit Three-State, Inverting ACT				MM54HCT109 † National			155
MIC74HCT374 Micrel				54ACT11822 † TI				MM74HCT109 National			
MIC74HCT574 Micrel			30	74ACT11822 TI (3310)				MM74HCT76 National			160
MC54HCT374 † Motorola				V54ACT822 † VTC (3389)				KS74HCTLS109 Samsung			
MC74HCT374 Motorola			35	V74ACT822 VTC (3389)				KS74HCTLS76 Samsung			165
MM54HCT374 † National				9-Bit Three-State, Inverting ACT				4XXX			
MM74HCT374 National			40	54ACT11824 † TI				CD4027A † GE/RCA (2638)			170
P54PCT374 Performance				74ACT11824 TI (3310)				CD4027AE GE/RCA (2638)			
P54PCT374A † Performance			45	V54ACT824 † VTC (3389)				CD4027B ‡ GE/RCA (2638)			175
P54PCT534A † Performance				V74ACT824 VTC (3389)				CD4027BE GE/RCA (2638)			
P74PCT374A Performance			50	AND-Gated Master-Slave				GD4027B ‡ GoldStar (2710)			180
P74PCT534A Performance				HC HCF4095B SGS-Thomson				CD4027A ‡ Micrel			
MV74HCT374 Plessey			55	4XXX CD4095B † GE/RCA (2638)				CD4027B ‡ Micrel			185
MV74HCT574 Plessey				CD4095BE GE/RCA (2638)				MC14027BA † Motorola			
KS74HCTLS374 Samsung			60	CD4096B † GE/RCA (2638)				MC14027BC Motorola			190
KS74HCTLS574 Samsung				CD4096BE GE/RCA (2638)				CD4027BC National			
M74HCT374 SGS-Thomson			65	CD4096B6 GE/RCA (2638)				CD4027BM † National			195
74HCT374 Signetics (3057)				HCF4096B ◊ SGS-Thomson				F4027BC National			
74HCT574 Signetics (3057)			70	Dual AC				F4027BM † National			200
54HCT374 † Supertex				CD54AC109 † GE/RCA (2642)				MN4027B ◊† Panasonic			
54HCT574 † Supertex			75	CD74AC109 GE/RCA (2642)				HCC4027B † SGS-Thomson			205
74HCT374 Supertex				54AC109 † National				HCF4027B ◊ SGS-Thomson			
74HCT574 Supertex			80	54AC11109 † TI				HEF4027B Signetics			210
SN54HCT374 † TI				74AC11109 TI (3310)				883C4027B † Sprague			
SN74HCT374 ◊ TI			85	TC74AC109 Toshiba (3340)				TC4027B Toshiba (3341)			215
SN74HCT574 ◊ TI				ACT CD54ACT109 † GE/RCA (2642)				Dual J-K with Reset			
SN74HC374 TI			90	CD74ACT109 GE/RCA (2642)				HC BU74HC73 ROHM			220
TC74HCT574 Toshiba				54ACT11109 † TI				Dual J-K with Set/Reset			
PCT P74PCT374 Performance			95	54ACT11109 † TI				HC BU74HC76 ROHM			225
SC MV74SC374 Plessey				74ACT11109 TI (3310)				Dual Negative Edge-Triggered, Separate Preset and Clock			
MV74SC574 Plessey			100	AHCT KS74AHCT109 Samsung (3035)				HC			230
74SC374 Supertex				C MM54C76 † National				HC			
74SC574 Supertex			105	MM74C76 National				HC			235
4XXX HEF40374B Signetics				HC CD54HC109 † GE/RCA (2640)				Dual Negative Edge-Triggered with Preset and Clear			
Octal Three-State, Non-Inverting, mult. enable			110	CD74HC109 GE/RCA (2640)				AC			240
ACT 54ACT11825 † TI				GD74HC109 GoldStar (2709)				AC			
74ACT11825 TI (3310)			115	GD74HC76 GoldStar (2709)				CD54AC112 † GE/RCA (2642)			245
V74ACT825 VTC (3389)				HD74HC109 Hitachi				CD74AC112 GE/RCA (2642)			
Octal Three-State, Non-Inverting with clear			120	HD74HC76 Hitachi				54AC11112 † TI			250
ACT V54ACT575 † VTC (3389)				M74HC76 Mitsubishi				74AC11112 TI (3310)			
V74ACT575 VTC (3389)			125	MC54HC109 † Motorola (2941)				TC74AC112 Toshiba (3340)			255
8-Bit Parallel, Inverting AC				MC54HC76 † Motorola (2941)				ACT			
54AC11826 † TI			130	MC74HC109 Motorola (2941)				CD54ACT112 † GE/RCA (2642)			260
74AC11826 TI (3310)				MC74HC76 Motorola (2941)				CD74ACT112 GE/RCA (2642)			
9-Bit Parallel, Inverting AC			135	MM54HC109 † National				54ACT11112 † TI			265
54AC11824 † TI				MM54HC76 † National				74ACT11112 TI (3310)			
74AC11824 TI (3310)			140	MM74HC109 National				AHCT KS74AHCT112 Samsung (3035)			270
9-Bit Parallel, Non-Inverting AC				MM74HC76 National				HC			
54AC11823 † TI			145	MN74HC109 Panasonic				CD54HC112 † GE/RCA (2640)			275
74AC11823 TI (3310)				MN74HC76 Panasonic				CD74HC112 GE/RCA (2640)			
9-Bit Three-State, Inverting FCT			150	M74HC109 SGS-Thomson				GD74HC112 GoldStar (2709)			280
IDT54FCT824A ◊† IDT								HD74HC112 Hitachi			
IDT54FCT824B ◊† IDT											285

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

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DIGITAL-CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Flip-Flops, J-K Type (Cont'd)				Gates, AND				Triple 3-Input HCT			
Dual Negative Edge-Triggered with Preset and Clear HC				Dual w/o Preset HCT				Triple 3-Input HCT			
(Cont'd)				(Cont'd)				(Cont'd)			
	MC54HC112	† Motorola (2941)			74HCT107	Signetics (3057)			KS74HCTLS11	Samsung	
	MC74HC112	Motorola (2941)			74HCT73	Signetics (3057)			74HCT111	Signetics (3057)	
	MM54HC112	† National		Gates, AND				4XXX	CD4073B	† GE/RCA (2637)	140
	MM74HC112	National		Dual 2-Input AND-OR-Invert Gate					CD4073BE	GE/RCA (2637)	
	MN74HC112	Panasonic	5	AC	54AC11051	† TI			GD4073B	† GoldStar	
	M74HC112	SGS-Thomson			74AC11051	TI			CD4073B	† Micrel	
	LR74HC112	Sharp		ACT	54ACT11051	† TI			MC14073BA	† Motorola (2937)	145
	74HC112	Signetics (3057)			74ACT11051	TI	(3310)		MC14073BC	Motorola (2937)	
	SN54HC112	† TI		Dual 4-Input					CD4073BC	National	
	SN74HC112	TI	10	AC	54AC11021	† TI			CD4073BM	† National	
					74AC11021	TI	(3310)		F4073BC	National	
HCT	CD54HCT112	† GE/RCA (2640)			ACT	54ACT11021	† TI		F4073BM	† National	
	CD74HCT112	GE/RCA (2640)			74ACT11021	TI	(3310)		MN4073B	† Panasonic	150
	GD74HCT112	GoldStar (2709)		HC	CD54HC21	† GE/RCA (2640)			HCC4073B	† SGS-Thomson	
	MM54HCT112	† National			CD74HC21	GE/RCA (2640)			HCF4073B	SGS-Thomson	
	MM74HCT112	National	15		GD74HC21	GoldStar (2709)			HEF4073B	Signetics	
	KS74HCTLS112	Samsung			HD74HC21	Hitachi			883C4073B	† Sprague	155
	74HCT112	Signetics (3057)			M74HC21	Mitsubishi			TC4073B	Toshiba	
Dual Negative Edge-Triggered with Preset, Common Clock and Common Clear HC					M74HC21	SGS-Thomson					
	HD74HC108	Hitachi			74HC21	Signetics (3057)					
	HD74HC114	Hitachi			SN54HC21	† TI					
	HD74HC78	Hitachi	20		SN74HC21	TI					
	M74HC114	Mitsubishi			TC74HC21	Toshiba (3340)					
	SN54HC114	† TI			TC74HC21A	Toshiba (3340)					
	SN74HC114	TI			US74HC21	Universal					
	SN74HC78	TI			HCT	CD54HCT21	† GE/RCA (2640)				
HCT	KS74HCTLS78	Samsung	25			CD74HCT21	GE/RCA (2640)				
Dual w/o Preset AHCT						GD74HCT21	GoldStar (2709)				
	KS74AHCT107	Samsung (3035)				74HCT21	Signetics (3057)				
	KS74AHCT73	Samsung (3035)			4XXX	CD4082B	† GE/RCA (2637)				
C	MM54C107	† National				CD4082BE	GE/RCA (2637)				
	MM54C73	† National				GD4082B	† GoldStar				
	MM74C107	National	30			CD4082B	† Micrel				
	MM74C73	National				MC14082BA	† Motorola (2937)				
HC	CD54HC107	† GE/RCA (2640)				MC14082BC	Motorola (2937)				
	CD54HC73	† GE/RCA (2640)				CD4082BC	National				
	CD74HC107	GE/RCA (2640)				CD4082BM	† National				
	CD74HC73	GE/RCA (2640)	35			F4082BC	National				
	GD74HC107	GoldStar (2709)				F4082BM	† National				
	GD74HC73	GoldStar (2709)				HCC4082B	† SGS-Thomson				
	HD74HC107	Hitachi				HCF4082B	† SGS-Thomson				
	HD74HC73	Hitachi				HEF4082B	Signetics				
	M74HC73	Mitsubishi	40			883C4082B	† Sprague				
	MC54HC107	† Motorola (2941)				TC4082B	Toshiba				
	MC54HC73	† Motorola (2941)			Triple 3-Input						
	MC74HC107	Motorola (2941)			AC	54AC11	† National				
	MC74HC73	Motorola (2941)				74AC11	National				
	MM54HC107	† National				54AC11011	† TI				
	MM54HC73	† National	45			74AC11011	TI	(3310)			
	MM74HC107	National				TC74AC11	Toshiba (3340)				
	MM74HC73	National			ACT	54ACT11011	† TI				
	MN74HC107	Panasonic				74ACT11011	TI				
	M74HC107	SGS-Thomson	50		AHCT	KS74AHCT11	Samsung (3035)				
	M74HC73	SGS-Thomson				CD54HC11	† GE/RCA (2640)				
	LR74HC107	Sharp				CD74HC11	GE/RCA (2640)				
	74HC107	Signetics (3057)				GD74HC11	GoldStar (2709)				
	74HC73	Signetics (3057)				HD74HC11	Hitachi				
	SN54HC107	† TI	55			MC54HC11	† Motorola (2937)				
	SN74HC107	TI				MC74HC11	Motorola (2937)				
	SN74HC73	TI				MM54HC11	† National				
	TC74HC107	Toshiba (3340)				MM74HC11	National				
	TC74HC73	Toshiba (3340)				MN74HC11	† Panasonic				
	TC74HC73A	Toshiba (3340)	60			M74HC11	SGS-Thomson				
						LR74HC11	Sharp				
HCT	CD54HCT107	† GE/RCA (2640)				74HC11	Signetics (3057)				
	CD54HCT73	† GE/RCA (2640)				SN54HC11	† TI				
	CD74HCT107	GE/RCA (2640)				SN74HC11	TI				
	CD74HC73	GE/RCA (2640)				TC74HC11	Toshiba (3340)				
	GD74HCT107	GoldStar (2709)				TC74HC11A	Toshiba (3340)				
	GD74HC73	GoldStar (2709)	65								
	MM74HCT107	National				HCT	CD54HCT11	† GE/RCA (2640)			
	KS74HCTLS107	Samsung					CD74HCT11	GE/RCA (2640)			
	KS74HCTLS73	Samsung					GD74HCT11	GoldStar (2709)			
(Continued)				(Continued)				(Continued)			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

° Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Gates, AND (Cont'd)				Gates, AND (Cont'd)				Gates, AND (Cont'd)			
Quad 2-Input 4XXX	883C4081B TC4081B	† Sprague Toshiba		Dual 4-Input 4XXX	CD4012A CD4012BC CD4012BM F4012BC F4012BM MN4012B HCC4012B HCF4012B HEF4012B 883C4012B TC4012B	National National † National National † National † Panasonic † SGS-Thomson † SGS-Thomson Signetics † Sprague Toshiba (3341)		Quad 2-Input AC	MM74PC00 CD54AC00 CD74AC00 54AC00 74AC00 54AC11000 74AC11000 TC74AC00	National † GE/RCA (2642) † GE/RCA (2642) † National National † TI TI (3310) Toshiba (3340)	
Quad 2-Input, Open Collector AHCT HC	KS74AHCT09 GD74HC09 HD74HC09 SN54HC09 SN74HC09	Samsung (3035) GoldStar (2709) Hitachi † TI † TI	5	Dual 4-Input Expandable 4XXX	883C4412B	† Sprague	75	ACT	CD54ACT00 CD74ACT00 54ACT00 54ACT11000 74ACT11000	† GE/RCA (2642) † GE/RCA (2642) † National † TI TI (3310)	145
HCT	KS74HCTLS09	Samsung		Triple 3-Input AC	CD54AC10 CD74AC10 54AC10 74AC10 54AC11010 74AC11010 TC74AC10	† GE/RCA (2642) † GE/RCA (2642) † National National † TI TI (3310) Toshiba (3340)	80	HC	CD54HC00 GD74HC00 HD74HC00 MC54HC00 MC74HC00 MM54HC00 MM74HC00 BU74HC00 M74HC00 LR74HC00 74HC00 SN54HC00 SN74HC00 TC74HC00 TC74HC00A	† GE/RCA (2639, 2653) † GE/RCA (2639, 2653) GoldStar (2709) Hitachi † Motorola (2937) † Motorola (2937) † National National ROHM SGS-Thomson Sharp Signetics (3057) † TI TI Toshiba (3340) Toshiba (3340)	155
Quad 2-Input, Open Drain HCT	GD74HCT09	GoldStar (2709)		ACT	CD54ACT10 CD74ACT10 54ACT11010 74ACT11010	† GE/RCA (2642) † GE/RCA (2642) † TI TI (3310)	85	HCT	CD54HCT00 CD74HCT00 GD74HCT00 M74HCT00 MM54HCT00 MM74HCT00 KS74HCTLS00 74HCT00	† GE/RCA (2639, 2653) † GE/RCA (2639, 2653) GoldStar (2709) Mitsubishi † National National Samsung Signetics (3057)	170
Quad 4–2–3–2-Input AND-OR-Invert Gate AC	54AC11064 74AC11064	† TI TI (3310)	10	AHCT	KS74AHCT10 KS74AHCT12	Samsung (3035) Samsung (3035)	90	4XXX	CD4011A CD4011AE CD4011BE CD4011UB CD4011UBE GD4011B CD4011A CD4011B MC14011BA MC14011BC MC14011UBA MC14011UBC	† GE/RCA (2637) † GE/RCA (2637) † GE/RCA (2637) † GE/RCA (2637) † GE/RCA (2637) † GoldStar (2710) † Micrel † Micrel † Motorola (2937) † Motorola (2937) † Motorola (2937) † Motorola (2937)	180
ACT	54ACT11064 74ACT11064	† TI TI (3310)		C	MM54C10 MM74C10	† National National	95	CD4011B	† Micrel		185
Gates, NAND				HC	CD54HC10 CD74HC10 GD74HC10 HD74HC10 HD74HC20 M74HC10 MC54HC10 MC74HC10 MN74HC20 M74HC20 LR74HC20 74HC20 SN54HC20 SN74HC20 TC74HC20 TC74HC20A US74HC20	† GE/RCA (2640) † GE/RCA (2640) GoldStar (2709) Hitachi Hitachi Mitsubishi † Motorola (2937) † Motorola (2937) † Panasonic SGS-Thomson Sharp Signetics (3057) † TI TI Toshiba (3340) Toshiba (3340) Universal	20	CD4011B	† Micrel		190
HCT	CD54HCT20 CD74HCT20 GD74HCT20 74HCT20	† GE/RCA (2640) † GE/RCA (2640) GoldStar (2709) Signetics (3057)	25	HCT	CD54HCT10 CD74HCT10 GD74HCT10 KS74HCTLS10 KS74HCTLS12 74HCT10	† GE/RCA (2640) † GE/RCA (2640) GoldStar (2709) Samsung Samsung Signetics (3057)	30	CD4011B	† Panasonic		195
4XXX	CD4012B CD4012BE CD4012UB CD4012UBE GD4012B CD4012A CD4012B MC14012BA MC14012BC MC14012UBA MC14012UBC	† GE/RCA (2637) † GE/RCA (2637) † GE/RCA (2637) † GE/RCA (2637) † GoldStar (2710) † Micrel † Micrel † Motorola (2937) † Motorola (2937) † Motorola (2937) † Motorola (2937)	35	4XXX	CD4023B CD4023BE CD4023UB CD4023UBE GD4023B CD4023A CD4023B MC14023BA MC14023BC MC14023UBA MC14023UBC	† GE/RCA (2637) † GE/RCA (2637) † GE/RCA (2637) † GE/RCA (2637) † GoldStar (2710) † Micrel † Micrel † Motorola (2937) † Motorola (2937) † Motorola (2937) † Motorola (2937)	40	CD4011B	† Sanyo		200
					CD4023BC CD4023BM F4023BC F4023BM MN4023B HCC4023B HCF4023B HEF4023B 883C4023B TC4023B	National † National National † National † Panasonic † SGS-Thomson † SGS-Thomson Signetics † Sprague Toshiba (3341)	45	CD4011B	† National		205
								Quad 2-Input NAND Schmitt Trigger AC	54AC11132 74AC11132	† TI TI (3310)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Gates, NAND (Cont'd)				Gates, AND-OR				Gates, OR			
Quad 2-Input, Open Collector				13-Input				4-Wide 2-Input Expandable			
HC	CD54HC03	† GE/RCA (2639)		HC	M74HC133	SGS-Thomson	70	4XXX	HCF4086B	SGS-Thomson	
	CD74HC03	GE/RCA (2639)			LR75HC133	Sharp			HEF4086B	Signetics	
	GD74HC03	GoldStar (2709)			SN54HC133	† TI			883C4086B	† Sprague	
	74HC03	Signetics (3057)			SN74HC133	TI			TC4086B	Toshiba (3341)	
HCT	CD54HCT03	† GE/RCA (2639)	5		TC74HC133	Toshiba (3340)					
	CD74HCT03	GE/RCA (2639)			TC74HC133A	Toshiba (3340)	75	Gates, OR			
	GD74HCT03	GoldStar (2709)		HCT	GD74HCT133	GoldStar (2709)		Dual 4-Input			
	74HCT03	Signetics (3057)						HC	M74HC4072	SGS-Thomson	135
Quad 2-Input (open drain)				Gates, AND-OR					TC74HC4072	Toshiba (3340)	
	SN54HC01	† TI		Quad Select				4XXX	CD4072B	† GE/RCA (2637)	
AHCT	KS74AHCT03	Samsung (3035)	10	4XXX	CD4019B	† GE/RCA (2637, 2639)			CD4072BE	GE/RCA (2637)	
HC	MC54HC03	† Motorola (2937)			CD4019BE	GE/RCA (2637, 2639)			GD4072B	† GoldStar	140
	MC74HC03	Motorola (2937)			GD4019B	† GoldStar (2710)			CD4072B	† Micrel	
	MM54HC03	† National			CD4019A	† Micrel	80		MC14072BA	† Motorola (2937)	
	MM74HC03	National			CD4019B	† Micrel			MC14072BC	Motorola (2937)	
	M74HC03	SGS-Thomson	15		CD4019BC	National			CD4072BC	National	
	LR74HC03	Sharp			CD4019BM	† National			CD4072BM	† National	145
	SN54HC03	† TI			F4019BC	National			F4072BC	National	
	SN74HC01	TI			F4019B	† National			F4072BM	† National	
	SN74HC03	TI			HCC4019B	† SGS-Thomson	85		MN4072B	† Panasonic	
	TC74HC03A	Toshiba (3340)	20		HCF4019B	† SGS-Thomson			HCC4072B	† SGS-Thomson	
HCT	KS74HCTLS01	Samsung			HCF4019B	† SGS-Thomson			HCF4072B	† SGS-Thomson	150
	KS74HCTLS03	Samsung			HEF4019B	Signetics			HEF4072B	Signetics	
5XXX	TC5029B	Toshiba (3341)			883C4019B	† Sprague			883C4072B	† Sprague	
8-Input					TC4019B	Toshiba (3341)	90		TC4072B	Toshiba	
AC	54AC11030	† TI		2-Wide, 2-Input/2-Wide, 3-Input				Triple 3-Input			
	74AC11030	TI (3310)		HC	MC54HC58	† Motorola (2938)		HC	CD54HC4075	† GE/RCA (2641)	
ACT	54ACT11030	† TI			MC74HC58	Motorola (2938)			CD74HC4075	GE/RCA (2641)	
	74ACT11030	TI (3310)			MM54HC58	† National			M74HC4075	Mitsubishi	155
C	MM54C30	† National			MM74HC58	National			MC54HC4075	† Motorola (2937)	
	MM74C30	National			LR74HC58	Sharp	95		MC74HC4075	Motorola (2937)	
HC	CD54HC30	† GE/RCA (2640)	30	Gates, AND-OR-Invert					MM54HC266	† National	
	CD74HC30	GE/RCA (2640)		Dual 2 Wide 3-Input, 2 Wide 2-Input					MM54HC4075	† National	
	GD74HC30	GoldStar (2709)		HC	M74HC51	Mitsubishi			MM74HC266	National	160
	HD74HC30	Hitachi		Dual 2-Wide 2-Input					MM74HC4075	National	
	M74HC30	Mitsubishi		4XXX	CD4085B	† GE/RCA (2637)			MN74HC4075	† Panasonic	
	MC54HC30	† Motorola (2937)	35		CD4085BE	GE/RCA (2637)			M74HC4075	† SGS-Thomson	
	MC74HC30	Motorola (2937)			GD4085B	† GoldStar (2710)			LR74HC4075	Sharp	
	MM54HC30	† National			MC14506BA	† Motorola (2938)	100		74HC4075	Signetics	165
	MM74HC30	National			MC14506BC	Motorola (2938)			SN54HC4075	† TI	
	MN74HC30	† Panasonic			F4085BC	National			SN74HC4075	TI	
	M74HC30	SGS-Thomson	40		F4085BM	National			TC74HC4075	Toshiba (3340)	
	LR74HC30	Sharp			MN4085B	† Panasonic			TC74HC4075A	Toshiba (3340)	
	74HC30	Signetics (3057)			HCC4085B	† SGS-Thomson		HCT	CD54HCT4075	† GE/RCA (2641)	170
	SN54HC30	† TI			HCF4085B	† SGS-Thomson			CD74HCT4075	GE/RCA (2641)	
	SN74HC30	TI			HEF4085B	Signetics			74HCT4075	Signetics (3057)	
	TC74HC30	Toshiba (3340)	45		883C4085B	† Sprague		4XXX	CD4075B	† GE/RCA (2637)	
	TC74HC30A	Toshiba (3340)			TC4085B	Toshiba (3341)	105		CD4075BE	GE/RCA (2637)	
HCT	CD54HCT30	† GE/RCA (2640)		2-Wide, 2-Input/2-Wide, 3-Input					GD4075B	† GoldStar (2710)	175
	CD74HCT30	GE/RCA (2640)		AHCT	KS74AHCT51	Samsung (3035)			CD4075B	† Micrel	
	GD74HCT30	GoldStar (2709)		HC	GD74HC51	GoldStar (2709)	110		MC14075BA	† Motorola (2937)	
	74HCT30	Signetics (3057)			HD74HC51	Hitachi			MC14075BC	Motorola (2937)	
4XXX	CD4068B	† GE/RCA (2637)			MC54HC51	† Motorola (2938)			CD4075BC	National	
	CD4068BE	GE/RCA (2637)			MC74HC51	Motorola (2938)			CD4075BM	† National	180
	GD4068B	† GoldStar (2710)			MM54HC51	† National			F4075BC	National	
	MC14068BA	† Motorola (2937)			MM74HC51	National	115		F4075BM	† National	
	MC14068BC	Motorola (2937)			MN74HC51	† Panasonic			MN4075B	† Panasonic	
	F4068BC	National			M74HC51	† SGS-Thomson			HCC4075B	† SGS-Thomson	185
	F4068BM	† National			LR74HC51	Sharp			HCF4075B	† SGS-Thomson	
	HCC4068B	† SGS-Thomson			SN54HC51	† TI			HEF4075B	Signetics	
	HCF4068B	† SGS-Thomson			SN74HC51	TI			883C4075B	† Sprague	
	HEF4068B	Signetics			TC74HC51	Toshiba (3340)	120		TC4075B	Toshiba	
	883C4068B	† Sprague			TC74HC51A	Toshiba (3340)		Quad 2-Input			
	TC4068B	Toshiba (3341)	60	HCT	GD74HCT58	GoldStar (2709)		AC	CD54AC32	† GE/RCA (2642)	
13-Input									CD74AC32	GE/RCA (2642)	
HC	GD74HC133	GoldStar (2709)		4-Wide 2-Input Expandable					54AC32	† National	190
	HD74HC133	Hitachi		4XXX	CD4086B	† GE/RCA (2637)			74AC32	National	
	MC54HC133	† Motorola (2937)	65		CD4086BE	GE/RCA (2637)			54AC11032	† TI	
	MC74HC133	Motorola (2937)			GD4086B	† GoldStar (2710)			74AC11032	TI	
	MM54HC133	† National			F4086BC	National			TC74AC32	Toshiba (3340)	195
	MM74HC133	National			F4086BM	† National		ACT	CD54ACT32	† GE/RCA (2642)	
	MN74HC133	† Panasonic			HCC4086B	† SGS-Thomson	130		CD74ACT32	GE/RCA (2642)	
		(Continued)				(Continued)			54ACT11032	† TI	
									74ACT11032	TI (3310)	
										(Continued)	

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Latches (Cont'd)				Octal D-Type				Octal Transparent, D-Type, Three State FCT			
Dual 4-Bit D-Type, Three-State ACT	SN54HC620	TI	5	HC	M74HC563	Mitsubishi	65	(Cont'd)			
	54ACT11873	† TI			M74HC564	Mitsubishi		IDT54FCT573A	† IDT		125
	74ACT11873	TI			M74HC573	Mitsubishi		IDT74FCT373	◊ IDT		
HC	MC74HC873	Motorola			M74HC563	SGS-Thomson		IDT74FCT373A	◊ IDT		
								IDT74FCT573	◊ IDT		
Dual 4-Bit D-Type ACT	V54ACT880	† VTC	10	HCT	M74HCT573	SGS-Thomson	70	IDT74FCT573A	◊ IDT		130
	V74ACT880	VTC		Octal D-Type, Inverting HC	M74HC533	Mitsubishi		V54FCT373	◊† VTC	(3389)	
					M74HC534	Mitsubishi		V54FCT573	◊† VTC	(3389)	
								V74FCT373	◊† VTC	(3389)	
								V74FCT573	◊† VTC	(3389)	
Quad, Bistable HC	HD74HC375	Hitachi	15	Octal D-Type, Inverting, Three-State HC	TC74HC533A	Toshiba	75	HC	CD54HC373	† GE/RCA	135
	M74HC77	SGS-Thomson		Octal D-Type Latch BCT	SN74BCT533	TI			CD54HC573	† GE/RCA	
	SN54HC375	† TI				(3317)			CD74HC373	† GE/RCA	
	SN74HC375	TI		Octal D-Type Latch, Three-State (BiCMOS) BCT	SN74BCT373	TI			CD74HC573	GE/RCA	
	TC74HC375	Toshiba				(3317)			GD74HC373	GoldStar	
Quad Clocked D 4XXX	CD4042B	† GE/RCA	20	Octal D-Type, Non-Inverting, Three-State HC	BU74HC373	ROHM	80		GD74HC573	GoldStar	140
	CD4042BE	GE/RCA		Octal D-Type, Three-State HC	TC74HC373A	Toshiba			HD74HC373	Hitachi	
	GD4042B	† GoldStar				(3340)			HD74HC573	Hitachi	
	CD4042A	‡ Micrel		Octal, Inverting, Back-to-Back Configuration ACT	74ACT547	◊ MMI			IDT54HC373	† IDT	
	CD4042B	‡ Micrel			74ACT793	MMI			MC54HC373	† Motorola	145
	MC14042BA	† Motorola	25	Octal Inverting Transparent Latch, Three-State AC	CD54AC563	† GE/RCA	85		MC54HC573	† Motorola	
	MC14042BC	Motorola			CD74AC563	GE/RCA			MC74HC373	Motorola	
	CD4042BC	National			CD54ACT563	† GE/RCA			MC74HC573	Motorola	
	CD4042BM	† National			CD74ACT563	GE/RCA			MM54HC373	† National	
	F4042BC	National				(2643)			MM54HC573	† National	150
	F4042BM	† National	30	Octal Transparent, D-Type with Clear HC	MC74HC7373	Motorola	90		MM74HC373	National	
	HCC4042B	† SGS-Thomson			MC74HC7533	Motorola			MN74HC373	Panasonic	
	HCF4042B	◊ SGS-Thomson			MC74HC7563	Motorola			74HC373	Samsung	
	HEF4042B	Signetics			MC74HC7573	Motorola			74HC573	Samsung	
	883C4042B	† Sprague			MC74HC9533	Motorola			M74HC373	SGS-Thomson	155
	TC4042B	Toshiba	35		MC74HC9563	Motorola	95		M74HC573	SGS-Thomson	
Quad D-Type HC	M74HC375	SGS-Thomson			MC74HC9573	Motorola			LR74HC373	Sharp	
Quad NAND R/S 4XXX	CD4044B	GE/RCA		Octal Transparent, D-Type with Readback, Non-Inverting, Three-State AHCT	KS54AHCT793	† Samsung			74HC373	Signetics	
	GD4044B	GoldStar			KS74AHCT793	Samsung			74HC573	Signetics	
	CD4044A	‡ Micrel	40		MC54HC7793	† Motorola	100		SN54HC373	† TI	160
	CD4044B	‡ Micrel			MC74HC7793	Motorola			SN54HC573	† TI	
	MC14044BA	† Motorola			MC74HC793	Motorola			SN74HC373	TI	
	MC14044BC	Motorola				(2941)			SN74HC573	TI	
	CD4044A	National		Octal Transparent, D-Type, Three State AC	CD54AC373	† GE/RCA	105		TC74HC373	Toshiba	165
	CD4044BC	National	45		CD54AC573	† GE/RCA			TC74HC573	Toshiba	
	CD4044BM	† National			CD74AC373	GE/RCA			TC74HC573A	Toshiba	
	F4044BC	National			CD74AC573	GE/RCA					
	F4044BM	† National			54AC373	† National	110				170
	HCC4044B	† SGS-Thomson	50		74AC373	National			CD54HCT373	† GE/RCA	
	HCF4044B	◊ SGS-Thomson			74AC11373	TI			CD54HCT573	† GE/RCA	
	HEF4044B	Signetics			TC74AC373	Toshiba			CD74HCT373	GE/RCA	
	TC4044B	Toshiba			TC74AC573	Toshiba			GD74HCT373	GoldStar	
Quad NAND R-S Latch	883C4044B	Sprague	55		74ACT573	Toshiba	115		GD74HCT573	GoldStar	175
Quad NOR R/S 4XXX	CD4043B	† GE/RCA			74ACT11373	TI			HD74HCT373	Hitachi	
	CD4043BE	GE/RCA			74ACT573	† National			HD74HCT573	Hitachi	
	GD4043B	† GoldStar			54ACT373	† National			54HCT373SOS	‡ Marconi	
	CD4043A	‡ Micrel			54ACT573	† National			54HCT573SOS	‡ Marconi	180
	CD4043B	‡ Micrel	60		74ACT373	National	120		74HCT373	Marconi	
	MC14043BA	† Motorola			74ACT573	National			74HCT573	Marconi	
	MC14043BC	Motorola			54ACT11373	† TI			MIC74HCT373	Micrel	
	CD4043A	National			74ACT11373	TI			MIC74HCT573	Micrel	
	CD4043BC	National			V54ACT373	† VTC	125		MC54HCT373	† Motorola	185
	CD4043BM	† National	65		V54ACT573	† VTC			MC74HCT373	Motorola	
	F4043BC	National			V74ACT373	VTC			MM54HCT373	† National	
	F4043BM	† National			V74ACT573	VTC			MM74HCT373	National	
	HCC4043B	† SGS-Thomson				(3389)			P54PCT373	Performance	
	HCF4043B	◊ SGS-Thomson	70			(3389)	130		MV74HCT373	Plessey	190
	HEF4043B	Signetics				(3389)			MV74HCT573	Plessey	
	883C4043B	† Sprague				(3389)			KS74HCTLS373	Samsung	
	TC4043B	Toshiba				(3389)			KS74HCTLS573	Samsung	
						(3389)			M74HCT373	SGS-Thomson	
Quad R-S HC	M74HC279	Mitsubishi	75	AHCT	IDT54AHCT573	◊ IDT	135		74HCT373	Signetics	195
	M74HC279	SGS-Thomson			IDT74AHCT573	◊ IDT			74HCT573	Signetics	
					KS74AHCT373	Samsung			54HCT373	† Supertex	
					KS74AHCT573	Samsung			54HCT573	† Supertex	
						(3035)			74HCT373	Supertex	
Quad Set-Reset HC	TC74HC279	Toshiba	80	FCT	IDT54FCT373	◊† IDT	140		74HCT573	Supertex	200
					IDT54FCT373A	◊† IDT			74HCT573	Supertex	
					IDT54FCT573	◊† IDT			SN54HCT373	† TI	
						(Continued)					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Latches (Cont'd)				Octal Transparent, Three-State, Inverted Output HC (Cont'd)				8-Bit				
Octal Transparent, D-Type, Three State HCT (Cont'd)								ACT				
	SN74HCT373	TI	5		SN54HC563	TI	70		54ACT11845	TI	135	
	SN74HCT573	TI			SN74HC533	TI			74ACT11845	TI (3310)		
	TC74HCT373	Toshiba			SN74HC563	TI			HC	MC74HC793		
	TC74HCT573	Toshiba			TC74HC533	Toshiba (3340)				Motorola (2941)		
	TC74HCT573	Toshiba			TC74HC563	Toshiba (3340)			8-Bit Addressable HC			
					TC74HC563A	Toshiba (3340)			M74HC259	Mitsubishi		
PCT				HCT				8-Bit Addressable, Bidirectional Data Port (serial in/out and parallel out) 4XXX				
	P74PCT373	Performance	10		CD54HCT533	GE/RCA (2641)	75		MC14599BA	Motorola (2941)	140	
	MV74SC573	Plessey			CD54HCT563	GE/RCA (2641)			MC14599BC	Motorola (2941)		
	74SC373	Supertex			CD74HCT533	GE/RCA (2641)		8-Bit Addressable Input, Parallel Output, Three-State 4XXX				
	74SC573	Supertex			CD74HCT563	GE/RCA (2641)			MC14598BA	Motorola (2941)		
					GD74HCT533	GoldStar (2709)			MC14598BC	Motorola (2941)		
4XXX					GD74HCT563	GoldStar		8-Bit Addressable (serial in, parallel out)				
Octal Transparent, D-Type, Three State with Clear HC					HD74HCT533	Hitachi	80		AHCT	KS74AHCT259	145	
	MC74HC9373	Motorola		HD74HCT563	Hitachi			Cell	SN74259-Cell			
Octal Transparent, D-Type, Three-State AC					54HCT533SOS	Marconi			HC	CD54HC259		
	54AC11373	TI		54HCT563SOS	Marconi				CD74HC259			
	SN54BCT373	TI		74HCT533	Marconi				GD74HC259			
Octal Transparent with Readback, Non-Inverting, Three-State HC					74HCT563	Marconi				GoldStar (2709)		
	MC54HC793	Motorola (2941)		MIC74HCT533	Micrel				Hitachi			
Octal Transparent, Three-State HCT					MIC74HCT563	Micrel	85		MC54HC259	Motorola (2941)	150	
	P54PCT373A	Performance		MC54HCT533	Motorola			MC74HC259	Motorola (2941)			
	P54PCT533A	Performance		MC74HCT533	Motorola			MM54HC259	National			
	P74PCT373A	Performance		MM54HCT533	National			MM54HC77	National			
	P74PCT533A	Performance		MM74HCT533	National			MM74HC259	National			
Octal Transparent, Three-State, Inverted Output AC					P54PCT533	Performance	90		MM74HC77	National	155	
	CD54AC533	GE/RCA (2643)		MV74HCT533	Plessey			M74HC259	SGS-Thomson			
	CD74AC533	GE/RCA (2643)		MV74HCT563	Plessey			LR74HC259	Sharp			
	TC74AC533	Toshiba (3340)		KS74HCTLS533	Samsung			74HC259	Signetics (3057)			
	TC74AC563	Toshiba (3340)		KS74HCTLS563	Samsung			SN54HC259	TI			
ACT					M74HCT563	SGS-Thomson	95		SN54HC4724	TI	160	
	CD54ACT533	GE/RCA (2643)		74HCT533	Signetics (3057)			SN74HC259	TI			
	CD74ACT533	GE/RCA (2643)		74HCT563	Signetics (3057)			SN74HC4724	TI			
	54ACT11533	TI		54HCT533	Supertex			TC74HC259	Toshiba (3340)			
	74ACT11533	TI (3310)		54HCT563	Supertex	100			CD54HCT259	GE/RCA (2640)		
	V54ACT533	VTC (3389)		74HCT533	Supertex			CD74HCT259	GE/RCA (2640)			
	V54ACT563	VTC (3389)		74HCT563	Supertex			GD74HCT259	GoldStar (2709)			
	V54ACT580	VTC (3389)		SN54HCT533	TI			KS74HCTLS259	Samsung			
	V74ACT533	VTC (3389)		SN74HCT533	TI			74HCT259	Signetics (3057)			
	V74ACT563	VTC (3389)		SN74HCT563	TI	105		CD4099B	GE/RCA (2638)	165		
	V74ACT580	VTC (3389)		TC74HCT563	Toshiba			CD4099BE	GE/RCA (2638)			
AHCT								CD4724B	GE/RCA (2638)			
	KS74AHCT533	Samsung (3035)		PCT	P74PCT533			GD4724B	GoldStar (2710)			
	KS74AHCT563	Samsung (3035)		SC	MV74SC533			CD4099B	TI			
	SN54BCT533	TI	35		MV74SC563		CD4724B	TI				
	IDT54FCT533	IDT				74SC533		CD4099B	TI			
	IDT54FCT533A	IDT				74SC563		CD4724B	TI			
	IDT74FCT533	IDT						MC14099BA	Motorola (2941)			
	IDT74FCT533A	IDT						MC14099BC	Motorola (2941)			
HC							110			CD4099BC	175	
	CD54HC533	GE/RCA (2641)								CD4099BM		
	CD54HC563	GE/RCA (2641)								CD4724BC		
	CD74HC533	GE/RCA (2641)								CD4724BM		
	CD74HC563	GE/RCA (2641)								F4724BC		
	GD74HC533	GoldStar (2709)	40				115			F4724BM	180	
	GD74HC563	GoldStar										HCC4099B
	HD74HC533	Hitachi										HCF4099B
	HD74HC563	Hitachi										HEF4724B
	IDT54HCT533	IDT										883C4099B
	MC54HC533	Motorola (2941)	50				120			TC4099B	185	
	MC54HC563	Motorola (2941)										
	MC74HC533	Motorola (2941)										
	MC74HC563	Motorola										
	MM54HC533	National										
	MM54HC563	National	55				125				190	
	MM74HC533	National										
	MM74HC563	National										
	74HC533	Samsung										
	74HC563	Samsung										
	M74HC533	SGS-Thomson	60				130				195	
	LR74HC533	Sharp										
	LR74HC563	Sharp										
	74HC533	Signetics (3057)										
	74HC563	Signetics (3057)										
	SN54HC533	TI	65				135				200	
							140				205	
			70				145				210	
			75				150				215	
			80				155				220	
			85				160				225	
			90				165				230	
			95				170				235	
			100				175				240	
			105				180				245	
			110				185				250	
			115				190				255	
			120				195				260	
			125				200				265	
			130				205				270	
			135				210				275	
			140				215				280	
			145				220				285	
			150				225				290	
			155				230				295	
			160				235				300	
			165				240				305	
			170				245				310	
			175				250				315	
			180				255				320	
		</										

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Latches (Cont'd)				10-Bit Transparent, D-Type, Three-State, Non-Inverting				16-Bit Multiport Register File (4x4 read while write RAM)			
8-Bit Transparent, D-Type, Three-State, Non-Inverting	54AC11845	† TI	(3310)	ACT	54ACT11841	† TI	(3310)	4XXX	CD40108B	† GE/RCA	(2638)
AC	74AC11845	TI			74ACT11841	TI			CD40108BE	GE/RCA	
FCT	IDT54FCT845A	◊† IDT			V54ACT841	† VTC			CD40208B	† GE/RCA	
	IDT74FCT845A	◊ IDT			V74ACT841	VTC	(3389)		CD40208BE	GE/RCA	(2638)
	IDT74FCT845B	◊ IDT		4-Bit Bistable	GD74HCT75	GoldStar	(2709)		MC14580BA	† Motorola	110
9-Bit Interface D-Type Latches, Three State	KS54AHCT843	† Samsung	(3035)	HCT	54ACT11846	† TI	(3310)		MC14580BC	Motorola	
AHCT	KS54AHCT844	† Samsung		8-Bit Transparent, D-Type, Three-State, Inverting	74ACT11846	TI			HCC40208B	† SGS-Thomson	
	KS74AHCT843	Samsung		ACT	V54ACT846	† VTC	(3389)		HCF40208B	SGS-Thomson	
	KS74AHCT844	Samsung	(3035)		V74ACT846	VTC	(3389)				
BCT	SN54BCT29844	† TI	(3310)	8-Bit Transparent, D-Type, Three-State, Non-Inverting	V54ACT845	† VTC	(3389)				
	SN54BCT29843	† TI		ACT	V74ACT845	VTC					
9-Bit, Transparent, D-Type, Three-State (bus interface)	AM29C843	AMD									
9-Bit Transparent, D-Type, Three-State, Inverting	54AC11844	† TI	(3310)	9-Bit Transparent, D-Type, Three-State, Inverting	54ACT11844	† TI	(3310)				
AC	74AC11844	TI		ACT	74ACT11844	TI					
					V54ACT844	† VTC					
					V74ACT844	VTC	(3389)				
BCT	SN54BCT29846	† TI	(3389)	9-Bit Transparent, D-Type, Three-State, Non-Inverting	54ACT11843	† TI	(3310)				
FCT	IDT54FCT844B	◊† IDT		ACT	74ACT11843	TI					
	IDT54FCT845B	◊† IDT			V54ACT843	† VTC	(3389)				
	IDT74FCT844B	◊ IDT			V74ACT843	VTC	(3389)				
	V54FCT844A	◊† VTC	(3389)								
	V54FCT845A	◊† VTC	(3389)								
	V74FCT844A	◊† VTC	(3389)								
9-Bit Transparent, D-Type, Three-State, Non-Inverting	54AC11843	† TI	(3310)	Memories							
AC	74AC11843	TI		For additional information see Master Selection Guide-Memory Sections.							
				Cache Data RAM (2Kx16x2 static RAM)							
BCT	SN54BCT29845	† TI	(3389)	C	MS82C308-35	◊ Mosel	(3389)				
FCT	IDT54FCT843B	◊† IDT			MS82C308-45	◊ Mosel					
	IDT74FCT843B	◊ IDT			MS82C308-55	◊ Mosel					
	V54FCT843A	◊† VTC	(3389)								
	V74FCT843A	◊† VTC	(3389)								
10-Bit Interface D-Type Latches, Three State	KS54AHCT841	† Samsung	(3035)	FIFO Register (4-bit by 16-word)	HC	TC74HC40105A	Toshiba				
AHCT	KS54AHCT842	† Samsung									
	KS74AHCT841	Samsung		Memory Mapper (expands 4 address lines to 12)	HCT	UM74HCT612	UMC				
	KS74AHCT842	Samsung	(3035)								
10-Bit Interface D-Type Latches, Three-State	SN54BCT29841	† TI	(3310)	74HCT612	ZyMOS						
BCT	SN54BCT29842	† TI		Register File, Dual-Access (4-port)	AM29C334	AMD					
10-Bit, Transparent, D-Type, Three-State (bus Interface)	AM29C841	AMD		Dual-Port RAM, 256 Bytes	HC	MCM68HC34	Motorola				
10-Bit Transparent, D-Type, Three-State, Inverting	54AC11842	† TI	(3310)	Octal Memory Driver (BiCMOS)	BCT	SN74BCT2240	TI (3299, 3317)				
AC	74AC11842	TI				SN74BCT2241	TI (3299, 3317)				
						SN74BCT2244	TI (3299, 3317)				
FCT	IDT54FCT842A	◊† IDT	(3389)	1Kx9 FIFO	ACT	SN74ACT7202-50	TI (3300)				
	IDT54FCT842B	◊† IDT		4-Bit x 16 FIFO Register	HC	CD54HC40105	† GE/RCA (2642)				
	IDT54FCT844A	◊† IDT				CD74HC40105	GE/RCA (2642)				
	IDT74FCT842A	◊ IDT				74HC40105	Signetics (3057)				
	IDT74FCT842B	◊ IDT									
	IDT74FCT844A	◊ IDT									
	V54FCT842A	◊† VTC	(3389)								
	V74FCT842A	◊† VTC	(3389)								
10-Bit Transparent, D-Type, Three-State, Non-Inverting	54AC11841	† TI	(3310)								
AC	74AC11841	TI									
FCT	IDT54FCT841A	◊† IDT	(3389)								
	IDT54FCT841B	◊† IDT									
	IDT74FCT841A	◊ IDT									
	IDT74FCT841B	◊ IDT									
	V54FCT841A	◊† VTC	(3389)								
	V74FCT841A	◊† VTC	(3389)								
16-Bit Bidirectional Latch with Byte Swap	IDT49FCT601	IDT									
10-Bit Transparent, D-Type, Three-State, Inverting	54AC11842	† TI	(3310)								
ACT	74ACT11842	TI									
	V54ACT842	† VTC	(3389)								
	V74ACT842	VTC	(3389)								

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

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Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Memories (Cont'd)				Memories (Cont'd)				Memories (Cont'd)			
256-Bit RAM (256x1)				Dual 4-Channel, Three-State				Quad 2-Input Data Selector			
4XXX	GD4720B	GoldStar (2710)		HC	SN74HC253	TI		AC	CD54AC157	† GE/RCA (2642)	
	MCM14537A	† Motorola			TC74HC253	Toshiba (3340)			CD74AC157	GE/RCA (2642)	
	MCM14537C	Motorola							54AC157	† National	120
	F4720AC	National		HCT	GD74HCT253	GoldStar (2709)	60		74AC157	National	
	F4720AM	† National			74HCT253B	Signetics (3057)			54AC11157	† TI	
	F4720C	National		Dual 4-Input					74AC11157	TI (3310)	
	F4720M	† National		AC	CD54AC153	† GE/RCA (2642)		ACT	CD54ACT157	† GE/RCA (2642)	
	HEF4720B	Signetics			CD74AC153	GE/RCA (2642)			CD74ACT157	GE/RCA (2642)	125
	HEF4720V	† Signetics		ACT	CD54ACT153	† GE/RCA (2642)			54ACT157	† National	
					CD74ACT153	GE/RCA (2642)	65	AHCT	KS74AHCT157	Samsung (3035)	
256-Bit RAM (32x8)				HC	CD54HC153	† GE/RCA (2640)		C	MM54C157	† National	
	CDP1824	† GE/RCA (2644)	10		CD74HC153	GE/RCA (2640)			MM74C157	National	
	CDP1824C	† GE/RCA (2644)			HD74HC153	Hitachi		HC	CD54HC157	† GE/RCA (2640, 2653)	130
	HB1824	† Hughes			M74HC253	Mitsubishi			CD74HC157	GE/RCA (2640, 2653)	
	HB1824C	† Hughes			MM54HC153	† National	70		GD74HC157	GoldStar (2709)	
HC	HC1824	◊ Hughes	15		MM74HC153	National			HD74HC157	Hitachi	
	HC1824C	◊ Hughes			US74HC153	Universal			MC54HC157	† Motorola (2944)	135
256-Bit RAM (64x4)				HCT	CD54HCT153	† GE/RCA (2640)			MC74HC157	Motorola (2944)	
	COP498	National			CD74HCT153	GE/RCA (2640)			MM54HC157	† National	
C	MM54C910	† National			MM54HCT153	† National	75		MM54HC158	† National	
	MM74C910	National			MM74HCT153	National			MM74HC157	National	
4XXX	MCM14552A	† Motorola		Dual 4-Input Inverting					MM74HC158	National	
	MCM14552C	Motorola		AC	54AC11352	† TI			MN74HC157	◊ Panasonic	140
512x9 FIFO					74AC11352	TI (3310)			M74HC157	SGS-Thomson	
ACT	SN74ACT7201A-50	TI		ACT	54ACT11352	† TI			LR74HC157	Sharp	
					54ACT11353	† TI	80		74HC157	Signetics (3057)	
512x9-Bit FIFO					74ACT11352	TI (3310)			SN54HC157	† TI	
ACT	SN54ACT7201A	† TI			74ACT11353	TI (3310)			SN74HC157	TI	145
				HC	SN74HC352	TI			TC74HC157	Toshiba (3340)	
1024x9-Bit FIFO				Dual 4-Input, Inverting, Three-State					TC74HC157A	Toshiba (3340)	
ACT	SN54ACT7202	† TI		AC	54AC11353	† TI			US74HC157	Universal	
					74AC11353	TI (3310)	85	HCT	CD54HCT157	† GE/RCA (2640, 2653)	150
1024x9-Bit Parallel In/Out FIFO				Dual 4-Input, Three-State					CD74HCT157	GE/RCA (2640, 2653)	
AC	CD54AC7202	† GE/RCA (2643)		AC	CD54AC253	GE/RCA (2642)			GD74HCT157	GoldStar (2709)	
	CD74AC7202	GE/RCA (2643)			CD74AC253	GE/RCA (2642)			KS74HCTLS157	Samsung	
ACT	CD54ACT7202	† GE/RCA (2643)	25		54AC253	† National			74HCT157	Signetics (3057)	
	CD74ACT7202	GE/RCA (2643)			74AC253	National		40HXXX	TC40H157	Toshiba	
					54AC11253	† TI					
2048x9-Bit Cache				ACT	TC74AC253	Toshiba (3340)					
ACT	SN54ACT2152	† TI									
Multiplexers (Digital)											
See also Interface—Analog Switches, Multiplexers											
Dual 4-Channel				Dual 4-Input, Inverting, Three-State				Quad 2-Input Data Selector, Inverting			
AC	54AC153	† National		AC	CD54AC253	GE/RCA (2642)		AC	CD54AC158	† GE/RCA (2642)	155
	74AC153	National			CD74AC253	GE/RCA (2642)			CD74AC158	GE/RCA (2642)	
	54AC11153	† TI			54ACT253	† National			54AC158	† National	
	74AC11153	TI (3310)			74ACT253	National			74AC158	National	
ACT	54ACT11153	† TI	30	HC	CD54HC253	GE/RCA (2640)			54AC11158	† TI	
	74ACT11153	TI (3310)			CD74HC253	GE/RCA (2640)			74AC11158	TI (3310)	160
					HD74HC253	Hitachi		ACT	CD54ACT158	† GE/RCA (2642)	
Cell	SN74153-Cell	◊ TI			HD74HC257	Hitachi			CD74ACT158	GE/RCA (2642)	
HC	MC54HC153	† Motorola (2944)	35		MC54HC253	† Motorola (2944)	100		54ACT158	† National	
	MC74HC153	Motorola (2944)			MC74HC253	Motorola (2944)			74ACT158	National	165
	M74HC153	SGS-Thomson			MM54HC253	† National					
	LR74HC153	Sharp	40		MM74HC253	National		AHCT	KS74AHCT158	Samsung (3035)	
	SN54HC153	† TI			M74HC253	SGS-Thomson		HC	CD54HC158	† GE/RCA (2640)	
	SN74HC153	TI		HCT	CD54HCT253	GE/RCA (2640)	105		CD74HC158	GE/RCA (2640)	
4XXX	GD4539B	GoldStar (2710)			CD74HCT253	GE/RCA (2640)			GD74HC158	GoldStar (2709)	170
	MC14539BA	† Motorola (2944)			MM54HCT253	† National			GD74HC160	GoldStar (2709)	
	MC14539BC	Motorola (2944)	45		MM74HCT253	National			HD74HC158	Hitachi	
	F4539BC	National		Dual 4-Input, Three-State, Inverting					MC54HC158	† Motorola (2944)	
	F4539BM	† National		HC	HD74HC353	Hitachi			MC74HC158	Motorola (2944)	
	MN4539B	◊ Panasonic			SN74HC353	TI	110		MN74HC158	◊ Panasonic	175
	HEF4539B	Signetics		Triple 2-Channel Multiplexer/Demultiplexer					M74HC158	SGS-Thomson	
	TC4539B	Toshiba (3341)	50	HC	M74HC4053	Mitsubishi			LR74HC158	Sharp	
Dual 4-Channel Multiplexer/Demultiplexer									74HC158	Signetics (3057)	
HC	M74HC4052	Mitsubishi		Quad 1-of-2 Data Selector/Multiplexer					74HC160	Signetics (3057)	
				ACT	54ACT11158	† TI			SN54HC158	† TI	180
Dual 4-Channel, Three-State					74ACT11158	TI (3310)			SN74HC158	TI	
AC	74AC11253	TI (3310)		Quad 2-Channel					TC74HC158	Toshiba (3340)	
ACT	74ACT11253	TI (3310)		HC	M74HC258	SGS-Thomson			TC74HC158A	Toshiba (3340)	
HC	GD74HC253	GoldStar (2709)	55						US74HC158	Universal	
	LR74HC253	Sharp		Quad 2-Input							
	74HC253B	Signetics (3057)		HC	M74HC257	Mitsubishi	115	HCT	CD54HCT158	† GE/RCA (2640)	185
	SN54HC253	† TI			M74HC258	Mitsubishi			CD74HCT158	GE/RCA (2640)	
									GD74HCT158	GoldStar (2709)	

♦ Available in Surface Mount Package

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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Multiplexers (Digital) (Cont'd)				Monostable/Astable, Retriggerable 4XXX				Dual Monostable, Retriggerable HC			
8-Input with Latch, Three-State HC	MM74HC354	National		F4047BC	National			CD54HC123	† GE/RCA (2640)		135
	MM74HC356	National		F4047BM	† National			CD74HC123	GE/RCA (2640)		
8-Input, Three-State AC	CD54AC251	† GE/RCA (2642)		HCC4047B	† SGS-Thomson		65	GD74HC123	GoldStar (2709)		
	CD74AC251	GE/RCA (2642)		HCF4047B	SGS-Thomson			HD74HC123	Hitachi		
	54AC251	† National		HEF4047B	Signetics			MM54HC123	† National		140
	74AC251	National		883C4047B	† Sprague		70	MM74HC123	National		
	74AC11251	TI (3310)		TC4047B	Toshiba (3341)			MM74HC123A	National		
	TC74AC251	Toshiba (3340)						MN74HC123	♦ Panasonic		
	74AC251	Toshiba						74HC123	Signetics (3057)		
ACT	CD54ACT251	† GE/RCA (2642)		Monostable, Dual Precision				HCT			
	CD74ACT251	GE/RCA (2642)		CD14538B	GE/RCA			CD54HCT123	† GE/RCA (2640)		145
HC	CD54HC251	† GE/RCA (2640)		Monostable, Schmitt Trigger Input AHCT				CD74HCT123	GE/RCA (2640)		
	CD54HC354	† GE/RCA (2640)		KS74AHCT121	Samsung (3035)			GD74HCT123	GoldStar (2709)		
	CD54HC356	† GE/RCA (2640)						74HCT123	Signetics (3057)		
	CD74HC251	GE/RCA (2640)		Dual Monostable				4XXX			
	CD74HC354	GE/RCA (2640)		AHCT	KS74AHCT123	† Samsung (3035)		CD4098B	† GE/RCA (2638)		150
	CD74HC356	GE/RCA (2640)			KS74AHCT423	† Samsung (3035)		CD4098BE	GE/RCA (2638)		
	HD74HC251	Hitachi		C	MM54C221	† National	75	GD4528B	GoldStar (2710)		
	HD74HC354	Hitachi			MM74C221	National		CD4528B	† Micrel		
	HD74HC356	Hitachi		HC	CD54HC221	† GE/RCA (2640)		MC14528BA	† Motorola		155
	MC54HC251	† Motorola (2944)			CD54HC423	† GE/RCA		MC14528BC	Motorola		
	MC54HC354	† Motorola (2945)			CD54HC4538	† GE/RCA (2641)		CD4528BC	National		
	MC54HC356	† Motorola (2945)			CD74HC221	GE/RCA (2640)	80	CD4528BM	† National		
	MC74HC251	Motorola (2944)			CD74HC423	GE/RCA		F4528BC	National		
	MC74HC354	Motorola (2945)			CD74HC4538	GE/RCA (2641)		F4528BM	† National		
	MC74HC356	Motorola (2945)			GD74HC221	GoldStar (2709)		HCC4098B	† SGS-Thomson		160
	M74HC251	SGS-Thomson			GD74HC423	GoldStar		HCF4098B	♦ SGS-Thomson		
	M74HC354	SGS-Thomson			HD74HC221	Hitachi		HEF4528B	Signetics		
	M74HC356	SGS-Thomson			HD74HC423	Hitachi		883C4528B	† Sprague		
	74HC354	Signetics (3057)			HD74HC4538	Hitachi		TC4528B	Toshiba (3341)		
	74HC356	Signetics (3057)			MC54HC4538	† Motorola					
	TC74HC354	Toshiba (3340)			MC74HC221A	Motorola		Oscillators/Dividers			
	TC74HC354A	Toshiba (3340)			MC74HC423A	Motorola		Divider, Divide by 5/6			
	TC74HC356	Toshiba (3340)			MC74HC4538	Motorola		RED5/6	LSI Comp (2883)		
	TC74HC356A	Toshiba (3340)			MM54HC221A	† National		Divider, Divide by 6			
HCT	CD54HCT251	† GE/RCA (2640)			MM54HC423A	† National		D6	LSI Comp		165
	CD54HCT354	† GE/RCA (2640)			MM54HC4538	† National		Divider, Divide by 50/60			
	CD54HCT356	† GE/RCA (2640)			MM74HC221A	National		RED50/60	LSI Comp (2883)		
	CD74HCT251	GE/RCA (2640)			MM74HC423A	National		Divider, Divide by 60			
	CD74HCT354	GE/RCA (2640)			MM74HC4538	National		D60	LSI Comp		
	CD74HCT356	GE/RCA (2640)			MN74HC221	♦ Panasonic		Divider, Divide by 100/120			
	GD74HCT354	GoldStar			M74HC123	SGS-Thomson		RED100/120	LSI Comp (2883)		
	GD74HCT356	GoldStar			M74HC221	SGS-Thomson		Divider, Divide by 300/360			
	74HCT354	Signetics (3057)			M74HC423	SGS-Thomson		RED300/360	LSI Comp (2883)		
	74HCT356	Signetics (3057)			74HC221	Signetics (3057)		Divider, Divide by 3000/3600			
					74HC423	Signetics (3057)		RED3000/3600	LSI Comp (2883)		170
					74HC4538	Signetics (3057)		Divider, Divide by 3600			
					TC74HC123	Toshiba (3340)		D3600	LSI Comp		
					TC74HC123A	Toshiba (3340)		Oscillator/Divider (programmable timer)			
					TC74HC221	Toshiba (3340)		4XXX	CD4541B	† GE/RCA (2638)	
					TC74HC423	Toshiba			CD4541BE	† GE/RCA (2638)	
					TC74HC4538	Toshiba (3340)			MC14541BA	† Motorola (2946)	
					TC74HC4538A	Toshiba (3340)			MC14541BC	Motorola (2946)	175
					US74HC221	Universal			HEF4541B	Signetics	
								Oscillator/2⁰ to 2²⁴ Divider (programmable timer)			
								4XXX	CD4536B	† GE/RCA (2638)	
									CD4536BE	GE/RCA (2638)	
									MC14536BA	† Motorola (2946)	
									MC14536BC	Motorola (2946)	180
								Oscillator/2⁸ Divider (2–5 V supplies)			
									ICM7209	GE/Intersil (2685)	
								Oscillator/2¹² and 2¹⁷ Divider, also 2¹⁷ × 10 (0.01 and 0.1 output, 6.4 MHz crystal, 3–5 V supply)			
									ICM7207	GE/Intersil	
								Oscillator/2¹² and 2²⁰ Divider, also 2²⁰ × 10 (0.1 and 1 second output with 5.2 MHz crystal, 5 V supply)			
									ICM7207A	GE/Intersil	
								Oscillator/2¹², 2¹⁸, 2²¹, and 2¹⁷ Divider (also 2²¹ × 60, 2–5 V supplies)			
									ICM7213	GE/Intersil (2685)	
								Oscillator/2¹⁶ Divider/Buffer			
									SCL5411	Sprague	185
Multivibrators				Monostable/Astable, Retriggerable 4XXX							
	CD4047A	† GE/RCA (2638)		CD4538B	† GE/RCA (2638, 2653)						
	CD4047AE	GE/RCA (2638)		CD4538BE	GE/RCA (2638)						
	CD4047B	† GE/RCA (2638)		GD4538B	GoldStar						
	CD4047BE	GE/RCA (2638)		MC14538BA	† Motorola (2946)						
	GD4047B	† GoldStar (2710)		MC14538BC	Motorola (2946)						
	CD4047B	† Micrel		CD4538BC	National						
	CD4047BC	National		CD4538BM	† National						
	CD4047BM	† National		MN4528B	♦ Panasonic						
				MN4538B	♦ Panasonic						
				HEF4538B	Signetics						
				TC4538B	Toshiba (3341)						

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

♦ Available in Surface Mount Package

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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Oscillators/Dividers (Cont'd)								4-Bit Parallel In/Parallel Out			
Oscillator/ ^{2²¹} Divider/Buffer 4XXX	CD4045B	† GE/RCA (2638)	5	Dual 64-Bit Static 4XXX	CD4517B	† GE/RCA (2638, 2653)	55	4XXX	CD40104B	GE/RCA (2638)	120
	CD4045BE	GE/RCA (2638)			CD4517BE	GE/RCA (2638, 2653)			CD40194B	GE/RCA (2638)	
	GD4045B	† GoldStar			MC14517BA	† Motorola (2944)			CD4035A	† GE/RCA (2638)	
	HCC4045B	† SGS-Thomson			MC14517BC	Motorola (2944)			CD4035AE	GE/RCA (2638)	
	HCF4045B	◊ SGS-Thomson			HCF4517B	† SGS-Thomson			CD4035B	† GE/RCA (2638)	
	883C4445B	† Sprague			HEF4517B	Signetics			GD4035B	† GoldStar (2710)	
Oscillator/ ^{2²³} Divider SCL5419	Sprague	10	5XXX	TC5050	Toshiba (3341)	60	4XXX	CD4035A	† Micrel	125	
								CD4035B	† Micrel		
Oscillator/ ^{2²⁴} Divider 4XXX	GD4521B	GoldStar	10	Quad Dual-Port Register FCT	IDT54AHCT399	† IDT	65	4XXX	MC14035BA	† Motorola (2944)	130
	MC14521BA	† Motorola (2946)			IDT54FCT399	† IDT			MC14035BC	Motorola (2944)	
	MC14521BC	Motorola (2946)			IDT54FCT399A	† IDT			CD4035BC	National	
	HEF4521B	Signetics			IDT74FCT399	IDT			CD4035BM	† National	
	TC4521B	Toshiba (3341)			IDT74FCT399A	IDT			F4035BC	National	
									MN4035B	◊† Panasonic	
Oscillator/16-Stage Divider SCL5602	Sprague	15	4XXX	Quad 64-Bit Static, Separate Clock GD4731B	GoldStar (2710)	70	4XXX	HCC40104B	† SGS-Thomson	135	
								F4731BC	National		HCC4035B
Oscillator/17-Stage Divider SCL5415	Sprague	15	F4731BM	† National	70	4XXX	HCF40104B	SGS-Thomson	135		
	SCL5603			Sprague			HEF4731B	Signetics		HCF4035B	◊ SGS-Thomson
Oscillator/32768 Hz Divider MM5368	National	15	HEF4731V	† Signetics	70	4XXX	HEF40194B	Signetics	140		
	MM5369			National			HEF4035B	Signetics			
See also CMOS-Counters								883C4035B			
								† Sprague			
								TC40104B			
								Toshiba (3341)			
								TC4035B			
								Toshiba			
								4-Bit Parallel with Clear			
								C			
								MM54C195			
								† National			
								MM74C195			
								National			
								Cell			
								SN74195A-Cell			
								◊ TI			
								HC			
								CD54HC195			
								† GE/RCA (2640)			
								CD74HC195			
								GE/RCA (2640)			
								GD74HC195			
								GoldStar (2709)			
								HD74HC195			
								Hitachi			
								HD74HC95			
								Hitachi			
								M74HC195			
								Mitsubishi			
								MC54HC195			
								† Motorola (2944)			
								MC74HC195			
								Motorola (2944)			
								MM54HC195			
								† National			
								MM74HC195			
								National			
								M74HC195			
								SGS-Thomson			
								LR74HC195			
								Sharp			
								74HC195			
								Signetics (3057)			
								SN54HC195			
								† TI			
								SN74HC195			
								TI			
								TC74HC195			
								Toshiba (3340)			
								US74HC195			
								Universal			
								HCT			
								CD54HCT195			
								† GE/RCA (2640)			
								CD74HCT195			
								GE/RCA (2640)			
								GD74HCT195			
								GoldStar (2709)			
								74HCT195			
								Signetics (3057)			
								4XXX			
								GD40195B			
								GoldStar			
								CD40195BC			
								National			
								CD40195BM			
								† National			
								F40195BC			
								National			
								F40195BM			
								† National			
								HEF40195B			
								Signetics			
								4x4 Multiport Register			
								HC			
								HCC40108B			
								SGS-Thomson			
								HCF40108B			
								SGS-Thomson			
								8-Bit (asynchronous parallel or synchronous serial operation) Parallel In/Serial Out			
								4XXX			
								CD4021B			
								† GE/RCA (2638)			
								CD4021BE			
								GE/RCA (2638)			
								GD4021B			
								† GoldStar (2710)			
								MC14021BA			
								† Motorola (2943)			
								MC14021BC			
								Motorola (2943)			
								CD4021A			
								National			
								CD4021BC			
								National			
								CD4021BM			
								† National			
								F4021BC			
								National			
								F4021BM			
								† National			
								HCC4021B			
								† SGS-Thomson			
								HCF4021B			
								SGS-Thomson			
								HEF4021B			
								Signetics			
								883C4021B			
								† Sprague			
								TC4021B			
								Toshiba (3341)			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL

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‡ High Radiation Resistance

^o Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Shift Registers (Cont'd)				Shift Registers (Cont'd)				Shift Registers (Cont'd)			
8-Bit, Three-State AC	74AC11323	TI (3310)		18-Bit Static (4, 5, 8, 9, 10, 12, 13, 14, 16, 17, 18-bits) 4XXX	CD4006B	† GE/RCA (2638, 2653)		Hex Level Shifter (CMOS or TTL to CMOS) 4XXX	MC14504BA	† Motorola (2939)	
	TC74AC299	Toshiba (3340)			CD4006BE	GE/RCA (2638, 2653)			MC14504BC	Motorola (2939)	
ACT	CD54ACT299	† GE/RCA (2643)			GD4006B	† GoldStar (2710)		Hex Level Shifter (low-to-high voltage) 5XXX	TC5020B	Toshiba (3341)	
	CD74ACT299	GE/RCA (2643)			CD4006A	† Micrel		Octal Bidirectional Level Shifter (CMOS/TTL) 4XXX	HS3374RH	† Harris (2724)	115
	54ACT299	† Motorola	5		MC14006BA	† Motorola (2944)	60		CD40115	GE/RCA	
	54ACT11299	† TI			MC14006BC	Motorola (2944)			CD40116	GE/RCA (2637)	
	74ACT11299	TI (3310)			CD4006A	National		Octal Bus Transceiver with Parity, Three State AHCT	KS54AHCT658	† Samsung	120
AHCT	KS74AHCT299	† Samsung (3035)			CD4006BC	National	65		KS54AHCT659	† Samsung	
FCT	IDT54FCT299	† IDT	10		F4006BM	† National			KS74AHCT658	Samsung (3035)	
	IDT54FCT299A	† IDT			HCC4006B	† SGS-Thomson			KS74AHCT659	Samsung (3035)	
	IDT74FCT299	† IDT			HCF4006B	† SGS-Thomson		Octal Bus Transceiver, Three State, Non-Inverting AC	CD54AC245	† GE/RCA (2642)	
	IDT74FCT299A	† IDT			HEF4006B	Signetics			CD74AC245	GE/RCA (2642)	
HC	CD54HC299	† GE/RCA (2640)			883C4006B	† Sprague	70	Miscellaneous			
	CD74HC299	GE/RCA (2640)		30-Bit Static 4XXX	MV4330	Plessey		Microprocessor, 1-Bit, Industrial Control Unit 4XXX	MC14500B	Motorola	
	GD74HC299	GoldStar (2709)			CD40100B	† GE/RCA (2638)		Addressable Asynchronous Receiver/Transmitter 4XXX	MC14469	† Motorola (2991)	125
	HD74HC299	Hitachi			CD40100BE	GE/RCA (2638)		Analog Multiplexer/Demultiplexer (dual 4-channel) HC	TC74HC4052A	Toshiba (3340)	
	IDT54AHCT299	† IDT	15		HCC40100B	† SGS-Thomson			TC74HC4053A	Toshiba (3340)	
	MC54HC299	† Motorola (2944)			HCF40100B	† SGS-Thomson		Analog Multiplexer/Demultiplexer (triple 2-channel) HC	TC74HC4053A	Toshiba (3340)	
	MC74HC299	Motorola (2944)						Analog Multiplexer/Demultiplexer (8-channel) HC	TC74HC4051A	Toshiba (3340)	
	MM54HC299	† National	20	32-Bit Serial In/Parallel Out 4XXX	MD4332B	† Mitel		Asynchronous Serial Manchester Adapter	HD6408-9	† Harris (2743)	130
	MM74HC299	National			MV4332	Plessey		Cell	HD6408-Cell	† Harris (2743)	
	M74HC299	SGS-Thomson						Bit Rate Generator	HD4702-Cell	† Harris (2743)	
	LR74HC299	Sharp		64-Bit Static 4XXX	MS612	RTC		Cell 4XXX	GD4702B	GoldStar (2710)	
	74HC299	Signetics (3057)			CD4031B	† GE/RCA (2638)			HD4702-2	† Harris (2743)	
	SN54HC299	† TI	25		CD4031BE	GE/RCA (2638)			MC14411	Motorola	135
	SN74HC299	TI			GD4031B	† GoldStar			F4702BC	National	
	TC74HC299	Toshiba (3340)			CD4031A	† Micrel			F4702BM	† National	
	TC74HC299A	Toshiba (3340)			CD4031B	† Micrel		Bus Interface Latch FCT	IDT54FCT843A	† IDT	
HCT	CD54HCT299	† GE/RCA (2640)			CD4031BC	National			IDT74FCT843A	† IDT	
	CD74HCT299	GE/RCA (2640)			CD4031BM	† National		Bus Interface Register, Non-Inverting FCT	IDT54FCT823A	† IDT	140
	GD74HCT299	GoldStar (2709)			F4031BC	National			IDT74FCT823A	† IDT	
	MM74HCT299	National			F4031BM	† National		Bus Transceiver, Bi-directional FCT	IDT54FCT863A	† IDT	
	KS74HCTLS299	† Samsung	30		HCC4031B	† SGS-Thomson			IDT74FCT863A	† IDT	
	74HCT299	Signetics (3057)			HCF4031B	SGS-Thomson		Code Identification System	HD15530-9	† Harris (2744)	
8-Bit, Three-State, Synchronous Clear AC	TC74AC323	Toshiba (3340)	35		HEF4031B	Signetics			HD15531-9	† Harris (2744)	
HC	MM54HC245	† National		64-Bit Variable Length 4XXX	GD4557B	GoldStar			CT15530	Marconi	145
	MM74HC245	National			MC14557BA	† Motorola (2944)		Color Look-Up Table, 50 MHz	IMS6171	Inmos (2797)	
	MM74HC323	National			MC14557BC	Motorola (2944)		Color Look-Up Table, 65 MHz	IMS6176	Inmos (2798)	
9-Bit Bus Interface Register, BCT	SN54BCT29824	† TI			F4557BC	† National		Comparator, Linear, Quad C	MM54C909	† National	150
9-Bit Bus Interface Register, Three State AHCT	KS54AHCT823	† Samsung			F4557BM	National			MM74C909	National	
	KS54AHCT824	† Samsung			HEF4557B	Signetics		Comparator Phase C	MM74C932	National	
	KS74AHCT823	Samsung (3035)	40	96-Bit Variable Length Elastic MS618	† RTC			Comparator, Dual with Dual Op Amp 4XXX	MC14574	Motorola (2958, 2991)	
	KS74AHCT824	Samsung (3035)		128-Bit Static with Control Logic MS625	† RTC			Comparator, Quad 4XXX	MC14575	Motorola (2958, 2991)	
9-Bit Bus Interface Register, Three-State AC	SN54BCT29823	† TI		128-Bit Static (16-bit increments) 4XXX	MC14562BA	† Motorola (2944)	100	Controller, 16-Bit Microprogrammable ACT	SN74ACT29116	TI	155
9-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface) AM29C823	AMD		45		MC14562BC	Motorola (2944)		Translators			
10-Bit Bus Interface Register, Three State AHCT	KS54AHCT821	† Samsung		Translators				HNIL/HTL is suitable for translation/input protection. See HNIL/HTL section			
	KS54AHCT822	† Samsung		Quad Inverting High Voltage Up/Down Level Shifter (low to high or high to low translation) C				H18504			
	KS74AHCT821	Samsung (3035)		Quad Level Shifter (low to high voltage) 4XXX				CD40109B			
	KS74AHCT822	Samsung (3035)						CD40109BE			
10-Bit Bus Interface Register, Three-State AC	SN54BCT29822	† TI	50					HCC40109B			
BCT	SN54BCT29821	† TI						HCF40109B			
10-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface) AM29C821	AMD							Quad Voltage Up Level Translator 4XXX			
16-Bit Serial In/Parallel Out HC	HD74HC674	Hitachi						GD4104B			
16-Bit Serial In/Parallel Out with Stored Parallel Output HC	HD74HC673	Hitachi						F4104BE			
16-Bit with Serial Protocol Channel (SPC) FCT	IDT49FCT618	IDT	55					F4104BM			
								HEF4104B			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◇ Available in Surface Mount Package

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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Miscellaneous (Cont'd)				Delay Line (7-in-1, custom set at factory)	DS1007	◊ Dallas		Parity Bus Transceivers, Non-Inverting (BiCMOS)			
Converter (converts 2-wire serial port to 3-wire serial port)	DS1209	◊ Dallas		Diagnostic Scan Register				BCT	SN74BCT29833	TI (3317)	80
Crossbar Switch				HCT	P29PCT818	† Performance			SN74BCT29853	TI (3317)	
ACT	SN74ACT8841	TI (3290, 3296)		Direction Discriminator			40	PC Mouse Controller	5720	Commodore (2575)	
Data Encryption/Decryption Device	HS3447	Harris		HCT	THCT2000	TI					
Delay Line (three independent 10 nanosecond delays)	DS1013-10	◊ Dallas		Error Detection/Correction Unit, 32-Bit			45	Phase-Locked Loop			
Delay Line (three independent 100 nanosecond delays)	DS1013-100	◊ Dallas	5	PCT	P54PCT632U	† Performance		HC	CD54HC297	† GE/RCA (2640)	85
Delay Line (three independent 15 nanosecond delays)	DS1013-15	◊ Dallas		P54PCT633U	† Performance				CD54HC4046	† GE/RCA (2641)	
Delay Line (three independent 20 nanosecond delays)	DS1013-20	◊ Dallas		P54PCT634U	† Performance				CD74HC297	GE/RCA (2640)	
Delay Line (three independent 25 nanosecond delays)	DS1013-25	◊ Dallas		P54PCT635U	† Performance				CD74HC4046	GE/RCA (2641)	
Delay Line (three independent 30 nanosecond delays)	DS1013-30	◊ Dallas		P74PCT632U	Performance				MM54HC4046	† National	
Delay Line (three independent 40 nanosecond delays)	DS1013-40	◊ Dallas	10	P74PCT633U	Performance				MM74HC4046	National	
Delay Line (three independent 50 nanosecond delays)	DS1013-50	Dallas		P74PCT634U	Performance				74HC4046A	Signetics (3057)	
Delay Line (three independent 60 nanosecond delays)	DS1013-60	◊ Dallas		P74PCT635U	Performance			HCT	CD54HCT297	† GE/RCA (2640)	90
Delay Line (three independent 70 nanosecond delays)	DS1013-70	◊ Dallas		Filter Controller, Finite Impulse Response	ISP9128	GE/Intersil (2680)			CD54HCT4046	† GE/RCA (2641)	
Delay Line (three independent 75 nanosecond delays)	DS1013-75	◊ Dallas							CD74HCT297	GE/RCA (2640)	
Delay Line (three independent 80 nanosecond delays)	DS1013-80	◊ Dallas		Floating Point Multiplier (32/34-bit)	TMC3201	TRWLSI	50		CD74HCT4046	GE/RCA (2641)	
Delay Line (three independent 90 nanosecond delays)	DS1013-90	◊ Dallas		Identity Comparator, 8-Bit					74HCT4046A	Signetics (3057)	
Delay Line, 5 Taps	DS1000	◊ Dallas		ACT	54ACT11521	† TI		4XXX	CD4046A	† GE/RCA (2639, 2656)	95
Delay Line (5 taps: 100,200,300,400 and 500 ns)	DS1005-500	◊ Dallas		Latched Transceiver			55		CD4046AE	GE/RCA (2639, 2656)	
Delay Line (5 taps: 10,20,30,40 and 50 ns)	DS1005-50	◊ Dallas		AC	54AC11854	† TI			CD4046B	† GE/RCA (2639, 2656)	
Delay Line (5 taps: 12,24,36,48 and 60 ns)	DS1005-60	◊ Dallas			74AC11853	TI (3310)			CD4046BE	GE/RCA (2639, 2656)	
Delay Line (5 taps: 100,200,300,400 and 500 ns)	DS1000-500	◊ Dallas	20		74AC11854	TI (3310)			GD4046B	† GoldStar (2710)	100
Delay Line (5 taps: 10,20,30,40 and 50 ns)	DS1000-50	◊ Dallas		ACT	54ACT11853	† TI			† Micrel		
Delay Line (5 taps: 12,24,36,48 and 60 ns)	DS1000-50	◊ Dallas			54ACT11854	† TI			MC14046BA	† Motorola	
Delay Line (5 taps: 25,50,75,100 and 125 ns)	DS1005-125	◊ Dallas			74ACT11853	TI (3310)			MC14046BC	Motorola	
Delay Line (5 taps: 30,60,90,120 and 150 ns)	DS1000-150	◊ Dallas	30		74ACT11854	TI (3310)			CD4046BC	National	
Delay Line (5 taps: 35,70,105,140 and 175 ns)	DS1000-175	◊ Dallas		AC	54AC11853	† TI			CD4046BM	† National	105
Delay Line (5 taps: 40,80,120,160 and 200 ns)	DS1000-200	◊ Dallas		Logarithmic Gain/Attenuator (serial interface) for	ML204	MicroLinear	60		F4046BC	National	
Delay Line (5 taps: 50,100,150,200 and 250 ns)	DS1005-250	◊ Dallas		Microsequencer 16-Bit					F4046BM	† National	
				ACT	SN74ACT8818	TI (3290, 3292, 3297)			HCC4046B	† SGS-Thomson	
				Multifunction Circuit, 6-Section					HCF4046B	SGS-Thomson	
				HC	SN74HC7008	TI			HEF4046B	Signetics	
				Multilevel Pipeline Register					883C4046B	† Sprague	110
				LPR520C	◊† LogicDev				883C4446B	† Sprague	
				LPR520M	◊† LogicDev			Pipeline Register			
				LPR521C	◊† LogicDev			AC	54AC11818	† TI	
				LPR521M	◊† LogicDev				54AC11819	† TI	
				L29C520C	◊ LogicDev		65		74AC11818	TI (3310)	115
				L29C520M	◊† LogicDev			ACT	54ACT11818	† TI	
				L29C521C	◊ LogicDev				54ACT11819	† TI	
				L29C521M	◊† LogicDev				74ACT11818	TI (3310)	
				Multivibrator, Dual Monostable			70		74ACT11819	TI (3310)	
				HC	M74HC221	Mitsubishi		BCT	SN54BCT29818	† TI	120
				Numerically Controlled Oscillator	ST1172A	STI		Programmable Counter/Timer	GD4722B	GoldStar	
				Numerically Controlled Oscillator (50 MHz, 16-bit frequency resolution, 12-bit sine or cosine output)	STEL1174	STI (3264)		Programmable Digital Delay Timer	LS7210	LSI Comp (2883)	
				Numerically Controlled Oscillator (50 MHz, 32-bit frequency resolution, 8-bit sine and cosine output or 12-bit phase output)	STEL1172B	STI (3264)		Programmable Frequency Divider/Digital Timer			
								HC	MC74HC292	Motorola	125
				Numerically Controlled Oscillator (50 MHz, 48-bit frequency resolution, 12-bit sine or cosine output)	STEL1173	STI (3264)	75		MC74HC294	Motorola	
									MM74HC292	National	
				Op Amp, Linear, Quad					MM74HC294	National	
				4XXX	MC14573	Motorola (2991)			M74HC292	SGS-Thomson	
				Parity Bus Transceiver, Inverting (BiCMOS)					M74HC294	SGS-Thomson	
				BCT	SN74BCT29854	TI (3317)			HD74HC292	Hitachi	130
				Parity Bus Transceiver, Non-Inverting					HD74HC294	Hitachi	
				BCT	SN54BCT29833	† TI			TC74HC7292	Toshiba (3340)	
				Parity Bus Transceivers, Inverting (BiCMOS)					TC74HC7294	Toshiba (3340)	
				BCT	SN74BCT29834	TI (3317)		Programmable Timer			
								HC	HCF4536B	SGS-Thomson	
									HCF4541B	SGS-Thomson	
								Rate Multiplier, Binary			
								4XXX	CD4089B	† GE/RCA (2639)	135
									CD4089BE	GE/RCA (2639)	
									CD4089BC	National	
									CD4089BM	† National	

(Continued)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Miscellaneous (Cont'd)											
Rate Multiplier, Binary 4XXX	HCC4089B HCF4089B	† SGS-Thomson SGS-Thomson		Timer, 6-Digit Universal 5XXX	TC5070 TC5071 TC5072	Toshiba (3341) Toshiba (3341) Toshiba (3341)		Quad Bus Transceiver, Three-State, Inverting HCT	74HCT242 SN54HCT242 SN74HCT242	Supertex † TI ◊ TI	(Cont'd)
Rate Multiplier, BCD 4XXX	CD4527B CD4527BE GD4527B MC14527BA MC14527BC CD4527BC CD4527BM HCC4527B HCF4527B HEF4527B 883C4527B TC4527B	† GE/RCA (2639) GE/RCA (2639) GoldStar † Motorola (2947) Motorola (2947) National † National † SGS-Thomson SGS-Thomson † National † Sprague Toshiba (3341)		Touch Switch	TC9130 TC9135	Toshiba Toshiba		SC	74SC242	Supertex	
Register File, 4x4, Three-State HC	GD74HC670 HD74HC670	GoldStar (2709) Hitachi		Video-Speed Shift Register (250 MHz) 679501 679502	MMI MMI			Quad Bus Transceiver, Three-State, Non-Inverting HC	CD54HC243 CD74HC243 GD74HC243 MC54HC243 MC74HC243 MM54HC243 MM74HC243 MN74HC243 LR74HC243 74HC243 SN54HC126 SN54HC243 SN74HC243 TC74HC243	† GE/RCA (2640) GE/RCA (2640) GoldStar † Motorola (2939) Motorola (2939) † National National Panasonic Sharp Signetics (3057) † TI † TI TI Toshiba (3340)	115
Registered Transceiver AC	54AC11833 54AC11834 74AC11833 74AC11834	† TI † TI TI TI		Dual D-Type Flip-Flop, 2-Input NAND/NOR Combination HC	SN74HC7074	TI		HCT	CD54HCT243 CD74HCT243 GD74HCT243 HD74HCT243 74HCT243 54HCT243 74HCT243 SN54HCT243 SN74HCT243	† GE/RCA (2640) GE/RCA (2640) GoldStar Hitachi Signetics (3057) † Supertex Supertex † TI ◊ TI	120
ACT	54ACT11833 54ACT11834 74ACT11833 74ACT11834	† TI † TI TI TI		Dual Differential Line Driver MM78C30 MM78C30 MM88C30	† Micrel † National National			SC	74SC243	Supertex	
Remote Control Manchester Encoder/Decoder with programmable address encoding/decoding DC7 ED11 ED15 ED5 ED9	Supertex Supertex Supertex Supertex Supertex			Dual Precision Monostable Multivibrator HC	M74HC4538	Mitsubishi		Quad Precision Timer/Driver (inputs cause outputs to switch state for 100 clock pulses) .4XXX	MC14415 MC14415E	Motorola † Motorola	125
Serial Manchester Encoder-Decoder Cell	HD6409-Cell ◊	Harris (2744)		Dual Schmitt Trigger AC	54AC11013 74AC11013	† TI TI		HCT	CD54HCT243 CD74HCT243 GD74HCT243 HD74HCT243 74HCT243 54HCT243 74HCT243 SN54HCT243 SN74HCT243	† GE/RCA (2640) GE/RCA (2640) GoldStar Hitachi Signetics (3057) † Supertex Supertex † TI ◊ TI	130
Successive Approximation Register C	MM54C905 MM54C905 MM74C905	† Micrel † National National		4XXX	GD4583B MC14583BA MC14583BC F4583BC F4583BM TC4583B	GoldStar † Motorola (2940) Motorola (2940) National † National Toshiba (3341)		75	Quad Single Ended Line Driver MM78C29 MM78C29 MM88C29	† Micrel † National National	135
Successive Approximation Register, Cascadable 4XXX	MC14549BA MC14549BC	† Motorola (2970) Motorola (2970)		Dual 4-Bit Terminator 4XXX	CD40117B	GE/RCA (2637)		Quad 2-Input NAND Schmitt Trigger HC	CD54HC132 CD74HC132 GD74HC132 HD74HC132 MC54HC132 MC74HC132	† GE/RCA (2640) GE/RCA (2640) GoldStar (2709) Hitachi † Motorola (2937, 2940) Motorola (2937, 2940)	140
Switch Eliminator (logic to replace manual digital switches) DS1223 DS1290 DS1291 DS1292 DS1293	Dallas Dallas Dallas Dallas Dallas			Dual 4-Channel Analog Multiplexer/Demultiplexer HC HCT	74HC4052 74HCT4052	Signetics (3057) Signetics (3057)		80	MM54HC132 MM74HC132 M74HC132 LR74HC132 74HC132 SN54HC132 SN74HC132 TC74HC132 TC74HC132A	† National National SGS-Thomson Sharp Signetics (3057) † TI TI Toshiba (3340) Toshiba (3340)	145
Terminator, Dual Programmable 4-Bit 4XXX	TC40117B	Toshiba (3341)		Dual 4-Input NAND Schmitt-Trigger AHCT	KS74AHCT13	Samsung		HCT	CD54HCT132 CD74HCT132 GD74HCT132 KS74HCTLS132 74HCT132	† GE/RCA (2640) GE/RCA (2640) GoldStar (2709) Samsung Signetics (3057)	150
Timekeeper, Internal Lithium Source DS1216E	Dallas			Triple 2-Channel Analog Multiplexer/Demultiplexer HC HCT	74HC4053 74HCT4053	Signetics (3057) Signetics (3057)		4XXX	CD4093B CD4093BE GD4093B CD4093B MC14093BA MC14093BC	† GE/RCA (2637) GE/RCA (2637) † GoldStar (2710) † Micrel † Motorola (2937, 2940) Motorola (2937, 2940)	155
Timer 5XXX	TC5043	Toshiba (3341)		Quad Bilateral Switch 50HXXX	TC50H4066	Toshiba		90	CD4093BC CD4093BM F4093BC F4093BM MN4093B HCC4093B	National † National † National National ◊ Panasonic † SGS-Thomson	160
Timer/Divider, Programmable HC	TC74HC7292 TC74HC7294	Toshiba (3340) Toshiba (3340)		Quad Bus Transceiver HC	M74HC243	Mitsubishi		95			
Timer, Programmable HC	MC54HC9000 MC74HC9000 MC74HC9000	† Motorola Motorola Motorola		Quad Bus Transceiver, Inverting HC	M74HC242	Mitsubishi		100			
Timer, 6-Bit Universal, to "595999" 5XXX	TC5072	Toshiba (3341)		Quad Bus Transceiver, Tridirectional HC	HD74HC442 HD74HC443 HD74HC444	Hitachi Hitachi Hitachi		105			
Timer, 6-Bit Universal, to "995959" 5XXX	TC5071	Toshiba (3341)		Quad Bus Transceiver, Three-State, Inverting HC	CD54HC242 CD74HC242 GD74HC242 HD74HC242 MC54HC242 MC74HC242 MM54HC242 MM74HC242 MN74HC242 M74HC242 M74HC243 LR74HC242 74HC242 SN54HC242 SN74HC242 TC74HC242	† GE/RCA (2640) GE/RCA (2640) GoldStar Hitachi † Motorola (2939) Motorola (2939) † National National Panasonic SGS-Thomson SGS-Thomson Sharp Signetics (3057) † TI TI Toshiba (3340)		110			
				HCT	CD54HCT242 CD74HCT242 GD74HCT242 HD74HCT242 MIC74HCT242 MIC74HCT243 74HCT242 54HCT242	† GE/RCA (2640) GE/RCA (2640) GoldStar Hitachi Micrel Micrel Signetics (3057) † Supertex (Continued)					

† Military Temperature Range (-55° to 125°C) ‡ High Radiation Resistance *Typical Value *Macrocell ◊ Available in Surface Mount Package
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DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Miscellaneous (Cont'd)				Octal Bidirectional Transceiver, Three-State				Octal Bus Driver, Inverting, Three-State			
Quad 2-Input NAND Schmitt Trigger				HCT				HCT			
4XXX				P54PCT245A † Performance				MC74HCT240 Motorola			
HCF4093B † SGS-Thomson				P54PCT545A † Performance				MM54HCT240 † National			
HEF4093B Signetics				P54PCT640A † Performance				MM74HCT240 National			
883C4093B † Sprague				P54PCT643A † Performance				P54PCT240 Performance			
TC4093B Toshiba (3341)				P54PCT645A † Performance				MV74HCT240 Plessey			
Quad 2-Input NAND Schmitt Trigger				P74PCT245A Performance				KS74HCTLS210 Samsung			
AC				P74PCT640A Performance				KS74HCTLS240 Samsung			
54ACT11132 † TI				P74PCT643A Performance				74HCT240 Samsung			
ACT				P74PCT645A Performance				M74HCT240 SGS-Thomson			
74ACT11132 TI (3310)				Octal Buffer/Line Driver/Line Receiver, Three-State, Inverting				54HCT240 Signetics			
Hex Bus Driver, Three-State, Non-Inverting				HCT				74HCT240 Signetics (3057)			
AHCT				MC54HCT240A † Motorola				54HCT240 † Supertex			
HC				MC54HCT241A † Motorola				74HCT240 Supertex			
LR74HC367 Sharp				MC54HCT244A † Motorola				SN54HCT240 † TI			
SN54HC367 † TI				MC74HCT240A Motorola				SN54HCT540 † TI			
Hex Contact Bounce Eliminator				MC74HCT241A Motorola				SN74HCT240 † TI			
4XXX MC14490 Motorola				MC74HCT244A † Motorola				TC74HCT240A Toshiba			
Hex Schmitt Trigger				Octal Bus Driver, Inverting, Three-State				PCT P74PCT240 Performance			
TC584B Toshiba				AC				SC 74SC240 Supertex			
AC				54AC240 † National				4XXX HEF40240B Signetics			
54AC14 † National				74AC240 National				Octal Bus Driver, Inverting, Three-State (BiCMOS)			
74AC14 National				54AC11240 † TI				BCT			
C				74AC11240 TI (3310)				SN54BCT240 † TI			
MM54C14 † Micrel				TC74AC240 Toshiba (3340)				SN74BCT240 TI (3317)			
MM54C914 † Micrel				ACT				Octal Bus Driver, Non-Inverting, Three-State, Complementary Controls			
MM54C14 † National				CD54ACT240 † GE/RCA (2642)				AC			
MM54C914 † National				CD74ACT240 GE/RCA (2642)				54AC241 † National			
MM74C14 National				54ACT240 † National				54AC244 † National			
MM74C914 National				74ACT240 National				74AC241 National			
HC				54ACT11240 † TI				74AC244 National			
CD54HC14 † GE/RCA (2640)				74ACT11240 TI (3310)				54AC11241 † TI			
CD74HC14 GE/RCA (2640)				V54ACT240 VTC (3389)				54AC11244 † TI			
GD74HC14 GoldStar (2709)				V54ACT540 † VTC (3389)				74AC11241 TI (3310)			
HD74HC14 Hitachi				V74ACT240 VTC (3387, 3389)				74AC11244 TI (3310)			
MC54HC14 † Motorola (2940)				AHCT				TC74AC241 Toshiba (3340)			
MC74HC14 Motorola (2940)				KS74AHCT210 Samsung (3035)				TC74AC244 Toshiba (3340)			
MN74HC14 † Panasonic				KS74AHCT240 Samsung (3035)				ACT			
M74HC14 SGS-Thomson				BCT				CD54ACT241 † GE/RCA (2642)			
LR74HC14 Sharp				C				CD54ACT244 † GE/RCA (2642)			
74HC14 Signetics (3057)				MM54C240 † National				CD74ACT241 GE/RCA (2642)			
SN54HC14 † TI				MM74C240 National				CD74ACT244 GE/RCA (2642)			
SN74HC14 TI				FCT				54ACT241 † National			
HCT				IDT54FCT240 † IDT				54ACT244 † National			
CD54HCT14 † GE/RCA (2640)				IDT54FCT240A † IDT				74ACT241 National			
CD74HCT14 GE/RCA (2640)				IDT74FCT240 † IDT				74ACT244 National			
GD74HCT14 GoldStar (2709)				IDT74FCT240A † IDT				54ACT11244 † TI			
74HCT14 Signetics (3057)				V54FCT240 † VTC (3389)				74ACT11244 TI (3310)			
4XXX				V74FCT240 † VTC (3387, 3389)				V54ACT244 † VTC (3389)			
CD40106B † GE/RCA (2637, 2653)				HC				AHCT			
CD40106BE GE/RCA (2637, 2653)				CD54HC240 † GE/RCA (2640)				KS74AHCT244 Samsung (3035)			
GD40014B GoldStar (2710)				CD74HC240 GE/RCA (2640)				C			
CD40106B † Micrel				GD74HC240 GoldStar (2709)				MM54C244 † Micrel			
CD4584B † Micrel				HD74HC240 Hitachi				MM54C244 National			
MC145848A † Motorola (2940)				IDT54AHCT240 † IDT				MM74C244 National			
MC145848C Motorola (2940)				MC54HC240 † Motorola (2939)				FCT			
CD40106BC National				MC74HC240 Motorola (2939)				IDT54FCT244 † IDT			
CD40106BM † National				MM54HC240 † National				IDT74FCT244 † IDT			
CD4584BC National				MM74HC240 National				IDT74FCT244A † IDT			
CD4584BM † National				MN74HC240 Panasonic				V54FCT241 † VTC			
F40014AM † National				74HC240 Samsung				V54FCT244 † VTC (3389)			
F40014BC National				M74HC240 SGS-Thomson				V74FCT244 † VTC (3389)			
HCC40106B † SGS-Thomson				LR74HC240 Sharp				HC			
HCF40106B † SGS-Thomson				54HC240 Signetics				CD54HC241 † GE/RCA (2640)			
HEF40106B Signetics				74HC240 Signetics (3057)				CD54HC244 † GE/RCA (2640, 2653)			
883C4584B † Sprague				SN54HC240 † TI				CD74HC241 GE/RCA (2640)			
TC4584B Toshiba (3341)				SN74HC240 TI				CD74HC244 GE/RCA (2640, 2653)			
Hex Schmitt Trigger Inverter				TC74HC240 Toshiba (3340)				GD74HC241 GoldStar (2709)			
AC				TC74HC240A Toshiba (3340)				GD74HC244 GoldStar (2709)			
54AC11014 † TI				HCT				HD74HC241 Hitachi			
74AC11014 TI (3310)				CD54HCT240 † GE/RCA (2640)				HD74HC244 Hitachi			
ACT				CD74HCT240 GE/RCA (2640)				IDT54AHCT244 † IDT			
54ACT11014 † TI				GD74HCT240 GoldStar (2709)				MC54HC241 † Motorola (2939)			
74ACT11014 TI (3310)				HD74HCT240 Hitachi				MC54HC244 † Motorola (2939)			
HC				54HCT240SOS † Marconi				MC74HC241 Motorola (2939)			
MM54HC14 † National				74HCT240 Marconi				MC74HC244 Motorola (2939)			
MM74HC14 National				MIC74HCT240 Micrel				MM54HC244 † National			
HCT				MC54HCT240 † Motorola				MM74HC241 National			

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Miscellaneous (Cont'd)				Octal Bus Driver, Non-Inverting, Three-State, Symmetrical Controls (Cont'd)				Octal Bus Transceiver and Register, Inverting, Three-State BCT (Cont'd)			
Octal/Bus Driver, Non-Inverting, Three-State, Complementary Controls				HC				HC			
HC				SN54HC241 † TI				SN74BCT648 TI (3317)			
(Cont'd)				SN74HC241 TI				SN74BCT651 TI (3317)			
MM74HC244 National			5	HCT MM54HCT241 † National			70	CD54HC648 † GE/RCA (2641)			130
MN74HC241 Panasonic				MM74HCT241 National				CD74HC648 GE/RCA (2641)			
MN74HC244 Panasonic				P54PCT241 Performance				GD74HC648 GoldStar (2709)			
74HC241 Samsung			10	SN54HCT241 † TI			75	HD74HC648 Hitachi			135
74HC244 Samsung				SN74HCT241 † TI				HD74HC651 Hitachi			
M74HC241 SGS-Thomson				TC74HCT241A Toshiba				MC54HC648 † Motorola (2940)			
M74HC244 SGS-Thomson			15	Octal Bus Driver (schmitt trigger), Inverting, Three-State			80	MC54HC651 † Motorola (2940)			140
LR74HC244 Sharp				HCT HD54HCT240 † Hitachi				MC74HC651 Motorola			
54HC244 Signetics				Octal/Bus Driver (schmitt trigger), Non-Inverting, Three-State, Complementary Controls				MC74HC651 Motorola			
74HC241 Signetics (3057)			20	HC TC74HC244 Toshiba (3340)			85	MM54HC648 † National			145
74HC244 Signetics (3057)				TC74HC244A Toshiba (3340)				MM74HC648 National			
SN54HC244 † TI				Octal Bus Driver, Three-State (BiCMOS)				74HC648 Samsung			
SN74HC244 TI			25	BCT SN54BCT241 † TI			90	M74HC648 SGS-Thomson			150
TC74HC241 Toshiba (3340)				SN54BCT244 † TI				SN54HC651 † TI			
TC74HC241A Toshiba (3340)				SN74BCT241 TI (3317)				SN74HC648 TI			
HCT CD54HCT241 † GE/RCA (2640)			30	SN74BCT244 TI (3317)			95	SN74HC651 TI			155
CD54HCT244 † GE/RCA (2640, 2653)				Octal Bus/Line Driver				TC74HC648 Toshiba (3340)			
CD74HCT241 GE/RCA (2640)				HC M74HC241 Mitsubishi				TC74HC648A Toshiba (3340)			
CD74HCT244 GE/RCA (2640, 2653)			35	M74HC244 Mitsubishi			100	TC74HC651 Toshiba (3340)			160
GD74HCT241 GoldStar (2709)				HCT M74HCT241 Mitsubishi				HCT CD54HCT648 † GE/RCA (2641)			
GD74HCT244 GoldStar (2709)				M74HCT244 Mitsubishi				CD74HCT648 GE/RCA (2641)			
HD74HCT241 Hitachi			40	Octal Bus/Line Driver, Inverting			105	GD74HCT648 GoldStar (2709)			165
HD74HCT244 Hitachi				HC M74HC240 Mitsubishi				HD74HCT648 Hitachi			
54HCT241SOS † Marconi				HCT M74HCT240 Mitsubishi				HD74HCT651 Hitachi			
54HCT244SOS † Marconi			45	Octal Bus Transceiver			110	KS74HCTLS648 Samsung			170
74HCT241 Marconi				AC 54AC11245 † TI				74HCT648 Signetics (3057)			
74HCT244 Marconi				54AC11657 † TI				SN74HCT648 † TI			
MIC74HCT241 Micrel			50	74AC11657 TI (3310)			115	SN74HCT651 † TI			175
MIC74HCT244 Micrel				ACT 74ACT11657 † TI (3310)				TC74HCT648A Toshiba			
MC54HCT241 † Motorola				AHCT KS54AHCT645 † Samsung				TC74HCT651A Toshiba			
MC54HCT244 † Motorola			55	KS74AHCT645 Samsung (3035)			120	Octal Bus Transceiver and Register, Non-Inverting, Three-State			180
MC74HCT241 Motorola				BCT SN74BCT1245 TI				AC CD54AC646 † GE/RCA (2643)			
MC74HCT244 Motorola				HC M74HC245 Mitsubishi				CD74AC646 GE/RCA (2643)			
MM54HCT244 † National			60	M74HC246 Mitsubishi			125	54AC11646 † TI			185
MM74HCT244 National				M74HC643 Mitsubishi				54AC11652 † TI			
P54PCT244 Performance				M74HC645 Mitsubishi				74AC11646 TI (3310)			
MV74HCT241 Plessey			65	M74HC620 SGS-Thomson			130	TC74AC646 Toshiba (3340)			190
MV74HCT244 Plessey				M74HC623 SGS-Thomson				ACT CD54ACT648 † GE/RCA (2643)			
KS74HCTLS241 Samsung				M74HC640 SGS-Thomson				CD74ACT648 GE/RCA (2643)			
KS74HCTLS244 Samsung			70	M74HC651 SGS-Thomson			135	74ACT648 † MMI			195
74HCT241 Samsung				M74HC652 SGS-Thomson				74ACT651 † MMI			
74HCT244 Samsung				HCT P54PCT645 Performance				54ACT11648 † TI			
M74HCT241 SGS-Thomson			75	M74HCT646 SGS-Thomson			140	54ACT11652 † TI			200
M74HCT244 SGS-Thomson				M74HCT648 SGS-Thomson				74ACT11646 TI (3310)			
54HCT244 Signetics				M74HCT651 SGS-Thomson				74ACT11652 TI (3310)			
74HCT241 Signetics (3057)			80	M74HCT652 SGS-Thomson			145	AHCT KS54AHCT652 † Samsung			205
74HCT244 Signetics (3057)				Octal Bus Transceiver and Register				KS74AHCT646 Samsung (3035)			
54HCT241 † Supertex				HCT UM74HCT646 UMC				KS74AHCT652 Samsung (3035)			
54HCT244 † Supertex			85	Octal Bus Transceiver and Register, Inverting, Three-State			150	BCT SN54BCT646 † TI			210
74HCT241 Supertex				AC CD54AC648 † GE/RCA (2643)				SN54BCT652 † TI			
74HCT244 Supertex				CD74AC648 GE/RCA (2643)				SN74BCT646 TI (3317)			
SN54HCT244 † TI			90	54AC11648 † TI			155	HC CD54HC646 † GE/RCA (2641)			215
SN74HCT244 † TI				54AC11651 † TI				CD74HC646 GE/RCA (2641)			
TC74HCT244A Toshiba				74AC11648 TI (3310)				GD74HC646 GoldStar (2709)			
V74ACT244 VTC (3389)			95	TC74AC648 Toshiba (3340)			160	HD74HC646 Hitachi			220
V74FCT241 † VTC				ACT CD54ACT648 † GE/RCA (2643)				HD74HC652 Hitachi			
PCT P74PCT241 Performance				74ACT648 † MMI				MC54HC646 † Motorola (2940)			
P74PCT244 Performance			100	74ACT651 † MMI			165	MC74HC646 Motorola			225
SC 74SC241 Supertex				54ACT11648 † TI				MC74HC652 Motorola			
74SC244 Supertex				54ACT11651 † TI				MM54HC646 † National			
4XXX HEF40244B Signetics			105	74ACT11648 TI (3310)			170	MM74HC646 National			230
Octal Bus Driver, Non-Inverting, Three-State, Symmetrical Controls				74ACT11651 TI (3310)				74HC646 Samsung			
ACT 54ACT11241 † TI				AHCT KS54AHCT651 Samsung				M74HC646 SGS-Thomson			
74ACT11241 TI (3310)			110	KS74AHCT648 Samsung (3035)			175	74HC646 Signetics (3057)			235
V54ACT241 † VTC (3389)				BCT SN54BCT648 † TI				SN54HC646 † TI			
V74ACT241 VTC (3389)				SN54BCT651 † TI				SN54HC652 † TI			
AHCT KS74AHCT241 Samsung (3035)			115	Octal Bus Driver, Non-Inverting, Three-State, Symmetrical Controls			180	(Continued)			240
HC LR74HC241 Sharp				(Continued)				(Continued)			
(Continued)				(Continued)				(Continued)			

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line		
Miscellaneous (Cont'd)				Octal Bus Transceiver, Three-State (Cont'd)				Octal Bus Transceiver, Three-State, Inverting (Cont'd)					
Octal Bus Transceiver and Register, Non-Inverting, Three-State				ACT				HCT					
HC				SN54ACT11623				MM54HCT643					
(Cont'd)				54ACT11620				MM74HCT640					
SN74HC646		TI	5	74ACT11620		TI (3310)	60	MM74HCT643		National	130		
SN74HC652		TI		74ACT11623		TI (3310)		P54PCT545		Performance			
TC74HC646		Toshiba (3340)		V54ACT620		† VTC (3389)		P54PCT640		Performance			
TC74HC646A		Toshiba (3340)		V54ACT623		† VTC (3389)		P54PCT643		Performance			
TC74HC652		Toshiba (3340)		V74ACT620		VTC (3389)		MV74HCT545		Plessey			
TC74HC652A		Toshiba (3340)		V74ACT623		VTC (3389)		KS74HCTLS640		Samsung			
HCT				AHCT		KS74AHCT640	65	KS74HCTLS643		Samsung	135		
CD54HCT646		† GE/RCA (2641)	BCT		SN54BCT640	M74HCT640		SGS-Thomson					
CD74HCT646		GE/RCA (2641)	FCT		SN74BCT620	74HCT640		Signetics (3057)					
GD74HCT646		GoldStar (2709)	HC		IDT54FCT640A	SN74HCT640		TI					
HD74HCT646		Hitachi	10	IDT74FCT640A		† IDT		SN74HCT643		TI	140		
HD74HCT652		Hitachi		IDT74AHCT640		† IDT		TC74HCT640A		Toshiba			
KS74HCTLS646		Samsung		MC54HC620		† Motorola	70	TC74HCT643A		Toshiba			
74HCT646		Signetics (3057)		MC54HC623		† Motorola		US74HCT640		Universal			
SN74HCT646		† TI		MC54HC643		† Motorola		P74PCT640		Performance			
SN74HCT652		† TI		MC74HC620		Motorola		Octal Bus Transceiver, Three-State, Non-Inverting					
TC74HCT646A		Toshiba	15	MC74HC623		Motorola	75	AC					
TC74HCT652A		Toshiba		MC74HC643		Motorola		CD54AC623		† GE/RCA (2643)	145		
Octal Bus Transceiver and Register, Three-State, Non-Inverting				74HC643		Samsung		CD74AC623		GE/RCA (2643)			
BCT		SN74BCT652		M74HC643		SGS-Thomson		74AC245		National			
Octal Bus Transceiver, Inverting				SN74HC620		Toshiba	80	74AC11245		TI (3310)			
HC		TC74HC640		HCT		HD74HCT620		TC74AC245		Toshiba (3340)			
TC74HC640A		Toshiba (3340)		HD74HCT623		Hitachi		ACT					
Octal Bus Transceiver, Inverting/Non-Inverting				MC54HCT623		Hitachi		CD54ACT245		† GE/RCA (2642)	150		
HC		TC74HC643A		SN74HCT620		TI	85	CD54ACT623		† GE/RCA (2643)			
PCT		P74PCT643		SN74HCT623		TI		CD74ACT245		GE/RCA (2642)			
Octal Bus Transceiver, Inverting, Three-State				Octal Bus Transceiver, Three-State (BiCMOS)				CD74ACT623		GE/RCA (2643)			
AC		54ACT11652	25	BCT		SN54BCT245		74ACT245		National	155		
54AC11643		† TI		AC		TC74AC640	90	54ACT11245		† TI			
74AC11643		TI (3310)		TC74AC643		Toshiba (3340)		74ACT11245		TI (3310)			
74AC11651		TI (3310)		ACT		54ACT11640		V54ACT245		† VTC (3389)			
74AC11652		TI (3310)		54ACT11643		† TI		V54ACT645		† VTC (3389)			
HC		MC74HC620	30	74ACT11640		TI (3310)	95	V74ACT245		VTC (3389)			
HCT		MC74HCT620		74ACT11643		TI (3310)		V74ACT645		VTC (3389)			
Octal Bus Transceiver, Non-Inverting, Three-State				V54ACT640		† VTC (3389)		AHCT		IDT54AHCT245	160		
HC		MC74HC623		V54ACT643		† VTC (3389)		KS74AHCT245		Samsung (3035)			
HCT		MC74HCT623		V74ACT640		VTC (3389)	100	KS74AHCT541		Samsung (3035)			
Octal Bus Transceiver, Open Collector, Inverting				V74ACT643		VTC (3389)		BCT		SN74BCT623	165		
BCT		SN54BCT620		AHCT		KS74AHCT643		FCT		IDT54FCT245		† IDT	
Octal Bus Transceiver with Parity, Three State				BCT		SN54BCT623	105	IDT54FCT645		† IDT			
AHCT		KS54AHCT664	35	FCT		IDT54FCT640		IDT54FCT645A		† IDT			
KS54AHCT665		† Samsung		HC		CD54HC640		IDT74FCT245		† IDT	170		
KS74AHCT664		Samsung (3035)		CD74HC640		GE/RCA (2641)		IDT74FCT245A		† IDT			
KS74AHCT665		Samsung (3035)		GD74HC643		GoldStar (2709)	110	IDT74FCT645A		† IDT			
Octal Bus Transceiver with Parity, Three-State				HD74HC640		Hitachi		V54FCT245		† VTC (3389)			
HC		MC74HC658	40	M74HC640		Mitsubishi		V54FCT645		† VTC (3389)			
MC74HC659		Motorola		MC54HC640		Motorola (2940)	115	V74FCT245		† VTC (3389)			
MC74HC664		Motorola		MC74HC640		Motorola (2940)		V74FCT645		† VTC (3389)			
Octal Bus Transceiver with Registers, Open-Collector				74HC640		Samsung		HC		CD54HC245	175		
HC		74HC647		LR74HC640		Sharp	120	CD74HC245		GE/RCA (2640, 2653)			
HCT		74HCT647		74HC640		Signetics (3057)		GD74HC245		GoldStar (2709)			
Octal Bus Transceiver with Status Flag, Inverting				SN54HC640		TI	125	GD74HC541		GoldStar (2709)			
HC		MC74HC551		SN54HC643		† TI		HD74HC245		Hitachi	180		
Octal Bus Transceiver with Status Flag, Non-Inverting				SN74HC640		TI		HD74HC623		Hitachi			
HC		MC74HC550	45	SN74HC643		TI		IDT54AHCT645		† IDT			
Octal Bus Transceiver with Storage, Three-State				HCT		CD54HCT640	120	IDT74AHCT645		† IDT			
HC		HD74HC620		CD74HCT640		GE/RCA (2641)		MC54HC245		† Motorola (2939)	185		
TC74HC620		Toshiba (3340)		GD74HCT640		GoldStar (2709)		MC74HC245		Motorola (2939)			
Octal Bus Transceiver, Three-State				HD74HCT640		Hitachi	125	MN74HC245		Panasonic			
AC		54AC11620		MC54HCT640		† Motorola		74HC245		Samsung			
54AC11623		† TI		MC74HCT640		Motorola		M74HC245		SGS-Thomson			
54AC11640		† TI		MM54HCT640		† National		LR74HC245		Sharp	190		
74AC11620		TI (3310)		(Continued)				LR74HC541		Sharp			
74AC11623		TI (3310)						74HC245		Signetics (3057)			
74AC11640		TI (3310)						SN54HC245		† TI	195		
TC74AC620		Toshiba (3340)						SN54HC541		† TI			
(Continued)								SN54HC623		† TI			
								SN54HC645		† TI			
								SN74HC245		TI			
								SN74HC541		TI			
								SN74HC623		TI			
								SN74HC645		TI			
								(Continued)					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◇ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Miscellaneous (Cont'd)				Octal Non-Inverting Latched Transceiver				8-Bit Metastable-Resistant Flip-Flops (Cont'd)			
Octal Bus Transceiver, Three-State, Non-Inverting HC				FCT				AC			
				IDT54FCT543 † IDT				74AC11477 TI (3310)			
TC74HC245 Toshiba (3340)				IDT54FCT543A † IDT				74AC11478 TI (3310)			
TC74HC245A Toshiba (3340)				IDT74FCT543 IDT				ACT			
TC74HC541A Toshiba (3340)				IDT74FCT543A IDT				54ACT11476 † TI			
TC74HC623 Toshiba (3340)								54ACT11477 † TI			
								54ACT11478 † TI			
HCT								74ACT11476 TI (3310)			
CD54HCT245 † GE/RCA (2640, 2653)								74ACT11477 TI (3310)			
CD74HCT245 GE/RCA (2640, 2653)								74ACT11478 TI (3310)			
GD74HCT245 GoldStar (2709)											
HD74HCT245 Hitachi											
54HCT245SOS † Marconi											
74HCT245 Marconi											
MIC74HCT245 Micrel											
MC54HCT245 † Motorola											
MC74HCT245 Motorola											
MM54HCT245 † National											
MM74HCT245 † National											
P54PCT245 Performance											
MV74HCT245 Plessey											
74HCTLS245 Samsung											
M74HCT245 SGS-Thomson											
74HCT245 Signetics (3057)											
54HCT245 † Supertex											
74HCT245 Supertex											
SN54HCT245 † TI											
SN74HCT245 † TI											
SN74HCT645 † TI											
TC74HCT245A Toshiba											
TC74HCT541 Toshiba											
PCT											
P74PCT245 Performance											
P74PCT545 Performance											
P74PCT645 Performance											
SC											
74SC245 Supertex											
4XXX HEF40245B Signetics											
Octal Bus Transceiver, Three-State, True/Inverting HC											
CD54HC643 † GE/RCA (2641)											
CD74HC643 GE/RCA (2641)											
HD74HC643 Hitachi											
74HC643 Signetics (3057)											
HCT											
CD54HCT643 † GE/RCA (2641)											
CD74HCT643 GE/RCA (2641)											
GD74HCT643 GoldStar (2709)											
HD74HCT643 Hitachi											
MC54HCT643 † Motorola											
MC74HCT643 Motorola											
M74HCT643 SGS-Thomson											
74HCT643 Signetics (3057)											
Octal D Register/Bus Transceiver BCT											
SN54BCT543 † TI											
SN54BCT544 † TI											
SN74BCT543 TI (3317)											
SN74BCT544 TI (3317)											
HC											
MM54HC543 † National											
MM54HC544 † National											
MM74HC543 National											
MM74HC544 National											
HCT											
MM74HCT543 National											
MM74HCT544 National											
Octal, Inverting, Back-to-Back Configuration ACT											
74ACT794 MMI											
Octal Inverting Registered Transceiver FCT											
IDT54FCT648 † IDT											
IDT54FCT648A † IDT											
IDT54FCT652 † IDT											
IDT54FCT652A † IDT											
IDT74FCT648 IDT											
IDT74FCT648A IDT											
IDT74FCT652 IDT											
IDT74FCT652A IDT											

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—CMOS (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Miscellaneous (Cont'd)				9-Bit Odd/Even Parity Generator/Checker HC (Cont'd)				12-Bit Parity Tree 4XXX (Cont'd)			
9-bit Bidirectional uBus Transceiver, Three-State	AM29C863	AMD		SN74HC280	TI	(3340)	55	883C4531B	† Sprague		
				TC74HC280	Toshiba	(3340)		TC4531B	Toshiba	(3341)	
9-Bit Bus Transceiver				TC74HC280A	Toshiba	(3340)					
BCT	SN54BCT29863	† TI									
FCT	IDT54FCT863B	† IDT		9-Bit Parity Generator/Checker with Parity I/O Port							
	IDT54FCT864A	† IDT		AC	74AC11286	TI	(3310)				
	IDT54FCT864B	† IDT	5	9-Bit Three-State, Non-Inverting							
	IDT74FCT864A	† IDT		FCT	IDT54FCT823B	† IDT					
	V54FCT863A	† VTC	(3389)		V54FCT823A	† VTC	(3389)	60			
	V54FCT864A	† VTC	(3389)		V74FCT823A	† VTC	(3389)				
	V74FCT863A	† VTC	(3389)	10-Bit Bidirectional Bus Transceiver, Three-State							
	V74FCT864A	† VTC	(3389)	AM29C861	AMD						
9-Bit Bus Transceiver, Inverting			10	10-bit Bus Drivers, Inverting (BiCMOS)							
ACT	54ACT11864	† TI		BCT	SN74BCT29828A	TI	(3317)				
	74ACT11864	TI	(3310)	10-bit Bus Drivers, Non-Inverting (BiCMOS)							
	V54ACT864	† VTC	(3389)	BCT	SN74BCT29827A	TI	(3314, 3317)				
	V74ACT864	VTC	(3389)	10-Bit Bus Transceiver							
9-Bit Bus Transceiver, Inverting (BiCMOS)			15	BCT	SN54BCT29861	† TI	65				
BCT	SN74BCT29864	TI	(3317)	FCT	IDT54FCT861A	† IDT					
9-Bit Bus Transceiver, Non-Inverting					IDT54FCT861B	† IDT					
ACT	54ACT11863	† TI			IDT54FCT862A	† IDT					
	74ACT11863	TI	(3310)		IDT54FCT862B	† IDT					
	V54ACT863	† VTC	(3389)		IDT74FCT861A	† IDT					
	V74ACT863	VTC	(3389)		IDT74FCT862A	† IDT					
9-bit Bus Transceiver, Non-Inverting (BiCMOS)			20		V54FCT861A	† VTC	(3389)	70			
BCT	SN74BCT29863	TI	(3314, 3317)		V54FCT862A	† VTC	(3389)				
9-Bit Bus Transceiver W/ D-Type Flip-Flops					V74FCT861A	† VTC	(3389)	75			
AC	54AC11474	† TI			V74FCT862A	† VTC	(3389)				
	74AC11474	TI	(3310)	10-Bit Bus Transceiver, Inverting							
ACT	54ACT11474	† TI		ACT	54ACT11862	† TI					
	74ACT11474	TI	(3310)		74ACT11862	TI	(3310)				
9-Bit Bus Transceiver W/ D-Type Latches			25		V54ACT862	† VTC	(3389)				
AC	54AC11472	† TI			V74ACT862	VTC	(3389)				
	74AC11472	TI	(3310)	10-bit Bus Transceiver, Inverting (BiCMOS)							
ACT	54ACT11472	† TI		BCT	SN74BCT29862	TI	(3317)	80			
	74ACT11472	TI	(3310)	10-Bit Bus Transceiver, Non-Inverting							
9-Bit Bus Transceiver W/ D-Type Latches W/ Inverting Outputs			30	ACT	54ACT11861	† TI					
AC	54AC11473	† TI			74ACT11861	TI	(3310)				
	74AC11473	TI	(3310)		V54ACT861	† VTC	(3389)				
ACT	54ACT11473	† TI			V74ACT861	VTC	(3389)				
	74ACT11473	TI	(3310)	10-bit Bus Transceiver, Non-Inverting (BiCMOS)							
9-Bit Bus Transceiver with Flip-Flops and Inverting Outputs			35	BCT	SN74BCT29861	TI	(3317)	85			
AC	54AC11475	† TI		10-Bit Bus Transceiver, Three-State, Inverting							
	74AC11475	TI	(3310)	AC	54AC11862	† TI					
ACT	54ACT11475	† TI			74AC11862	TI	(3310)				
	74ACT11475	TI	(3310)	10-Bit Bus Transceiver, Three-State, Non-Inverting							
9-Bit Bus Transceiver with Latch			40	AC	54AC11861	† TI					
HC	CD54HC7038	† GE/RCA	(2641)		74AC11861	TI	(3310)				
	CD74HC7038	GE/RCA	(2641)	10-Bit Three-State, Inverting							
HCT	CD54HCT7038	† GE/RCA	(2641)	FCT	IDT54FCT822A	† IDT					
	CD74HCT7038	GE/RCA	(2641)		IDT54FCT822B	† IDT					
9-Bit Bus Transceiver, Three-State, Inverting					IDT74FCT822A	† IDT					
AC	54AC11864	† TI			IDT74FCT822B	† IDT					
	74AC11864	TI	(3310)		V54FCT822A	† VTC	(3389)	90			
9-Bit Bus Transceiver, Three-State, Non-Inverting					V74FCT822A	† VTC	(3389)	95			
AC	54AC11863	† TI		10-Bit Three-State, Non-Inverting							
	74AC11863	TI	(3310)	FCT	IDT54FCT821A	† IDT					
9-Bit Odd/Even Parity Generator/Checker			45		IDT54FCT821B	† IDT					
AC	54AC11280	† TI			IDT74FCT821A	† IDT					
AHCT	KS54AHCT280	† Samsung			IDT74FCT821B	† IDT					
	KS74AHCT280	Samsung	(3035)		IDT74FCT823B	† IDT					
HC	GD74HC280	GoldStar	(2709)		V54FCT821A	† VTC	(3389)	100			
	HD74HC180	Hitachi			V74FCT821A	† VTC	(3389)				
	LR74HC280	Sharp									
	SN54HC180	† TI		10-Line to 4-Line DCD Priority Encoder							
	SN54HC280	† TI		HC	TC74HC147	Toshiba	(3340)				
	SN74HC180	TI		4XXX	CD40147B	† GE/RCA	(2637)	105			
			50		CD40147BE	GE/RCA	(2637)				
				12-Bit Parity Tree							
				4XXX	MC14531BA	† Motorola	(2947)				
					MC14531BC	Motorola	(2947)				
					F4531BC	National					
					F4531BM	† National					
					HEF4531B	Signetics		110			

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—Digital Signal Processing

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Arithmetic Functions				Multiplier (8x8)				Shifter, Barrel Shifter			
Add/Subtract Logic, 16-Bit				ADSP1080	† AD	(2436)		AM25S10	† AMD		
L4C381	◊† LogicDev			ADSP1081	† AD	(2436, 2462)		LSH32	◊† LogicDev		105
L4C381C	◊ LogicDev			LMU08	◊† LogicDev			LSH32C	◊ LogicDev		
L4C381M	◊† LogicDev			LMU557	† LogicDev			LSH32M	◊† LogicDev		
Adder, 6-Bit High Speed				LMU558	† LogicDev		45	MC74F350	Motorola (2947)		
F100180	◊ National			LMU8U	◊† LogicDev			74F350	◊ National		110
100180	Signetics (3074)		5	SPB9708	† TI			N25S10	Signetics		
Adder, 9-Bit Wallace Tree				MPY008	† TRWLSI			54S350	† Signetics		
F100182	◊ National			74F784	Signetics (3078)			74F350	Signetics (3077)		
Address Generator				Multiplier (12x12)				74S350	Signetics (3057)		
ADSP1410	AD (2438, 2462)			ADSP1012	◊† AD	(2436)	50	SN74F350	TI		115
ALU	ADSP3223	AD (2437)		MPV12	IMI			MC54F350	† Motorola (2947)		
ALU, Multiplier/Divider and Register File				MPY12	† IMI			Converters, Analog to Digital			
ADSP3264	AD (2437, 2456)			LMU12	† LogicDev			4-Bit, 200 MSPS			
ALU (single precision)				MPY012	† TRWLSI			TDC1034	TRWLSI		
ADSP3202	AD (2437)		10	MPY112	TRWLSI			4-Bit, 25 MSPS			
Arithmetic Logic Unit, Cascade				Multiplier (16x16)				TDC1021	† TRWLSI		
MA7188	‡ Marconi			AM29L516	AMD			4-Bit, 30 MSPS			
Arithmetic, Math Acceleration Unit				AM29L517	AMD			UAB1005	SGS-Thomson		
WE32106	AT&T			AM29516	AMD			6-Bit, 100 MSPS			
Arithmetic Unit, Floating Point				ADSP1016	◊ AD	(2436)	60	SDA5200	Siemens		120
ADSP3220	AD (2437, 2462)			ADSP7018	AD			TDC1029	† TRWLSI		
TDC1022	TRWLSI			ADSP8018	AD			6-Bit, 15 MSPS			
CMOS 32-Bit Floating Point Controller				CY7C516C	◊ Cypress (2590)			CA3300	† GE/RCA		65
MB86910	Fujitsu		15	CY7C516M	◊† Cypress (2590)			CA3306	GE/RCA		
Correlator				CY7C517C	◊† Cypress (2590)			6-Bit, 25 MSPS			
L10C23	† LogicDev			CY7C517M	◊† Cypress (2590)			TDC1014	† TRWLSI		70
L10C23M	† LogicDev			LMU16	◊† LogicDev			TDC1046	† TRWLSI		
L1023C	LogicDev			LMU17	◊† LogicDev			6-Bit, 50 MSPS			
MA7170	† Marconi			LMU18	† LogicDev			SDA6020	Siemens		125
TDC1023	† TRWLSI			LMU216M	† LogicDev			TDC1147	TRWLSI		
TMC2220	TRWLSI		20	MPY016	† TRWLSI			7-Bit, 15 MSPS			
DSP, Multiplier/Accumulator, Serial				WTL1016	Weitek			TDC1047	TRWLSI		75
DSP135	STC			WTL2516	† Weitek			TDC1047	TRWLSI		
DSP, Processing Register				Multiplier (24x24)				MC10319	Motorola (2970)		
DSP134	STC			ADSP1024	† AD	(2436)		7-Bit, 20 MSPS			
DSP, Programmable Multiplier				ADSP1024AS	† AD	(2436)		VC008J	VTC (3384)		
DSP135	STC			ADSP1024AT	† AD	(2436)		VC008S	† VTC (3384)		130
Floating Point Multiplier/ALU (10 MFLOPS)				Multiplier (32-bit)				8-Bit Flash A/D Converter (250 MHz)			
UT1732	UTMC		25	ADSP3210	AD (2437)			VC008J	VTC (3384)		
Floating Point Multiplier (single precision)				STI2003	STI (3264)			8-Bit, 1 MSPS, 8 dB Dynamic Range			
ADSP3201	AD (2437)			Multiplier-Accumulator, Complex Numbers				TLC0820	TI (3325)		
Floating Point Processor, 32-Bit				Multiplier-Accumulator (8x8)				8-Bit, 100 MSPS			
ISP9326	GE/Intersil (2682)			ADSP1008	AD (2436)		80	SDA8010	Siemens		
Math Acceleration Unit				TDC1008	† TRWLSI			8-Bit, 170 MSPS			
WE32206	AT&T			Multiplier-Accumulator (12x12)				SCA5008	STC		
Microprogram Controller				ADSP1009	◊† AD	(2436)		8-Bit, 20 MSPS			
WS5910A	Waferscale			LMA1009	◊† LogicDev			TDC1048	◊† TRWLSI		135
WS5910B	Waferscale			TDC1009	† TRWLSI			THC1068	TRWLSI		
Multiplier/Accumulator (16x16)				TMC2009	† TRWLSI			8-Bit, 50 MSPS			
MA7010	‡ Marconi			Multiplier-Accumulator (16x16)				TDC1025	TRWLSI		
Multiplier/Accumulator (16x16), 33 MHz				AM29510	AMD			10-Bit, with anti-aliasing filter			
WS59510	Waferscale			ADSP1110	† AD	(2436)		RT5640	EG&G-Reticon		
Multiplier/Accumulator (24x24)				ADSP1110A	AD (2436)			10-Bit, 800 ns	ADC816	† Datel (2595)	90
ISP9224	GE/Intersil (2682)		30	ASDP1010	† AD			12-Bit, 1.5 μs	ADC803	Burr-Brown (2558)	
Multiplier/Divider				IDT7243	◊† IDT			12-Bit, 100 ns	ADC600	Burr-Brown (2558)	140
ADSP3213	AD (2437)			LMA1010	◊† LogicDev			12-Bit, 20 MSPS			
Multiplier Slice, Wallace Tree				TDC1010	† TRWLSI			SCA3012	STC		
SN54LS275	◊† TI		35	TDC1043	TRWLSI			12-Bit, 2000 ns			
Multiplier (2x8) Recode				TMC2210	† TRWLSI			ADC810	† Datel (2595)		
F100183	◊ National			VL2010	VLSI Tech			ADC817	† Datel (2595)		
Multiplier (8-Bit Serial)				VL2044	VLSI Tech			12-Bit, 3000 ns			
54HCT384	† Signetics			WTL2010	† Weitek			AD578	† Maxim		145
74F384	Signetics (3078)			WTL2245	† Weitek			12-Bit, 500 ns	ADC868	Datel (2595)	
Multiplier (8x8)				Multiplier-Accumulator (16x16), single port				13-Bit ADC	TC5092A	Toshiba (3341)	
AM25S557	AMD			NCR45CM16A	† GE/RCA			14-Bit A/D D/A for TMS320 DSP			
AM25S558	AMD			NCR45CM16	† NCR		100	TLC32040	† TI (3324)		
(Continued)				Processor, Development System for Geometric Arithmetic Parallel Processor							
				NCRGDSI	NCR						
				Shift Matrix, 8-Bit Barrel Shifter							
				F100158	◊ National						
				100158	Signetics (3074)		40				

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—Digital Signal Processing (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Converters, Analog to Digital (Cont'd)				Processors				Processor, Digital Signal Processor (Cont'd)			
6-Bit, 75 MSPS	AD9001	AD		12-Bits (0.012 linearity error)	DAC65	Burr-Brown (2553)	40	DSP32010	Microchip (2892, 2895)		85
Converters, Digital to Analog				14-Bit D/A Converter	HDAC50610 HDAC50810	Honeywell SPT Honeywell SPT		DSP56000	† Motorola (2920)		
4-Bit Triple Video DAC	HDAC34010 HDAC34020	Honeywell SPT Honeywell SPT		16-Bits (serial latched)	PCM60	Burr-Brown (2554)		F9450	† National		
4-Bit Triple Video DAC, 200 MSPS	TDC1334	TRWLSI		Processors				μPD77230	NEC		
4-Bit, 4 ns	HDG0405 ZN434 TDC1034	AD (2412) Plessey TRWLSI	5	Microprocessor, 12.5 MIPS Digital Signal Processor	ADSP2100A	AD (2439, 2459, 2462)		MN1900	SGS-Thomson		
6-Bit, Triple Video DAC, 20 MSPS	IMSG175-25	Inmos		ALU, 4-Bit Binary/BCD	F100181	◊ National Signetics (3074)	45	TS68930	SGS-Thomson		
6-Bit, Triple Video DAC, 35 MSPS	IMSG170-35	Inmos		CMOS 32-Bit RISC Processor	MB86900	Fujitsu		SMJ32010	◊ TI		90
6-Bit, Triple Video DAC, 50 MSPS	IMSG170-50 IMSG171-50	Inmos Inmos (2797)	10	Digital Signal Processor, Fixed Point	MSM77C20	OKI		TMS320	TI		
6-Bit, 6 ns	HDG0605	AD (2412)		Digital Signal Processor, 32-Bit DSP Modem	TMS320A2400	TI		TMS32010	◊ TI	(3288)	
8-Bit Video DAC (200 MHz)	VC108J	VTC (3384)		Filter, CAFIR (Cascadable Adaptive Finite Impulse Response)	DSP56200	Motorola (2921)	50	TMS32020	◊ TI	(3288)	
8-Bit Video DAC (250 MHz)	VC108S	† VTC (3384)		FIR Filter	TMC2243	TRWLSI		TMS32025	TI		
8-Bit Video DAC (300 MHz)	VC108K	VTC (3384)	15	Floating Point DSP (24-bit)	MB86220 MB86232	Fujitsu (2633) Fujitsu (2633)		Processor, Geometric Arithmetic Pattern Processor			
8-Bit, Triple Video DAC	AH8308T SCD6038	Analogic STC		Floating Point Vector Processor, Single Precision (60—80 MFLOPS, 1K point complex FFT)	UT69532	† UPMC		NCR45CG72	NCR		95
8-Bit, Triple Video DAC, 200 MSPS	TDC1318	TRWLSI		Multiplier and ALU, 22-Bits, Floating Point	TDC1033 TDC1042	TRWLSI TRWLSI		Processor, High Performance External ROM Version of	TS68931	SGS-Thomson	
8-Bit, 100 MSPS	AD9768	◊ AD (2411)		Multiplier Set, 32 and 64-Bit IEEE Floating Point Multiplier and ALU	IDT721264 WTL1064 WTL1065 WTL1164 WTL1165 WTL1264 WTL1265	IDT † Weitek † Weitek † Weitek † Weitek † Weitek † Weitek	55	Processor, Image Pipeline (Data Flow)	μPD7281	NEC	
8-Bit, 125 MSPS	AD9700	◊ AD (2412)	20	Multiplier Set, 32-Bit IEEE Floating Point Multiplier and ALU	TMC3200 TMC3201 WTL1032 WTL1033	TRWLSI TRWLSI † Weitek † Weitek		Processor, Programmable Signal Processor	AM29501	AMD	
8-Bit, 165 MSPS	HDAC10181B	Honeywell SPT		Processor, Adaptive Differential Pulse Code Modulation (ADPCM)	DS2167	◊ Dallas		Processor, Signal Processing Interface	S77C20 S7720 μPD77P20 μPD7720A	Gould/AMI Gould/AMI NEC NEC	100
8-Bit, 20 MSPS	TDC1016	TRWLSI		Processor, ADPCM	DS2168 TEL721	◊ Dallas STC	60	Processor, Signal Processor	LR37632	Sharp	
8-Bit, 200 MSPS	HDAC97000 TDC1018	† Honeywell SPT † TRWLSI		Processor, Advanced Digital Processor (ASP)	μPD77C20	NEC	65	Processor Unit, Floating Point	8232	Intel	
8-Bit, 275 MSPS	HDAC10180A HDAC10181A	Honeywell SPT Honeywell SPT	25	Processor, Concurrent	Transputer	Inmos		Processor, 22-Bit Floating Point	MSM6992	OKI	105
8-Bit, 5 MSPS, 8 dB Dynamic Range	TLC7524	TI (3325)		Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)	75	Program Sequencer	ADSP1401 ADSP1402	AD (2438) AD (2438, 2457)	
8-Bit, 8 ns	HDG0805 DAC0805 ADC0805	AD (2412) Datel (2596) National		Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		Register File	ADSP3128A	AD (2438, 2458)	
9-Bit, 20 MSPS	TDC1016	† TRWLSI		Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		Signal Processor, Analog Real Time	2920 2921	Intel Intel	110
10-Bit, 15 ns	HDD1015	† AD		Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		4-Bit Slice	AM2903 AM29203 CY2901 CY7C901 2901 2901 2901-Cell IDM2901 NCR2901-Cell SFC2901 SFC2903 2901 2901-Cell VSC2901-Cell 2901	† AMD † AMD † Cypress ◊ Cypress (2590) ◊ GE/RCA ◊ LSI Logic ◊ LSI Logic † National ◊ NCR (4288) SGS-Thomson SGS-Thomson ◊ SGS-Thomson ◊ SGS-Thomson ◊ VLSI Tech ◊ Waferscale	115
10-Bit, 20 MSPS	TDC1016	TRWLSI		Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		8-Bit Slice	5908 SN54AS888 SN74AS888 SN74AS888-1	◊ GE/RCA † TI TI (3297) TI (3297)	130
10-Bit, 25 ns	DACHF10	† Datel (2596)		Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		16 bit, 32 Stage, Cascadable Transversal Filter.	IMSA100	Inmos (2786)	
10-Bit, 75 MSPS	SP9770	Plessey		Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		16-Bit CMOS	SMJ320C25	† TI	
12-Bit DAC (125 ns settling time)	VC512J VC512S	VTC (3384) † VTC (3384)	35	Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		16-Bit CMOS DSP with 4K EPROM	SMJ320E15	† TI	
12-Bit, 20 MSPS	TDC1012	TRWLSI		Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		16-Bit NMOS	SMJ32020	† TI	135
12-Bit, 40 ns	DAC63	Burr-Brown (2553)		Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		16-Bit Slice	5916 5916-Cell	◊ GE/RCA ◊ GE/RCA	
				Processor, Digital Signal Processor	ADSP2100K ADSP2100 ADSP2100J ADSP2100S WEDSP16 WEDSP32 WEDSP32C VC512J VC512S	AD (2439, 2462) AD (2439, 2462) AD (2439, 2462) † AD (2439, 2462) † AT&T (2482) † AT&T (2482) AT&T (2482) Fujitsu (2633) Fujitsu (2633)		16-Bit Slice (15 MHz)	WS59016C WS59016D	◊ Waferscale	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—Digital Signal Processing (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Processors (Cont'd)				Data Acquisition Peripheral (w/12-bit plus sign A/D converter)	ML2208	MicroLinear		Video Line Buffer, Multi-Function	MA7186	‡ Marconi	70
16-Bit Slice (32 MHz)	WS59016D	◊ Waferscale		Delay Line (programmable length)	ISP9500	GE/Intersil (2683)		Video Shift Register	L64211	LSI Logic (4265)	
16-Bit Versions of 2901				Digital Filter, Programmable	FSP100	National		Video Shift Register (15 MHz)	L64210	LSI Logic (4265)	
4x2901B		IMI		Digitally Programmable Delay Generator (10 ps resolution)	AD9500	AD (2433)	40	Video Shift Register (20 MHz)	L64210A	LSI Logic (4265)	
L429C01		◊ † LogicDev		Ethernet/StarLAN Controller, IEEE 802.3	MB86950	Fujitsu		L64211A	LSI Logic (4265)		
WS59016		† Waferscale		Filter, FIR Filter	NCR45CF8	NCR		Binary Filter and Template Matcher (15 MHz)	L64230	LSI Logic (4265, 2888)	75
32-Bit Slice	59032-Cell	° GE/RCA	5	Filter, FIR (12-bit)	TDC1028	† TRWLSI		Binary Filter and Template Matcher (20 MHz)	L64230A	LSI Logic (4265, 2888)	
32-Bit Slice (1.35 MHz)	WS59032D	Waferscale		Filter, Rank-Valve (15 MHz)	LMS12C	LogicDev					
32-Bit Slice (20 MHz)	WS59032E	Waferscale		Filter, Rank-Valve (20 MHz)	L64220	LSI Logic (4265, 2888)	45				
56-Bit General Purpose Digital Signal Processor	DSP56001	Motorola (2920)		Filter, Transversal	R5601	EG&G-Reticon					
96-Bit General-Purpose Floating-Point Digital Signal Processor	DSP96001	Motorola		FIR Filter Processor (computes inner products on 16-bit data)	L64260	LSI Logic (4265)					
				L64261	LSI Logic (4265)						
Registers				Histogram/Hough Transform Processor, 15 MHz	L64250	LSI Logic (4265, 2888)	50				
Multilevel Pipeline Register	ISP9520	GE/Intersil (2683)	10	Histogram/Hough Transform Processor, 20 MHz	L64250A	LSI Logic (4265, 2888)					
	ISP9521	GE/Intersil (2683)		Image Sampling Sequencer (processes 4Kx4K multibit words at up to 18 MHz)	TMC2301	TRWLSI					
Pipeline Register, Multilevel				Multi-Bit Filter (15 MHz)	L64240	LSI Logic (4265, 2888)	55				
LPR520		◊ † LogicDev		Multi-Bit Filter (20 MHz)	L64240A	LSI Logic (4265, 2888)					
LPR521		◊ † LogicDev		Multi-Bit Filter (3x3), 20 MHz	L64243	LSI Logic (4265, 2888)					
L29C520		◊ † LogicDev		Multi-Bit Filter (3x3), 30 MHz	L64243A	LSI Logic (4265, 2888)	60				
L29C521		◊ † LogicDev		Multi-Bit Filter (3x3), 40 MHz	L64243B	LSI Logic (4265, 2888)					
WS59520		Waferscale		Numerically Controlled Modulated Oscillator, Waveform Map	DRFS2252	Digital RF					
WS59521		Waferscale		DRFS2253	Digital RF						
Processing Register	DSP134	STC		DRFS2254	Digital RF						
Register File, 3-Port (8x8)	LRF07C	LogicDev		Numerically Controlled Modulated Oscillator, 15 MHz	DRFS2250-15	◊ Digital RF	65				
Register File, 5-Port (8x8)	LRF08	◊ † LogicDev	20	Numerically Controlled Modulated Oscillator, 20 MHz	DRFS2250-20	◊ Digital RF					
Register File, 6-Port (32x32)	WTL1066	Weitek		DRFS2250-25	◊ Digital RF						
Shift Register, 8-Bits, 18 Bits Long, Programmable	TDC1011	† TRWLSI		Numerically Controlled Modulated Oscillator, 30 MHz	DRFS3250-30	◊ Digital RF					
				DRFS3250-35	◊ Digital RF						
Miscellaneous				Numerically Controlled Modulated Oscillator, 40 MHz	DRFS3250-40	◊ Digital RF					
Array, Custom	QuickChip 2	Tektronix		Numerically Controlled Oscillator, 32-Bit Resolution, 25 MHz	ST1172A	STI					
	QuickChip 2S	Tektronix		Rank Order Filter	MA7190	‡ Marconi					
	QuickChip 3	Tektronix	25	Sequencer, Programmable FFT Address Sequencer	AM29540	AMD					
CMOS 16-Bit Digital Filter	MB86975	Fujitsu									
Codec, Video A/D and D/A	UVC3100	ITT									
Coder/Decoder/Filter, Companding μ -LAW, 8-Bit, 12-Bit Dynamic Range, 8 MSPS	TCM29C18	TI									
	TCM29C19	TI (3325)									
Coder/Decoder/Filter, 14-Bit, 14 dB Dynamic Range, 19.2 MSPS (Programmable)	TLC32040	TI (3324)	30								
Comparator, String Proximity Computer and Ranker	PF474C	Proximity									
Converter, Digital to Resolver	DRC10520	† ILC-DDC									
Converter, Digital to Synchro/Resolver	DSC11520	† ILC-DDC									
Converter, Resolver to Digital, 10/12/14/16 bits	2S80	AD (2421)									
Converter, Resolver to Digital, 12-Bit	2S81	AD (2421)	35								
Convolver 1-D/2-D	MA7180	‡ Marconi									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—ECL

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
10K Series				Inverters				Dual Master-Slave (Cont'd)			
Arithmetic Functions				Hex				10131 Signetics (3075)			
Barrel Shifter, 16-Bit Parallel/Serial with 10K Compatible Outputs				MC10189 Motorola (2939)				10231 Signetics (3075)			
TIE10H897 TI				10189 Signetics (3075)				Hex Master-Slave			
Fixed Point Multiplier (16x16)				Hex Inverter/Buffer				MC10H176 Motorola (2942)			
B3018A Bipolar				MC10195 Motorola (2939)				MC10176 Motorola (2942)			
Fixed-Point Multiplier/Accumulator (16x16)				MC10595 $\diamond \uparrow$ Motorola				MC10576 $\diamond \uparrow$ Motorola			
B3011 Bipolar				Counters, Binary				10176 Signetics (3075)			
Floating Point ALU (32/64-bit)				4-Bit				Hex Master-Slave (with common reset)			
B3120A Bipolar				MC10H016 Motorola (2942)				MC10H186 Motorola (2942)			
Floating Point Multiplier and ALU (chipset)				MC10154 Motorola (2942)				MC10186 Motorola (2942)			
B3110/20 Bipolar				MC10178 Motorola (2942)				MC10586 $\diamond \uparrow$ Motorola			
Floating Point Multiplier/Divider (32/64-bit)				MC10578 $\diamond \uparrow$ Motorola				Flip-Flops, J-K Type			
B3110A Bipolar				F10016C National				Dual J-K Master-Slave			
Look-Ahead Carry Circuit				F10016M $\uparrow$ National				MC10535 $\diamond \uparrow$ Motorola			
MC10H179 Motorola (2947)				4-Bit Universal				MC10H135 Motorola (2941)			
MC10179 Motorola (2947)				MC10136 $\diamond$ Motorola (2942)				MC10135 Motorola (2941)			
MC10579 $\diamond \uparrow$ Motorola				10136 Signetics (3075)				10135 Signetics (3075)			
10179 Signetics (3075)				Counters, Decade				Gates, AND			
Microsequencer with TTL Compatible Outputs				Bi-Quinary				Dual 4-Input 10108 Signetics (3075)			
TIE10H890A TI				MC10138 Motorola (2942)				Quad 2-Input (3 AND, 1 AND/NAND)			
Microsequencer with 10K Compatible Outputs				MC10538 $\diamond \uparrow$ Motorola				MC10H104 Motorola (2937)			
TIE10H890 TI				Universal				MC10104 Motorola (2937)			
Multiplier (12x12)				MC10137 Signetics (3075)				MC10504 $\diamond \uparrow$ Motorola			
MC10L951 Motorola				Decade Counter				HD10104 National			
MC10951 Motorola				F10010C National				10104 Signetics (3075)			
Multiplier (16x16)				F10010M $\uparrow$ National				Hex			
ADSP8018 AD				Decoders				MC10197 Motorola (2937)			
Dual High Speed Adder/Subtractor				Binary to 1-8 (high)				MC10597 $\diamond \uparrow$ Motorola			
MC10H180 Motorola (2947)				MC10H162 Motorola (2945)				Gates, OR			
MC10180 Motorola (2947)				MC10162 Motorola (2945)				Dual 3-Input 3-Output (line driver)			
MC10580 $\diamond \uparrow$ Motorola				MC10562 $\uparrow$ Motorola				MC10H210 Motorola (2937)			
10180 Signetics (3075)				10162 Signetics (3075)				MC10110 Motorola (2937)			
2-Bit Logic Unit/Function Generator				Binary to 1-8 (low)				MC10210 Motorola (2937)			
MC10182 Motorola (2947)				MC10H161 Motorola (2945)				MC10610 $\diamond \uparrow$ Motorola			
MC10582 $\diamond \uparrow$ Motorola				MC10161 Motorola (2945)				10110 Signetics (3075)			
2-Bit Multiplier, High Speed				MC10561 $\uparrow$ Motorola				Quad 2-Input (3 OR, 1 OR/NOR)			
MC10287 Motorola (2947)				10161 Signetics (3075)				MC10H103 Motorola (2937)			
MC10687 Motorola				Dual Binary to 1-4 (high)				MC10103 Motorola (2937)			
4-Bit ALU Slice (microprocessor)				MC10H172 Motorola (2945)				MC10503 $\diamond \uparrow$ Motorola			
MC10800 Motorola				MC10172 Motorola (2945)				10103 Signetics (3075)			
4-Bit ALU Slice (microprocessor)				MC10572 $\diamond \uparrow$ Motorola				Gates, NOR			
MC10800 Motorola				10172 Signetics (3075)				Dual 3-Input 3-Output (line driver)			
4-Bit Logic Unit/Function Generator				Dual Binary to 1-4 (low)				MC10H211 Motorola (2938)			
MC10H181 Motorola (2947)				MC10H171 Motorola (2945)				MC10111 Motorola (2938)			
MC10181 Motorola (2947)				MC10171 Motorola (2945)				MC10211 Motorola (2938)			
MC10581 $\diamond \uparrow$ Motorola				MC10571 $\diamond \uparrow$ Motorola				MC10611 $\diamond \uparrow$ Motorola			
10181 Signetics (3075)				10171 Signetics (3075)				10111 Signetics (3075)			
4x2-Bit Multiplier				Drivers				10210 Signetics (3075)			
MC10183 Motorola (2947)				Dual TTL/MST Bus				10211 Signetics (3075)			
5-Bit Comparator				MC10128 Motorola (2940)				Dual 3-Input 3-Output (1 OR, 2 NOR) (line driver)			
MC10H166 Motorola (2946)				Triple 3-Input Bus				MC10212 Motorola (2938)			
MC10166 Motorola (2946)				MC10H423 Motorola (2940)				MC10612 $\diamond \uparrow$ Motorola			
8-Bit ALU with Parity				Triple 4-3 Input Bus				Triple 4-3-3 Input			
MC10900 Motorola				MC10H123 Motorola (2940)				MC10H106 Motorola (2938)			
8-Bit Processor Slices with TTL Compatible Outputs				MC10123 Motorola (2940)				MC10106 Motorola (2938)			
TIE10H888 TI				10123 Signetics (3075)				MC10506 $\diamond \uparrow$ Motorola			
8-Bit Processor Slices with 10K Compatible Outputs				Quad Bus				10106 Signetics (3075)			
TIE10H888 TI				MC10192 Motorola (2940)				Quad 2-Input (3 NOR, 1 OR/NOR)			
8-Bit BCD/Binary ALU				10192 Signetics (3075)				MC10H102 Motorola (2938)			
MC10902 Motorola				Flip-Flops, D-Type				MC10102 Motorola (2938)			
8x8-Bit Expandable Multiplier				Dual Master-Slave				MC10502 $\diamond \uparrow$ Motorola			
MC10901 Motorola				MC10H131 Motorola (2941)				10102 Signetics (3075)			
Buffers				MC10131 Motorola (2941)				Quad 3-Input (one input common)			
Hex				MC10231 Motorola (2942)				MC10H100 Motorola (2938)			
MC10188 Motorola (2939)				MC10531 $\diamond \uparrow$ Motorola				MC10100 Motorola (2938)			
MC10188 Motorola (2939)				MC10631 $\diamond \uparrow$ Motorola				MC10500 $\diamond \uparrow$ Motorola			
10188 Signetics (3075)				F10631 $\uparrow$ National				10100 Signetics (3075)			

DIGITAL—ECL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
10K Series (Cont'd)				Dual D Clocked				Multiplexers (Digital)			
Gates, OR/NOR				Dual 2 to 1 Multiplexer-Latch				Dual 4 to 1			
Dual 4-5 Input				MC10H130 Motorola (2941)				MC10H174 Motorola (2944)			
MC10H109 Motorola (2938)				MC10130 Motorola (2941)				MC10174 Motorola (2944)			
MC10109 Motorola (2938)				MC10530 Motorola (3075)				MC10574 Motorola (3075)			
10109 Signetics (3075)				10130 Signetics (3075)				10174 Signetics (3075)			
Triple 2-3-2 Input				Dual 2 to 1 Multiplexer-Latch, Common Reset				Quad 2 to 1 (inverting with enable)			
MC10H105 Motorola (2938)				MC10134 Motorola (2945)				MC10H159 Motorola (2944)			
MC10105 Motorola (2938)				10134 Signetics (3075)				MC10159 Motorola (2944)			
MC10505 Motorola (3075)				MC10132 Motorola (2944)				10159 Signetics (3075)			
10105 Signetics (3075)				10132 Signetics (3075)				Quad 2 to 1 (non-inverting)			
Quad 2-Input (one input common)				Quad, Common Clock, Separate Output Enable				MC10H158 Motorola (2944)			
MC10H101 Motorola (2938)				MC10168 Motorola (2941)				MC10158 Motorola (2944)			
MC10101 Motorola (2938)				MC10568 Motorola (3075)				MC10558 Motorola (3075)			
MC10501 Motorola (3075)				MC10568 Motorola (3075)				10158 Signetics (3075)			
10101 Signetics (3075)				Quad D, Gated Output				8 to 1			
MC10H101 Motorola (2938)				MC10133 Motorola (2941)				MC10H164 Motorola (2944)			
MC10101 Motorola (2938)				MC10153 Motorola (2941)				MC10164 Motorola (2944)			
MC10501 Motorola (3075)				MC10533 Motorola (3075)				MC10564 Motorola (3075)			
10101 Signetics (3075)				MC10553 Motorola (3075)				10164 Signetics (3075)			
10101 Signetics (3075)				MC10133 Signetics (3075)				Multivibrators			
Gates, OR-AND				Quad 2-Input Multiplexer-Latch				Monostable MC10198 Motorola (2946)			
Dual 2-Wide 3-Input				MC10H173 Motorola (2944)				Shift Registers			
MC10H118 Motorola (2938)				MC10173 Motorola (2944)				Register File, Five-Port (64x18)			
MC10118 Motorola (2938)				10173 Signetics (3075)				B3210A Bipolar			
MC10518 Motorola (3075)				Memories				4-Bit F10000C National			
10118 Signetics (3075)				PROM (32x8) MCM10139 Motorola (2948)				4-Bit Universal MC10H141 Motorola (2944)			
4-Wide 4-3-3-3 Input				PROM (256x4)				MC10141 Motorola (2944)			
MC10H119 Motorola (2938)				MCM10149 Motorola (2948)				MC10141 Motorola (2944)			
MC10119 Motorola (2938)				10149 Signetics (3075, 3239)				MC10541 Motorola (3075)			
MC10519 Motorola (3075)				RAM (8x2) Simultaneous Read-Write				10141 Signetics (3075)			
10119 Signetics (3075)				MC10H143 Motorola (2948)				16-Bit Video Shift Register			
Gates, OR-AND/OR-AND Invert				RAM (16x4)				SLS6016 STC			
Dual 2-Wide 2-3 Input				MC10H145 Motorola (2943, 2948)				SLS6216 STC			
MC10H117 Motorola (2938)				10145 Signetics				Translators			
MC10117 Motorola (2938)				RAM (128x1) MCM10147 Motorola (2948)				Triple ECL to NMOS			
MC10517 Motorola (3075)				RAM (256x1) MCM10144 Motorola (2948)				MC10177 Motorola (2939)			
10117 Signetics (3075)				MCM10152 Motorola				Quad Differential Receiver/MST to ECL			
4-Wide 3-Input				RAM (256x4) MBM10422A-5 Fujitsu				MC10190 Motorola (2939)			
MC10H121 Motorola (2938)				MBM10422A-7 Fujitsu				MC10590 Motorola (3075)			
MC10121 Motorola (2938)				MBM10423LL-6 Fujitsu				Quad ECL to TTL			
MC10521 Motorola (3075)				RAM (256x16) MB7700H Fujitsu				MC10H350 Motorola (2939)			
10121 Signetics (3075)				RAM (1024x1) MCM10146 Motorola (2948)				Quad ECL to TTL (differential input)			
Gates, Exclusive OR				MCM10415 Motorola				MC10H125 Motorola (2939)			
Quad				RAM (1024x4) MBM10470A-5 Fujitsu				MC10125 Motorola (2939)			
MC10H113 Motorola (2938)				RAM, 1024x4 (ECL bipolar, 15 ns)				MC10525 Motorola (3075)			
MC10113 Motorola (2938)				AM10474-15 AMD				10125 Signetics (3075)			
MC10513 Motorola (3075)				RAM, 1024x4 (ECL bipolar, 25 ns)				Quad TTL to ECL			
10113 Signetics (3075)				AM10474-25 AMD				MC10H424 Motorola (2939)			
1-8 or 2-4 Input				RAM (1024x16)				Quad TTL to ECL OR/NOR			
MC10H304 Motorola				MB7750-10 Fujitsu				MC10H124 Motorola (2939)			
2-4 or 1-6/1-4 Input				RAM (4096x1) MBM10470A-10 Fujitsu				MC10124 Motorola (2939)			
MC10H302 Motorola				MBM10470A-15 Fujitsu				MC10524 Motorola (3075)			
2-4/1-2 Input				MBM10470A-20 Fujitsu				10124 Signetics (3075)			
MC10H301 Motorola				MBM10470A-7 Fujitsu				Hex ECL to MST			
2-5 Input				RAM (4096x4) MBM10484-15 Fujitsu (2626)				MC10191 Motorola (2939)			
MC10H303 Motorola				MBM10484-10 Fujitsu (2626)				MC10591 Motorola (3075)			
Gates, Exclusive OR/NOR				MBM10484-8 Fujitsu (2626)				Octal 10KH ECL to TTL and TTL to 10KH ECL			
Triple 2-Input				RAM, 16384x1 (ECL bipolar, 15 ns)				BT501 Brooktree			
MC10H107 Motorola (2938)				AM10480-15 AMD				10K ECL to TTL with Latch			
MC10107 Motorola (2938)				RAM, 16384x1 (ECL bipolar, 25 ns)				DP8480 National			
MC10507 Motorola (3075)				AM10480-25 AMD				DP8482 National			
10107 Signetics (3075)				1024x4 RAM (5 nsF)				Miscellaneous			
Latches				μPB10474A-5 NEC				Active Terminator			
Quint				1024x4 RAM (7 nsF)				F10014C National			
MC10H175 Motorola (2941)				μPB10474A-7 NEC				F10014M National			
MC10175 Motorola (2941)								Analog Mixer, Double Balanced			
MC10575 Motorola (3075)								MC12002 Motorola			
10175 Signetics (3075)											

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—ECL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
10K Series				9-Bit Parity Circuit (2 carry inputs)				Drivers			
Miscellaneous (Cont'd)				MC10170 Motorola (2947)				Backplane			
D-Type Flip-Flop (1.5GHz)	MB813A	Fujitsu (2623)		12-Bit Parity Generator/Checker	MC10H160	Motorola		F100126	◊ National		
D-Type Flip-Flop (3GHz)	MB883	Fujitsu (2624)		MC10160	Motorola (2947)			100126	Signetics (3074)		
Demultiplexer, Two 4:1 (3 GHz)	MB886	Fujitsu		MC10560	† Motorola			High Speed Line	F100113	◊ National	
Error Detection/Correction Circuit	MC10163	Motorola (2947)		10160	Signetics (3075)			100113	Signetics (3074)		80
	MC10193	Motorola (2947)	5	64x18 Five Port Register File	B3210	Bipolar	50	Laser Driver	CXB1108Q	◊ Sony	
	MC10563	◊† Motorola		100K Series				Quad	F100112	◊ National	
	MC10593	◊† Motorola		Arithmetic Functions				100112	Signetics (3074)		
	MC10905	Motorola		Barrel Shifter, 16-Bit Parallel/Serial with TTL Compatible Outputs.	TIET897	TI		Hex Bus	F100123	◊ National	
Exclusive OR/NOR, Dual (1.5 GHz)	MB812A	Fujitsu		Barrel Shifter, 16-Bit Parallel/Serial with 100K Compatible Outputs.	TIE100897	TI		100123	Signetics (3074)		85
Exclusive OR/NOR, Dual (3GHz)	MB882	Fujitsu (2624)	10	Decision Circuit	CXB1107Q	◊ Sony		Flip-Flops, D-Type			
Micro-Code Sequencer	MC10904	Motorola		Look Ahead Carry Block	CXB1111Q	◊ Sony		Dual D-Type	CXB1104Q	Sony	
Multiplexer, Four 2:1 (3 GHz)	MB885	Fujitsu		Look Ahead Carry Circuit	F100179	National		Triple	F100131	◊ National	
Programmable Timing Delay, 20 ps resolution, 100 MHz Trigger Rate	BT601	Brooktree		100179	Signetics (3074)			100131	Signetics (3074)		
T-Type Flip-Flop (1.5GHz)	MB814A	Fujitsu (2623)		Multipplier (12x12)	MC100951	Motorola		Quad D-Type with Master Reset	CXB1109Q	Sony	
T-Type Flip-Flop (3GHz)	MB884	Fujitsu (2624)	15	4-Bit Arithmetic Logic Unit	CXB1138Q	◊ Sony		Hex	F100151	◊ National	
Dual Bus Driver/Receiver with 4-to-1 Output Multiplexers	MC10H332	Motorola (2940)		8, 16-Bit Comparator	CXB1135Q	◊ Sony		100151	Signetics (3057)		90
Dual Simultaneous Bus Transceiver	MC10594	◊† Motorola		8-Bit Processor Slices with 100K Compatible Outputs	TIE100888	TI		Flip-Flops, J-K Type			
Triple Differential Line Receiver	MC10H116	Motorola (2946)		8-Bit Shift Matrix	CXB1137Q	◊ Sony		Triple J-K Master-Slave	F100135	National	
	MC10114	Motorola (2946)		9-Bit Comparator	F100166	◊ National					
	MC10116	Motorola (2946)	20	100166	Signetics (3074)			Gates, AND/NAND			
	MC10216	Motorola (2946)		Buffers				Quad 3-Input	CXB1101Q	Sony	
	MC10514	◊† Motorola		Triple Fanout Buffer	CXB1105Q	Sony		Quintuple with Function Output	F100104	National	
	MC10516	◊† Motorola		9-Bit	F100122	◊ National		Gates, OR/NOR			
	MC10616	◊† Motorola		100122	Signetics (3074)			Quint 2-Input	F100102	◊ National	
	10114	Signetics (3075)	25	Inverters				100102	Signetics (3074)		95
	10116	Signetics (3075)		9-Bit	F100121	National		Triple 5-Input	F100101	◊ National	
	10216	Signetics (3075)		Counters				100101	Signetics (3074)		
Quad Bus Driver/Receiver with Transmit and Receiver Latches	MC10H334	Motorola (2940)		Multipurpose Counting Register	HD100136	◊ Hitachi		Quad 3-Input	CBX1100Q	◊ Sony	
Quad Bus Driver/Receiver with 2-to-1 Output Multiplexers	MC10H330	Motorola (2940)		F100136	◊ National			Gates, OR-AND/OR-AND Invert			
Quad Bus Receiver	MC10129	Motorola (2946)		100136	Signetics (3074)			Triple	F100117	◊ National	
	10129	Signetics	30	4-Stage Ripple Counter	CXB1106Q	Sony		100117	Signetics (3074)		100
Quad Differential Line Receiver	MC10H115	Motorola (2946)		8-Bit Universal Counter	CXB1136Q	◊ Sony		5-Wide	F100118	◊ National	
	MC10115	Motorola (2946)		4-Bit Synchronous Counter	F100139	National		100118	Signetics (3074)		
	MC10515	◊† Motorola		4-Bit Decade Counter	F100140	National		Gates, Exclusive OR/NOR			
	10115	Signetics (3075)	35	Decoders				Quint	F100107	◊ National	
Octal 1-2 Bus Selector	SLM6008	STC		Universal	F100170	National	75	100107	Signetics (3074)		105
Two Modulus Prescaler, Divide by 20/21	MC12019	Motorola			100170	Signetics (3074)		Quad 2-Input	CXB1102Q	◊ Sony	
2-Input OR/NOR, Dual (3GHz)	MB881	Fujitsu (2624)						Latches			
2-3-2 Input OR/NOR, Triple (1.5GHz)	MB811A	Fujitsu (2623)						Triple D	F100130	◊ National	
4-Input OR/NOR, Dual (1.5 GHz)	MB810A	Fujitsu (2623)	40					Hex D	F100150	◊ National	
8-Input Priority Encoder	MC10H165	Motorola (2946)						100150	Signetics (3074)		
	MC10165	Motorola (2946)						Memories			
	MC10565	◊† Motorola						CAM (4x4)	F100142	◊ National	
	10165	Signetics (3075)						PROM (256x4)	F100Z416	◊ National	
								100149	Signetics (3074)		
								RAM (16x4)	F100402	◊ National	
								RAM (16x4 register file)	HD100145	◊ Hitachi	
								F100145	◊ National		115
								RAM (256x4)	MBM100422A-5	Fujitsu	
									MBM100422A-7	Fujitsu	
											(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—ECL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
100K Series				100K ECL—10K ECL				Gates, NOR			
Memories (Cont'd)				F100175 National 100175 Signetics (3074)				Quad 2-Input MC1662 Motorola (2938)			
RAM (256x4)	MBM100423LL-6 F100422	Fujitsu ♦ National		Miscellaneous				Gates, OR/NOR			
RAM (1024x1)	F100415	♦ National		Microsequencer with 100K Compatible Outputs. TIE100890 TI				Dual 4-Input MC1660 Motorola (2938) SP16F60 Plessey SP1660B Plessey			
RAM (1024x4)	MBM100474A-10 MBM100474A-15 MBM100474A-5 MBM100474A-7 F100474	Fujitsu Fujitsu Fujitsu Fujitsu ♦ National	5	Numerically Controlled Oscillator (300 MHz with 28-bit resolution) STEL2172 STI (3264)				Dual 4–5 Input MC10H209 Motorola (2938) MC1688 Motorola (2938) 11C01C National			
RAM (4096x1)	MBM100470A-10 MBM100470A-15 MBM100470A-20 MBM100470A-7	Fujitsu Fujitsu Fujitsu Fujitsu	10	Phase Frequency Detector CXB1112Q ♦ Sony				Gates, Exclusive OR			
RAM (4096x4)	MBM100484-15 MBM100484A-10 MBM100484A-8	♦ Fujitsu ♦ Fujitsu ♦ Fujitsu	15	Quint Line Receiver CXB1103Q ♦ Sony				Triple 2-Input MC1672 Motorola (2938)			
1024x4 RAM (5 nsF)	μPB100474A-5	NEC		Universal Priority Encoder F100165 ♦ National 100165 Signetics (3074)				Gates, Exclusive NOR			
1024x4 RAM (7 nsF)	μPB100474A-7	NEC		Dual 9-Bit Parity Generator/Checker F100160 ♦ National 100160 Signetics (3074)				Triple 2-Input MC1674 Motorola (2938)			
Multiplexers (Digital)				Quintuple Line Receiver F100114 ♦ National 100114 Signetics (3074)				Latches			
Dual 8-Input	F100163 100163	♦ National Signetics (3074)		Quintuple Line Transceiver F100250 National				Dual Clocked MC1668 Motorola (2942)			
Triple 4-Input	F100171 100171	National Signetics (3074)	20	22, 15 and 7-Stage Descrambler CXB1134Q ♦ Sony				Multivibrators			
Quad 2-Input with Latch	F100155 100155	♦ National Signetics (3074)		22, 15 and 7-Stage Scrambler CXB1133Q ♦ Sony				Voltage Controlled MC1658 Motorola (2946) SP1658 Plessey			
1-to-4 Demultiplexer	CXB1114Q	♦ Sony		III and Other Series				Shift Registers			
4-to-1 Multiplexer	CXB1113Q	♦ Sony		Counters				4-Bit MC1694 Motorola (2944)			
9, 8 and 4-Bit Demultiplexer	CXB1131Q	♦ Sony		Bi-Quinary MC1678 Motorola (2942)				Miscellaneous			
9, 8, and 4-Bit Multiplexer	CXB1130Q	♦ Sony		Divide by 4 Prescaler (1 GHz) MC1697 Motorola (2943) MC1699 Motorola (2943)				Prescaler for Multiband Digital Tuning System TD6109 Toshiba			
16-Input	F100164 100164	♦ National Signetics (3074)	30	Divide by 4 (1 GHz) CA3199 GE/RCA (2657) 11C05C National 11C05M † National SP8610 Plessey SP8611A Plessey SP8611B Plessey SP8617B Plessey				Voltage Controlled Oscillator MC1648 ♦ Motorola (2946) MC1648M † Motorola (2946) SP1648 Plessey			
16-to-1 Multiplexer	CXB1110Q	♦ Sony		Divide by 5/6 Prescaler, 650 MHz 11C91C National 11C91M † National				Dual Analog/Digital Comparator MC1650 Motorola MC1651 Motorola SP1650B Plessey			
Shift Registers				Divide by 10/11 Prescaler, 650 MHz 11C90C National 11C90M † National SP8680 Plessey				Quad Line Receiver MC1692 Motorola (2946) SP1692B Plessey			
Mask-Merge	F100156	♦ National		Divide by 20 Prescaler CA3232 GE/RCA (2653, 2657)							
8-Bit Universal	F100141 100141	♦ National Signetics (3074)		Binary MC1654 Motorola (2942)							
9, 8 and 4-Bit Universal Shift Register	CXB1132Q	♦ Sony		Flip-Flops, D-Type							
Translators				Master-Slave MC1670 Motorola (2942) 11C70C National SP1670B Plessey							
ECL to TTL Bidirectional, 100K in/10K out	F100128	National		Master-Slave (UHF prescaler) MC1690 Motorola (2942) 11C06C National							
TTL—100K ECL	F100124 100124	♦ National Signetics (3074)	35	Flip-Flops, R-S Type							
Octal 100K ECL to TTL and TTL to 100K ECL	BT502	Brooktree		Dual, Clocked MC1666 Motorola (2942)							
8-Bit Bidirectional ECL to TTL	F100128	National		Gates, OR							
100K ECL-TTL	F100125 100125	♦ National Signetics (3074)	40	Quad 2-Input MC1664 Motorola (2937)							
100K ECL-TTL and TTL—100K ECL	F100255 100255	National Signetics (3074)									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

♦ Available in Surface Mount Package

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DIGITAL—Gallium Arsenide

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Arithmetic Functions				8:1/16:1 Demultiplexer	TQ1132	TriQuint	30	Quad 2:1 Multiplexer (1.8 GHz data rate)	10G004-2	GigaBit (2693)	
Carry Look-Ahead Generator (1.4 GHz)	10G101	GigaBit (2693)		Drivers				Quad 4:1/Dual 8:1 Multiplexer (1.5 GHz data rate)	10G046	GigaBit (2693)	
Phase Accumulator, 32-Bit (1 GHz clock rate)	10G102	GigaBit (2693)		Dual Complementary Driver/Comparator (1.5 GHz data rate)	10G012B-3	GigaBit (2693)		4:1 Multiplexer / Laser Driver	TQ1133	TriQuint	
4-bit Adder (1.3 GHz)	10G100	GigaBit (2693)		Dual Complementary Driver/Comparator (1.75 GHz data rate)	10G012B	GigaBit (2693)		4:1 Multiplexer (1.5G bps data rate)	TQ1133-15M	TriQuint	60
Buffers				Flip-Flops, D-Type				4:1 Multiplexer (1.8G bps data rate)	TQ1133-18M	TriQuint	
Dual Fanout Buffer with 2:1 Multiplexer Inputs (1.6 GHz data rate)	10G010-2	GigaBit (2693)		Dual Precision D-Type (1.8 GHz clock rate)	10G021A-3	GigaBit (2693)		4:1 Multiplexer (2G bps data rate)	TQ1133-20M	TriQuint	
	10G010-3	GigaBit (2693)		Dual Precision D-Type (2.3 GHz clock rate)	10G021A	GigaBit (2693)		8:1/16:1 Multiplexer	TQ1131	TriQuint	
	10G010M-2	† GigaBit (2693)		Dual Precision D-Type (2.7 GHz clock rate)	10G021A-2	GigaBit (2693)	35	8:1/16:1 Multiplexer (1.5G bps data rate)	TQ1131-15M	TriQuint	
	10G010M-3	† GigaBit (2693)		Quad D-Type with Exclusive-OR Inputs (1.6 GHz data rate)	10G024-3	GigaBit (2693)		8:1/16:1 Multiplexer (1.8G bps data rate)	TQ1131-18M	TriQuint	65
Dual, 1–4 Fanout Buffer (1.6 GHz)	10G011B	GigaBit (2693)		Quad D-Type with Exclusive-OR Inputs (1.9 GHz data rate)	10G024-2	GigaBit (2693)		8:1/16:1 Multiplexer (2G bps data rate)	TQ1131-20M	TriQuint	
Counters, Binary				Quad D-Type with 2:1 Multiplexer Inputs (1.6 GHz data rate)	10G023-3	GigaBit (2693)		12:1 Multiplexer (0.6 Gbits/s data rate)	TQ1135-06M	TriQuint	
Counter, Divider, 7-Stage, Divide by 2, 4—64 (3 GHz)	10G065	GigaBit (2693)		Quad D-Type with 2:1 Multiplexer Inputs (1.9 GHz data rate)	10G023-2	GigaBit (2693)		12:1 Multiplexer (1.2 Gbits/s data rate)	TQ1135-12M	TriQuint	
Divider, divide by 4/5 (1.5 GHz)	TQ1121-15	TriQuint	10	Gates, AND/NAND				Shift Registers			
Divider, divide by 4/5 (2 GHz)	TQ1121-20	TriQuint		AND-OR/AND-OR Invert Gate, Dual (1.4 GHz data rate)	10G003M	† GigaBit (2693)	40	Octal Shift/Storage, PN Code Generator (1.5 GHz clock rate)	10G022	GigaBit (2693)	
Divider, divide by 4/5 (2 GHz)	TQ1121-23	TriQuint		AND-OR/AND-OR Invert Gate, Dual (1.4 GHz data rate)	10G003	GigaBit (2693)		Miscellaneous			
Divider, Divide by 5/6, 10/11, 20/21, 40/41 (2 GHz)	10G070	GigaBit		Gates, NOR				Amplifier, GaAs L-Band (0.9—1.7 GHz)	AM280	Adams-Russell	70
Divider, 2-Stage, Divide by 2, 4 (3 GHz)	10G060	GigaBit (2693)		Quad 2-Input (320 ps gate delay)	10G001	GigaBit (2693)		Amplifier, 1–8 GHz	TQ9111	TriQuint	
Four-Stage Synchronous Programmable Counter (1.3 GHz clock rate)	10G061	GigaBit (2693)	15	Quad 2-Input (390 ps gate delay)	10G001-4	GigaBit (2693)		Arrays, Diode, Schottky 14 Single, 1 full-wave rectifier	16G010	GigaBit (2693)	
Counters, Binary Count Up				Quad 3-Input (320 ps gate delay)	10G000A	GigaBit (2693)			16G011	GigaBit (2693)	
4-Bit Ripple Counter, 2 GHz	TQ1111-20	TriQuint		Quad 3-Input (390 ps gate delay)	10G000A-4	GigaBit (2693)	45	Arrays, Transistor, Single-gate D-MESFETS, 9-Single, 1 dual	16G020	GigaBit (2693)	
4-Bit Ripple Counter, 2.5 GHz	TQ1111-25	TriQuint		Gates, Exclusive OR/NOR				Arrays, Transistor, Dual-Gate D-MESFETS, 8 Single	16G021	GigaBit (2693)	75
4-Bit Ripple Counter, 3 GHz	TQ1111-30	TriQuint		Quad 2-Input Exclusive-OR/Exclusive-NOR Gate (1.8 GHz data rate)	10G002M	† GigaBit (2693)		Attenuator, 10dB variable	TQ9161	TriQuint	
Counters, Binary Count Up/Down				Multiplexers				Digital to Analog Converter, 600 MSPS Conversion Rate	TQ6111	TriQuint	
4-Bit Synchronous, 1 GHz	TQ1112-10	TriQuint		Demultiplexer, 1:4 (up to 2.5 GHz)	VS8005	Vitesse		Digital to Analog Converter, 1000 MSPS Conversion Rate	TQ6112	TriQuint	
Decoders				Demultiplexer, 1:8 (with SONET frame recovery, up to 1.25 GHz)	VS8012	Vitesse		Line Receiver (3 GHz data rate)	TQ6331-M	TriQuint	
Dual 2-Line to 4-Line Decoder/Demultiplexer and Single 3-Line to 8-Line Decoder/Demultiplexer (650 ps delay)	10G044	GigaBit (2693)	20	Demultiplexer, 1:12 (up to 1.25 GHz)	VS8002	Vitesse		MMIC Switch, SP3T (5—2000 MHz)	SW241	Adams-Russell	80
1:4 Demultiplexer (1.5G bps data rate)	TQ1134-15M	TriQuint		Multiplexer/Demultiplexer, 8-Bit (with SONET frame recovery, up to 1.25 GHz)	VS8010	Vitesse	50		SW242	Adams-Russell	
1:4 Demultiplexer (1.8G bps data rate)	TQ1134-18M	TriQuint		Multiplexer, 4:1 (up to 2.5 GHz)	VS8004	Vitesse			SW244	Adams-Russell	
1:4 Demultiplexer (2G bps data rate)	TQ1134-20M	TriQuint		Multiplexer, 8:1 (up to 1.25 GHz)	VS8011	Vitesse			SW245	Adams-Russell	
1:8/1:16 Demultiplexer (1.5G bps data rate)	TQ1132-15M	TriQuint		Multiplexer, 12:1 (up to 1.25 GHz)	VS8001	Vitesse			SW247	Adams-Russell	
1:8/1:16 Demultiplexer (1.8G bps data rate)	TQ1132-18M	TriQuint	25	Time Division Demultiplexer (1.45 Gbps)	10G041A	GigaBit (2693)			SW248	Adams-Russell	85
1:8/1:16 Demultiplexer (2G bps data rate)	TQ1132-20M	TriQuint		Time Division Multiplexer (1.45 Gbps)	10G040A	GigaBit (2693)	55		SW251	Adams-Russell	
1:12 Demultiplexer (0.6 Gbits/s NRZ data rate)	TQ1136-06M	TriQuint		Quad 2:1 Multiplexer (1.45 GHz data rate)	10G004-3	GigaBit (2693)		MMIC Switch, SP4T (5—2000 MHz)	SW254	Adams-Russell	
1:12 Demultiplexer (1.2 Gbits/s NRZ data rate)	TQ1136-12M	TriQuint							SW255	Adams-Russell	
4:1 Demultiplexer	TQ1134	TriQuint							SW257	Adams-Russell	90
									SW258	Adams-Russell	
									SW261	Adams-Russell	
									SW262	Adams-Russell	
									SW264	Adams-Russell	
									SW265	Adams-Russell	95
									SW209	Adams-Russell	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—Gallium Arsenide (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line
Miscellaneous (Cont'd)				512x8 Mask Programmable ROM (1.5 ns access time)			
				14GD048	GigaBit	(2694)	
				14GM048	GigaBit	(2694)	
MMIC Switch, SPST (dc—3000 MHz)				100K ECL Compatible Gate Array (561 internal gates)			
SW211	Adams-Russell			21G06	Ford		
SW212	Adams-Russell						
SW213	Adams-Russell						
SW214	Adams-Russell						
MMIC Switch, SPST (dc—4000 MHz)			5				
SW221	Adams-Russell						
SW222	Adams-Russell						
SW223	Adams-Russell						
MMIC Switch, SPST (dc—6000 MHz)							
SW210	Adams-Russell						
MMIC Switch, SPST (5—4000 MHz)			10				
SW215	Adams-Russell						
SW218	Adams-Russell						
SW231	Adams-Russell						
SW232	Adams-Russell						
MMIC Switch, SPDT (dc—2000 MHz)							
SW219	Adams-Russell						
MMIC Switch, SPDT (dc—3000 MHz)			15				
SW201	Adams-Russell						
SW202	Adams-Russell						
SW203	Adams-Russell						
SW204	Adams-Russell						
MMIC Switch, SPDT (dc—4000 MHz)			20				
SW226	Adams-Russell						
SW227	Adams-Russell						
SW228	Adams-Russell						
MMIC Switch, SPDT (dc—6000 MHz)							
SW200	Adams-Russell						
MMIC Switch, SPDT (5—4000 MHz)			25				
SW205	Adams-Russell						
SW206	Adams-Russell						
SW207	Adams-Russell						
SW208	Adams-Russell						
SW217	Adams-Russell						
SW233	Adams-Russell						
SW234	Adams-Russell						
SW235	Adams-Russell						
SW236	Adams-Russell		30				
SW237	Adams-Russell						
SW238	Adams-Russell						
Monolithic Microwave Amplifier (2 to 6 GHz)							
HMM10620	Harris						
Pin/Line Driver (3 GHz data rate)							
TQ6330-M	TriQuint						
Power Divider (Active signal splitter)			35				
TQ9141	TriQuint						
Standard Cell, GaAs, for custom circuits							
Q-LOGIC	TriQuint						
Switch, SPST, Microwave							
TQ9151	TriQuint						
Dual Complementary Driver/Comparator (1.75 GHz data rate)							
10G012B	GigaBit	(2693)					
10G013	GigaBit	(2693)					
Dual 9-bit Parity Generator and Checker, 8-bit Word Comparator (850 ps delay)			40				
10G045	GigaBit	(2693)					
Quad 2-Input XOR/XNOR/Line Receiver (600 ps delay)							
10G002	GigaBit	(2693)					
0.5–5 GHz MMIC Amplifier							
HMR10502	Harris						
1–5 GHz MMIC Amplifier							
HMR10503	Harris						
2–6 GHz Monolithic Microwave IC Amplifier							
HMM10610	Harris						
4-bit ALU	10G181	GigaBit	45				
6–18 GHz MMIC Amplifier							
HMM11810	Harris						

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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◊ Available in Surface Mount Package

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Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Arithmetic Functions				Flip-Flops, J-K Type				Quad 2-Input, Open Collector			
4-Bit Comparator	343A/C	TeledyneS		Master-Slave or Reset	311A/C	TeledyneS		307A/C	TeledyneS		80
	343B/M	† TeledyneS			311B/M	† TeledyneS		Gates, Exclusive OR			
Buffers/Inverters				Dual or Set-Reset				Dual 2-Wide, 2-Input AND-OR-Invert, Expandable			
Hex	MC680	Motorola			MC688	Motorola		MC683			
	MC690	Motorola			312A/C	TeledyneS		Gates, Miscellaneous			
	332A/C	TeledyneS			312B/M	† TeledyneS		Dual 4-Input Expander (for 600 series)			
	332B/M	† TeledyneS			313A/C	TeledyneS		MC669 Motorola (2936)			
Hex Open Collector				Dual with Reset				Dual 5-Input Expander (for 300 series)			
	MC678	Motorola (2936)			MC663	Motorola (2936)		331A/C			
	MC681	Motorola		Flip-Flops, R-S Type				331B/M			
	MC689	Motorola		Master-Slave MC664 Motorola (2936)				Hex Inverter/Gate (quad inverter, dual NAND)			
Hex Strobed	MC677	Motorola (2936)		Gates, AND				333A/C			
	335A/C	TeledyneS		Dual 2-Input Interface Buffer				333B/M			
Hex Strobed, Open Collector				391				Latches			
	334A/C	TeledyneS		Dual 4-Input Interface Buffer				Quad MC682 Motorola			
Counters, Binary				390				Multiplexers (Digital)			
Binary	MC685	Motorola		Gates, NAND				Dual 4-Bit 351A/C			
	372A/C	TeledyneS		Dual 2-Input Interface Buffer				8-Bit 350A/C			
	372B/M	† TeledyneS		392				Multivibrators			
Binary Up/Down				Dual 4-Input MC660 Motorola (2936)				Dual Monostable			
	374A/C	TeledyneS		MC661 Motorola (2936)				MC667 Motorola (2936)			
Counters, Decade				Dual 4-Input Interface Buffer				342A/C			
Decade	MC684	Motorola		395				342B/M			
	371A/C	TeledyneS		Dual 5-Input				Dual Retriggerable Monostable			
	371B/M	† TeledyneS		322A/C				347A/C			
Decade Up/Down				322B/M				347B/M			
	373A/C	† TeledyneS		Triple 3-Input MC670 Motorola (2936)				Shift Registers			
	373B/M	† TeledyneS		MC671 Motorola (2936)				4-Bit Parallel-In Parallel-Out			
Decoders				Quad 2-Input MC668 Motorola (2936)				MC686 Motorola			
BCD to Decimal, Open Collector				MC672 Motorola (2936)				375A/C			
	381A/C	TeledyneS		303A/C				375B/M			
	381B/M	† TeledyneS		303B/M				Translators			
Decoders/Drivers				321A/C				Dual High to Low Interface (HNL to DTL, TTL)			
BCD to Decimal Decoder/Lamp Driver, Open Collector				321B/M				361A/C			
	380B/M	† TeledyneS		324A/C				361B/M			
BCD to Decimal (for gas discharge display tubes)				324B/M				Dual Interface Element, (line driver, receiver, ECL to TTL, MOS to TTL, Schmitt trigger)			
	382A/C	TeledyneS		Quad 2-Input, Open Collector				396AC			
	382B/M	† TeledyneS		323A/C				Dual Low to High Interface (TTL to HNL)			
BCD to Seven Segment				323B/M				362A/C			
	383A/C	TeledyneS		2,2,3,3-Input				362B/M			
	383B/M	† TeledyneS		325A/C				Triple High to Low (HTL to TTL)			
Quad 2-Input Power, Open Collector				325B/M				MC665 Motorola (2936)			
	302A/C	TeledyneS		326A/C				Triple Low to High (TTL to HTL)			
	302B/M	† TeledyneS		326B/M				MC666 Motorola (2936)			
Drivers				4, 3, 4-Input				Quad Low to High Interface (TTL to HNL)			
BCD to Decimal Decoder/Lamp Driver, Open Collector				304A/C				363A/C			
	380A/C	TeledyneS		304B/M				363B/M			
Dual 4-Input Line Driver, Expandable				Gates, AND-OR-Invert				Miscellaneous			
	MC662	Motorola (2936)		Expandable 344A/C				Timer (see also linear-timers)			
Dual 5-Input Power NAND Driver				Dual 2-Wide, 2-Input				355A/C			
	301A/C	TeledyneS		MC673 Motorola (2936)				Dual Pulse Stretcher			
	301B/M	† TeledyneS		MC674 Motorola (2936)				MC675 Motorola (2936)			
Flip-Flops, D-Type				341A/C				Quad Schmitt Trigger/Line Receiver			
Quad	370A/C	TeledyneS		341B/M				367A/C			
	370B/M	† TeledyneS		Gates, OR				367B/M			
				Dual 2-Input Interface Buffer				Quad Schmitt Trigger/Line Receiver, Open Collector			
				393				368A/C			
				Gates, NOR							
				Dual 2-Input Interface Buffer							
				394							
				Quad 2-Input 306A/C							

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line		
Arithmetic Functions				Comparator, 4-Bit Magnitude, Separate A = B Output				Comparator, 8-Bit Magnitude, Open Collector					
Adder (natural binary coded decimal)				TTL				(Cont'd)					
TTL	MC4056	Motorola	5	DM5485	† National	55	TTL-F	SN54F519	◊† TI	115			
	MC4356	† Motorola		DM74LS85	National			SN74F518	◊ TI				
Adder/Subtractor Quad Serial				N9324	Signetics (3076)			SN74F519	◊ TI				
TTL-F	54F385	† National		54LS85	† Signetics		TTL-LS	M74LS683	Mitsubishi				
	74F385	◊ National		5485	† Signetics			M74LS685	Mitsubishi				
	74F385	Signetics (3078)	74LS85	Signetics (3057)	60	60		SN74LS683	Motorola	120			
TTL-LS	SN54LS385	† Motorola (2947)	7485	Signetics (3057)				SN74LS685	Motorola				
	SN74LS385	Motorola (2947)	SN5485	† TI				SN74LS687	Motorola				
	SN54LS385	◊† TI	SN74LS85	TI				SN74LS689	Motorola				
			SN7485	TI				SN54LS683	◊† TI				
Adder, 4-Bit BCD				TTL-F	74F85	Signetics	65		SN54LS685	◊† TI	125		
TTL-S	N82S83	† Signetics (3076)	TTL-LS	M74LS85	Mitsubishi			SN54LS687	† TI				
ALU, Cascadable 8-Bit				TTL-S	GD74S85	GoldStar (2708)		Comparator, 8-Bit Magnitude Totem Pole					
TTL-AS	SN74AS888-1	TI (3297)	10	54S85	† Signetics	70	TTL-LS	GD74LS688	GoldStar	130			
ALU, 8-Bit				74S85	Signetics (3057)			M74LS682	Mitsubishi				
TTL-AS	SN74AS887-1	TI (3297)		SN54S85	† TI								
Arithmetic Logic/Multiplier, Floating Point Set/TTL(N)				SN74S85	TI		Comparator, 8-Bit Magnitude Totem-Pole						
WTL104A	Weitek	15		15	Comparator, 6-Bit Identity				TTL-ALS		SN54ALS688	† TI	
WTL1064A	† Weitek		TTL		DM7160	† National		SN74ALS688	TI				
WTL1065A	† Weitek		DM8160		National	TTL-AS	SN54AS885	† TI					
WTL1164A	† Weitek		TTL-ALS		SN74ALS29806	TI (3301)		SN74AS885	TI				
WTL1165A	† Weitek		TTL-S		93S46C	National	75	TTL-LS	M74LS684	Mitsubishi			
WTL1264A	† Weitek	20	20	Comparator, 6-Bit Identity, Open Collector					SN74LS682	Motorola (2946)			
WTL1265A	† Weitek			TTL-S	93S47C	† National			SN74LS684	Motorola (2946)			
Arithmetic Logic Unit, Fixed/Floating Point				93S47M	† National			SN74LS686	Motorola				
TTL(N)	WTL1033AC	Weitek		Comparator, 6-Bit, Unified Bus, Active Pull Up					SN54LS682	◊† TI	135		
	WTL1033AM	† Weitek		TTL	DM8131	National		SN54LS684	◊† TI				
Arithmetic Logic Unit, Floating Point				Comparator, 6-Bit, Unified Bus, Open Collector					SN54LS688	◊† TI			
TTL(N)	WTL1032A	† Weitek	25	25	25	25		SN74LS682	TI	140			
	WTL1032AC	Weitek						SN74LS684	TI				
	WTL1032AM	† Weitek						SN74LS686	TI				
	WTL1033A	† Weitek					Comparator, 9-Bit						
Barrel Shifter, 16-Bit, Expandable				TTL-ALS	DM74ALS520	National	85	TTL-S	AM29809C		AMD	145	
TTL-AS	SN54AS897	† TI		DM74ALS521	National			AM29809M	† AMD				
	SN74AS897A	TI (3297)		DM74ALS522	National	Comparator, 9-Bit Identity							
				SN54ALS520	† TI	TTL-ALS		SN74ALS29809	TI (3301)				
				SN54ALS521	† TI	Comparator, 10-Bit Identity							
Barrel Shifter, 32-Bit				SN54ALS522	† TI	90	90	TTL	DM7130	† National	150		
TTL-AS	SN74AS8838	TI (3290, 3297)	SN74ALS520	TI				DM8130	National				
	SN74AS8839	TI (3290, 3297)	SN74ALS521	TI	Comparator, 12 Bit								
Cache Address Comparator, 512x9				SN74ALS522	TI				SE5105A	Signetics			
TTL	TMS2150-35	TI (3298)	SN74ALS522	TI	Comparator, 12-Bit								
Comparator, Address				TTL-F	MC54F521	Motorola (2946)	95	95		NE5105A	Signetics	155	
TTL-ALS	SN74ALS677A	TI	MC74F521	Motorola (2946)	54F521	† National				SA5105A	Signetics		
	SN74ALS678	TI	54F521	◊ National	74F521	† Signetics			Comparator, 8-Bit Magnitude Open Collector				
	SN74ALS679	TI	74F521	Signetics (3078)	54F521	† Signetics			TTL-F	SN54F518	◊† TI		
	SN74ALS680	TI	SN54F520	◊† TI	SN54F521	◊† TI			Cycle Redundancy Check (CRC) Generator/Checker				
Comparator, Registered				SN74F520	◊ TI	SN74F521	◊ TI	40	40	TTL-F	74F401	◊ National	160
TTL-F	74F524	◊ National	SN74F521	◊ TI	Error Detection and Correction, 32-Bit Parallel								
	74F524	Signetics (3078)	SN74F520	◊ TI	TTL-AS	SN74AS634	TI						
Comparator, Dual 4-Bit Magnitude				SN74F521	◊ TI	Fixed Point Multiplier/Accumulator (16x16)							
TTL	MC4021	Motorola	TTL-LS	AM25LS2521C	AMD		B2011A			Bipolar			
	MC4022	Motorola	AM25LS2521M	† AMD	Fixed-Point Multiplier/Accumulator (16x16)								
	MC4321	† Motorola	Comparator, 8-Bit Identity, Fuse Programmable plus 4-Bit Comparator					B2011	Bipolar	155			
	MC4322	† Motorola	TTL-ALS	SN54ALS527	† TI	Floating Point Accumulator Processor							
Comparator, 4-Bit Magnitude				SN74ALS527	TI		RAY100	Raytheon					
TTL	TD3502A	Toshiba	Comparator, 8-Bit Magnitude, Enable Input, Open-Collector					B2120A	Bipolar				
Comparator, 4-Bit Magnitude, Separate A = B Output				TTL-LS	M74LS689	Mitsubishi	Floating Point ALU (32/64-bit)						
TTL	DM54LS85	† National	45	TTL-LS	M74LS688	Mitsubishi	105	Floating Point Multiplier and ALU (chipset)					
	DM7485	National		Comparator, 8-Bit Magnitude, Enable Input, Totem-Pole					B2110/20	Bipolar			
	54LS85	† National		TTL-ALS	DM74ALS518	National		Floating Point Multiplier/Divider (32/64-bit)					
	5485	† National		DM74ALS519	National			B2110A	Bipolar				
	74LS85	◊ National		50	50	50	50	110	Full Adder, BCD with Fast Carry				
	7485	National	SN54ALS518						† TI		54F583	† National	
	9324C	National	SN54ALS519						† TI		74F583	◊ National	
	9324M	† National	SN74ALS518						TI		74F583	Signetics (3078)	
	DN74LS85	◊ Panasonic	SN74ALS519						TI	Full Adder, Dual			
	SN54LS85	◊† TI	SN74ALS689						TI	TTL-LS	SN74LS183	Motorola	160
Comparator, 4-Bit Magnitude, Separate A = B Output				Comparator, 4-Bit Magnitude, Separate A = B Output					SN54LS183	◊† TI			
TTL	GD74LS85	GoldStar	50	TTL	GD74LS85	GoldStar	50	Comparator, 8-Bit Magnitude Totem Pole					
	HD74LS85	Hitachi						TTL-LS	GD74LS688	GoldStar			
	SN54LS85	† Motorola (2946)							M74LS682	Mitsubishi			
	SN74LS85	Motorola (2946)						Comparator, 8-Bit Magnitude Totem-Pole					
		(Continued)						TTL-ALS	SN54ALS688	† TI	130		

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Arithmetic Functions (Cont'd)				Look-Ahead Carry Generator (Cont'd)				4-Bit Microprocessor Slice (ALU)			
Logic Element				TTL-F	MC54F182	† Motorola (2947)	70	TTL-S	AM2901BC	◊ AMD	115
TTL	RM8260	† Raytheon			MC74F182	Motorola (2947)			AM2901BM	◊† AMD	
Logic Sequencer					74F182	◊ National			AM2901C	◊ AMD	
TTL-S	T1B82S105B	TI (3304)			74F182	Signetics (3077)			AM2901M	◊† AMD	
Logic Unit/Function Generator					74F882	Signetics (3079)			AM2903C	AMD	
TTL	DM54181	† National	5	TTL-LS	SN54LS182	† Motorola	75		AM2903M	† AMD	120
	54181	† Signetics			SN74LS182	Motorola			3002	Intel	
	74181	Signetics (3057)			DM74S182	National			SFC2901B	SGS-Thomson	
TTL-AS	DM54AS881B	† National			54S182	† Signetics			N3002	Signetics	
	DM74AS181B	National			74S182	Signetics (3057)			S3002	† Signetics	
	DM74AS881B	National			SN54S182	† TI					
	SN54AS181A	† TI			SN74S182	TI					
	SN54AS881A	◊† TI	10	Microsequencer							
	SN74AS1181	TI		TTL-AS	SN74AS890-1	TI (3297)					
	SN74AS181B	TI									
	SN74AS881A	TI		Multiplier, Unsigned Magnitude, 2's Complement or Mixed Operands, (8x8)							
TTL-F	MC54F181	† Motorola (2947)	15	TTL-S	AM25S557C	AMD					
	MC54F381	† Motorola (2947)									
	MC54F382	† Motorola (2947)		Multiplier (2x4, Binary Parallel, Serial Output)							
	MC74F181	Motorola (2947)		TTL-LS	54LS261	† Signetics					
	MC74F381	Motorola (2947)			SN54LS261	◊† TI					
	MC74F382	Motorola (2947)		Multiplier, 4-Bit Three-State (two ICs to a set, 7875A and 7875B)							
	54F181	◊† National	20	TTL	DM8875	National					
	74F181	◊ National		Multiplier (4x2), 2's Complement							
	74F381	◊ National		TTL	RM2505	† Raytheon					
	74F382	◊ National		TTL-S	AM25S05C	AMD					
	54F181	† Signetics	25		AM25S05M	† AMD					
	74F181	Signetics (3077)			93S43C	National					
	74F381	Signetics (3078)			93S43M	† National					
	74F382	Signetics (3078)		Multiplier (4x4), Binary Parallel (used with 54/74284)							
	74F881	Signetics (3079)		TTL	DM54284	† National					
	SN54F381	† TI	30		SN54284	† TI					
	SN54F382	† TI			SN54285	† TI					
	SN74F381	TI		Multiplier (8x1) Serial/Parallel 2's Complement							
	SN74F382	TI		TTL-LS	SN54LS384	† TI	95				
TTL-LS	AM25LS2517C	AMD		Multiplier (8x8), Unsigned Magnitude							
	AM25LS2517M	AMD		TTL	MPY08HU	† TRWLSI					
	HD74LS181	Hitachi		Multiplier (8x8), 2's Complement							
	SN54LS181	† Motorola (2947)	35	TTL	MPY008H	† TRWLSI					
	SN74LS181	Motorola (2947)			MPY008H-1	† TRWLSI					
	54LS181	† National		Multiplier (12x12), 2's Complement & Unsigned Magnitude, 16-Bit Product							
	74LS181	◊ National		TTL	MPY112K	† TRWLSI					
	74LS181	SGS-Thomson	40	Multiplier (12x12), 2's Complement, Unsigned Magnitude							
	54LS181	† Signetics		TTL	MPY012H	TRWLSI	100				
	74LS181	Signetics (3057)		Multiplier (16x16)							
	SN54LS181	◊† TI			ADSP7018	AD					
	SN54LS381A	◊† TI		Multiplier (16x16), High Speed							
	SN54LS382A	◊† TI	45	TTL-S	CY7C516	◊† Cypress (2590)					
	SN74LS181	TI			CY7C517	◊† Cypress (2590)					
	SN74LS381A	TI		Multiplier (16x16), Integer							
	SN74LS382A	TI			B2018	Bipolar					
TTL-S	93S41C	National	50	Multiplier (16x16), 2's Complement and Unsigned Magnitude							
	93S41M	† National		TTL	MPY016H	† TRWLSI	105				
	54S181	† Signetics			MPY016K	† TRWLSI					
	74S181	Signetics (3057)			MPY016K-1	† TRWLSI					
	SN54S181	† TI		Multiplier-Accumulator (16x16)							
	SN54S381	† TI	55	TTL	AM29L510	AMD					
	SN74S181	TI		Register/Arithmetic Logic Unit							
	SN74S381	TI		TTL-LS	SN54LS681	◊† TI	60				
Look-Ahead Carry Generator					SN74LS681	TI					
TTL	AM2902AC	AMD									
	AM2902AM	† AMD		TTL-S	SN74S281	TI	65				
	MC74182	Motorola		Register File (4x4)							
TTL-AS	DM74AS182	National		TTL-F	74F670	Signetics					
	DM74AS264	National		Shifter, Barrel Shifter							
	DM74AS282	National		TTL-F	SN54F350	† TI					
	SN54AS264	† TI		Octal Comparator							
	SN54AS282	† TI		TTL-F	M74F521	Mitsubishi					
	SN54AS882	† TI									
	SN74AS182	TI									
	SN74AS264	TI									
	SN74AS282	TI									
	SN74AS882A	TI									
(Continued)											

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Arithmetic Functions (Cont'd)				Quad, Three-State TTL-LS T74LS125 SGS-Thomson				Hex, Three-State TTL-LS (Cont'd)			
8-Bit Serial/Parallel Register (for use with 25LS14/74LS384)				Quad 2-Input TTL-AS M74AS1000A Mitsubishi				DM74LS365A National			
TTL-LS GD74LS322 GoldStar (2708)				M74AS1008A Mitsubishi				DM74LS367A National			
SN74LS322A Motorola (2944)								54LS365 † National			
54LS322 † National								54LS367 † National			
SN54LS322A † TI								74LS365 National			
SN74LS322A TI								74LS367 National			
9-Bit Odd/Even Parity Generator				Quad 2-Input NAND Buffer TTL-LS T54LS37 † SGS-Thomson				DN74LS365A † Panasonic			
TTL-LS T74LS280 SGS-Thomson				T54LS38 † SGS-Thomson				DN74LS367A † Panasonic			
54LS280 † SGS-Thomson								74LS365A SGS-Thomson			
74LS280 SGS-Thomson								74LS367A SGS-Thomson			
9-Bit Odd/Even Parity Generator/Checker				Hex TTL-LS T54LS365A † SGS-Thomson				54LS365 † SGS-Thomson			
TTL-AS M74AS280 Mitsubishi				T54LS367A † SGS-Thomson				54LS367 † SGS-Thomson			
TTL-F M74F280A Mitsubishi								74LS365A SGS-Thomson			
9-Bit Parity Generator/Checker with Parity I/O Port				Hex Buffer/Driver, Non-Inverting, Open Collector TTL-F 74F07 Signetics				74LS367A SGS-Thomson			
TTL-F SN54F286 † TI								54LS365A † Signetics			
64-Bit Floating Point Processor				Hex Driver, Non-inverting TTL-AS DM74AS1034 National				54LS367A † Signetics			
TTL-AS SN74AS8837 TI				SN74AS1034A TI				74LS365A Signetics (3057)			
								74LS367A Signetics (3057)			
								SN54LS365A † TI			
								SN54LS367A † TI			
								SN74LS365A TI			
								SN74LS367A TI			
								TTL-S MC8T95 Motorola (2981)			
								MC8T97 Motorola (2981)			
								N8T95 Signetics (3076)			
								N8T97 Signetics (3076)			
								S8T97 † Signetics			
								Octal			
								TTL-LS T74LS240 SGS-Thomson			
								T74LS241 SGS-Thomson			
								T74LS244 SGS-Thomson			
								54LS240 † SGS-Thomson			
								74LS240 SGS-Thomson			
								74LS241 SGS-Thomson			
								74LS244 SGS-Thomson			
								Octal Buffer			
								TTL-LS T54LS240 † SGS-Thomson			
								Octal Buffer/Driver, Inverting			
								TTL-ALS SN54ALS763 † TI			
								SN74ALS763 TI			
								Octal Buffer/Driver, Inverting and Non-Inverting			
								TTL-ALS SN54ALS762 † TI			
								Octal Bus Driver, Inverting with Pull-Up Resistors			
								TTL-ALS SN74ALS746 TI			
								SN74ALS746-1 TI			
								Octal Bus Driver, Non-Inverting with Pull-Up Resistors			
								TTL-ALS SN74ALS747 TI			
								SN74ALS747-1 TI			
								Octal, with Parity Generator-Checker			
								TTL-F 54F656 † Signetics			
								74F656A Signetics (3078, 3086)			
								Octal, Three-State			
								TTL-ALS M74ALS465A Mitsubishi			
								M74ALS467A Mitsubishi			
								DM74ALS465 National			
								DM74ALS467 National			
								SN74ALS465A TI			
								SN74ALS467A TI			
								TTL-LS AM81LS95 AMD			
								AM81LS97 AMD			
								SN54LS795 † Motorola (2940)			
								SN54LS796 † Motorola (2940)			
								SN54LS797 † Motorola (2940)			
								SN54LS798 † Motorola (2940)			
								SN74LS795 Motorola (2940)			
								SN74LS796 Motorola (2940)			
								SN74LS797 Motorola (2940)			
								SN74LS798 Motorola (2940)			
								DM81LS95 National			
								DM81LS97 National			
								SN54LS465 † TI			
								SN54LS467 † TI			
								SN74LS465 TI			

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Buffers (Cont'd)				Hex				Hex, Three-State				
10-Bit (bus interface)				TTL-LS				TTL				
TTL-F	74F827	Signetics (3079)	5	(Cont'd)				(Cont'd)				
TTL-S	AM29827	AMD		74LS04	◊ National	70	70	DM74368	National	135	135	
	AM29827A	AMD		DN74LS04	◊ Panasonic			DM8098	National			
	AM29828	AMD		T54LS04	† SGS-Thomson			54366A	◊ Signetics			
	AM29828A	AMD		T54LS05A	† SGS-Thomson			54368A	† Signetics			
				T54LS366A	† SGS-Thomson			74366	Signetics (3057)			
Inverters				T54LS368A	† SGS-Thomson	75	75	74368	Signetics (3057)	140	140	
Dual 4-Input Schmitt Trigger				T74LS04	SGS-Thomson			SN54366A	† TI			
TTL-F	MC54F13	† Motorola (2940)	10	T74LS05A	SGS-Thomson			SN54368A	† TI			
	MC74F13	Motorola (2940)		54LS04	† SGS-Thomson			SN74366A	TI			
TTL-LS	74LS13	SGS-Thomson		74LS04	SGS-Thomson			SN74368A	TI			
Quad 2-Input Schmitt Trigger				54LS04	† Signetics	80	80	TTL-F	54F366	† Signetics	145	
TTL-LS	T54LS132	† SGS-Thomson		74LS04	† Signetics			54F368	† Signetics			
	T74LS132	SGS-Thomson		74LS04	† Signetics (3057)			74F366	Signetics (3077)			
				SN54LS04	† TI			74F368	Signetics (3077)			
				SN74LS04	TI							
Hex				TTL-S				TTL-LS				
TTL	DM5404	† National	15	GD74S04	GoldStar (2708)	85	85	GD74LS366	GoldStar	150	150	
	DM7404	National		DM54S04	† National			GD74LS368	GoldStar			
	5404	† National		DM74S04	National			HD74LS368A	Hitachi			
	7404	† National		74S04	National			SN54LS366A	† Motorola (2939)			
	RG370	Raytheon		54S04	† Signetics			SN54LS368A	† Motorola (2939)			
	RG380	Raytheon	20	74S04	Signetics (3057)	90	90	SN74LS366A	Motorola (2939)	155	155	
	N8890	Signetics (3076)		SN54S04	† TI			SN74LS368A	Motorola (2939)			
	N8891	Signetics (3076)		SN74S04	TI			DM54LS366A	† National			
	S8891	† Signetics		Hex Inverter/Driver, Open Collector				DM54LS368A	† National			
	5404	† Signetics		TTL-F	74F06	Signetics		DM74LS366A	National			
	7404	Signetics (3057)	25	Hex, Open Collector				DM74LS368A	National	160	160	
	SN5404	† TI		TTL	DM5405	† National	95	54LS366	† National			
	SN7404	TI			DM7405	National		54LS368	† National			
	TC7404B	Toshiba			7405	National		74LS366	National			

♦ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Counters, Binary Count Up (Cont'd)				Synchronous, Preset Input (asynchronous clear) (Cont'd)				4-Bit, Ripple TTL (Cont'd)			
Counter/Latch (divide-by-2, 4, 8, 16), Preset Input TTL (Cont'd)				TTL-S AM93S16C AMD				65			
SN54177 † TI				AM93S16M † AMD				SN7493A TI			
SN54197 † TI				93S16C National				TD3505A Toshiba			
SN74177 TI				Synchronous, Preset Input (synchronous clear)				70			
SN74197 TI				TTL DM54163 † National				TTL-LS GD74LS93 GoldStar (2708)			
TTL-LS M74LS197 Mitsubishi				DM74163 National				HD74LS293 Hitachi			
SN54LS197 † Motorola (2942)				74163 National				HD74LS93 Hitachi			
SN74LS197 Motorola (2942)				54163 Signetics				M74LS293 Mitsubishi			
74LS197 National				74163 Signetics (3057)				M74LS93 Mitsubishi			
DN74LS197 Panasonic				SN54163 † TI				SN54LS293 † Motorola (2942)			
74LS197 SGS-Thomson				SN74163 TI				SN54LS93 † Motorola (2942)			
54LS197 † Signetics				TTL-ALS M74ALS163A Mitsubishi				SN74LS293 Motorola (2942)			
74LS197 Signetics (3057)				DM74ALS163 National				DM74LS293 National			
SN54LS197 † TI				SN54ALS163B † TI				DM74LS93 National			
SN74LS197 TI				SN74ALS163B TI				74LS293 † National			
TTL-S SN54S197 † TI				TTL-AS DM74AS163 National				DN74LS293 † Panasonic			
SN74S197 TI				SN54AS163 † TI				DN74LS93 † Panasonic			
Counter/Register with Multiplexed Output, Three-State TTL-LS SN54LS691 † TI				SN74AS163 TI				54LS293 † SGS-Thomson			
SN54LS693 † TI				TTL-F MC54F163A † Motorola (2942)				54LS93 † SGS-Thomson			
Modulo-16 TTL-LS T54LS293 † SGS-Thomson				MC74F163A Motorola (2942)				74LS293 † Signetics			
Modulo-16 Binary Counter TTL-LS 74LS169 SGS-Thomson				54F163A † National				74LS93 † Signetics			
Synchronous (both conventional and three-state outputs) Preset Input				74F163A † National				74LS293 Signetics (3057)			
TTL DM7556 National				SN54F163A † TI				74LS93 Signetics (3057)			
DM8556 National				SN74F163A TI				SN54LS293 † TI			
Synchronous, Preset Input (asynchronous clear)				TTL-LS GD74LS163A GoldStar (2708)				SN54LS93 † TI			
TTL DM54161A † National				HD74LS163A Hitachi				SN74LS293 TI			
DM74161A National				SN54LS163A † Motorola (2942)				SN74LS93 TI			
DM8316 † National				DM54LS163A † National				4-Bit Binary TTL-ALS SN54ALS561A † TI			
DM9316 National				DM74LS163A National				SN74ALS561A TI			
54161 † National				54LS163A † National				4-Bit Binary Counter, Asynchronous Reset TTL-ALS 74ALS161B Signetics			
74161 National				74LS163 National				4-Bit Binary Counter, Synchronous Reset TTL-ALS 74ALS163B Signetics			
9316C National				SN54LS163A † TI				4-Bit Binary with Asynchronous Reset TTL-F M74F161 Mitsubishi			
9316M † National				SN74LS163A TI				4-Bit Binary with Synchronous Reset TTL-F M74F163 Mitsubishi			
N9316 Signetics (3076)				TTL-S GD74S163 GoldStar (2708)				4-Stage Ripple Counter TTL-LS T74LS196 SGS-Thomson			
74161 Signetics (3057)				SN54S163 † TI				T74LS197 SGS-Thomson			
SN54161 † TI				SN74S163 TI				8-bit Synchronous TTL-ALS SN74ALS8161 TI			
SN74161 TI				Dual 4-Bit, Ripple (dual 54/7493A)				TTL-LS SN54LS461 † MMI			
TTL-ALS DM74ALS161 National				TTL SN54393 † TI				SN74LS461 MMI			
SN54ALS161B † TI				TTL-LS AM25LS299 AMD				DM74LS461 National			
SN74ALS161B TI				GD74LS393 GoldStar (2708)				8-Bit with Input Registers TTL-LS SN54LS592 † TI			
TTL-AS DM74AS161 National				HD74LS393 Hitachi				SN54LS593 † TI			
DM74AS162 National				SN54LS393 † Motorola (2942)				SN74LS592 TI			
SN54AS161 † TI				SN74LS393 Motorola (2942)				8-Bit with Output Registers TTL-LS GD74LS590 GoldStar (2708)			
SN74AS161 TI				DM74LS393 National				SN54LS590 † TI			
TTL-F MC54F161A † Motorola (2942)				74LS393 † National				SN74LS590 TI			
MC74F161A Motorola (2942)				DN74LS393 † Panasonic				SN74LS591 TI			
54F161A † National				T54LS393 † SGS-Thomson				Counters, Binary Count Up/Down			
74F161A † National				T74LS393 SGS-Thomson				Counter/Register with Multiplexed Three-State Output TTL-LS SN54LS697 † TI			
74F161A Signetics (3077)				54LS393 † Signetics				SN54LS699 † TI			
SN54F161A † TI				SN74LS393 TI				SN74LS697 TI			
SN74F161A TI				Dual 4-Bit Binary Counter TTL-LS SN54LS69 † TI				SN74LS699 TI			
TTL-LS GD74LS161A GoldStar (2708)				Dual 4-Stage TTL-LS 74LS393 SGS-Thomson				Divide by 16 Counter TTL-LS T54LS93 † SGS-Thomson			
HD74LS161A Hitachi				4-Bit TTL-F 74F1163 Signetics				Presettable BCD/Decade Up/Down Counter TTL-LS T54LS192 † SGS-Thomson			
M74LS161A Mitsubishi				4-Bit, Ripple TTL DM5493A † National				Synchronous TTL-ALS SN54AS867 † TI			
SN54LS161A † Motorola (2942)				DM7493A National				SN54AS869 † TI			
SN74LS161A Motorola (2942)				7493 National				SN74AS867 TI			
DM54LS161A † National				5493 † Signetics				SN74AS869 TI			
DM74LS161A National				7493 Signetics (3057)							
54LS161 † National				SN54293 † TI							
74LS161 National				SN5493A † TI							
DN74LS161A Panasonic				SN74293 TI							
54LS161A † Signetics											
74LS161A Signetics (3057)											
SN54LS161A † TI											
SN74LS161A TI											
(Continued)				(Continued)				(Continued)			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line		
Counters, Binary Count Up/Down (Cont'd)				Synchronous, Preset Input with Mode Control (Cont'd)				8-Bit Synchronous					
Synchronous TTL-F	74F569	◊ National	(Cont'd)	TTL-LS	74LS191	SGS-Thomson	(Cont'd)	TTL-ALS	SN74ALS8163	TI	125		
	74F779	Signetics (3078, 3095)		54LS191	† Signetics	SN74ALS8169		TI					
SN74F569	TI	74LS191		Signetics (3057)	SN74ALS869	TI							
Synchronous, Parallel load	SN54LS469	† MMI	Synchronous, Preset Input, Three-State	TTL-ALS	SN54ALS569A	† TI		70	Counters, Decade				
	SN74LS469	MMI	TTL-LS	AM25LS2569C	AMD	BCD Decade Counter			TTL-LS	74LS168		SGS-Thomson	
Synchronous, Preset Input, Mode Control, Look-Ahead Carry	TTL-ALS	M74ALS169A	Mitsubishi	AM25LS2569M	† AMD	BCD Decade Counter with Asynchronous Reset		TTL-ALS	M74ALS160B	Mitsubishi			
	DM74ALS169	National	TTL-F	SN54LS569	† Motorola (2942)	BCD Decade Counter with Synchronous Reset	TTL-ALS	M74ALS162B	Mitsubishi				
SN54ALS169B	TI	SN74ALS169B	TI	SN74LS569	Motorola (2942)	Dual	TTL-LS	54LS390	† SGS-Thomson				
TTL-AS	DM74AS169	National	10	TTL	DM54193	† National	75	Counters, Decade Count Up					
SN54AS169	† TI	SN54AS169A	† TI	DM74193	National	Divide-by-2 and by-5		TTL	DM5490	† National			
SN74AS169	TI	SN74AS169	TI	DM7563	† National	DM7490	National	135					
TTL-F	MC54F169	† Motorola (2943)	15	54193	† Signetics	5490	† National						
MC74F169	Motorola (2943)	74F169	◊ National	74193	Signetics (3057)	5490	† Signetics						
54F269	† Signetics	74F169	Signetics (3077)	SN54193	† TI	7490	Signetics (3057)						
74F269	Signetics (3077, 3092)	SN54F169	† TI	TTL-ALS	M74ALS193	Mitsubishi	SN54290		† TI				
SN74F169	TI	SN74F169	TI	SN54ALS193	† TI	SN5490A	† TI						
TTL-LS	M74LS669	Mitsubishi	20	SN74ALS193	TI	TD3501A	Toshiba						
SN54LS169	† Motorola (2943)	DM54LS169A	† National	TTL-F	MC54F193	† Motorola (2942)	TTL-LS		GD74LS90	GoldStar			
SN74LS169	Motorola (2943)	DM74LS169A	National	54F193	◊† National	MC74F193	Motorola (2942)		HD74LS290	Hitachi			
54LS169	† National	74LS169	National	74F193	◊ National	54F193	† Signetics		HD74LS90	Hitachi			
74LS169	† SGS-Thomson	T54LS169	† SGS-Thomson	74F193	Signetics (3077)	74LS193	Signetics (3057)		M74LS290	Mitsubishi			
T54LS169	SGS-Thomson	74LS169A	† Signetics	TTL-LS	GD74LS193	GoldStar (2708)	M74LS90		Mitsubishi				
54LS169A	† Signetics	SN54LS169B	◊† TI	HD74LS193	Hitachi	SN54LS290	† Motorola (2942)		SN54LS90	† Motorola (2942)			
74LS169A	Signetics (3057)	SN54LS669	◊† TI	DM54LS193	† National	SN54LS90	† Motorola (2942)		SN74LS290	Motorola (2942)			
SN54LS169B	◊† TI	SN74LS169B	TI	DM74LS193	National	SN74LS90	Motorola (2942)		DM74LS290	National			
SN74LS169B	TI	SN74LS669	TI	54LS193	† National	DM74LS90	National		74LS290	◊ National			
TTL-S	GD74S169	GoldStar	35	74LS193	National	DN74LS290	† Motorola						
54S169A	Signetics	74S169A	Signetics (3057)	DN74LS193	◊ Panasonic	DN74LS90	† Motorola						
SN54S169	† TI	SN74S169	TI	54LS193	† SGS-Thomson	54LS290	† SGS-Thomson						
SN74S169	TI	Synchronous, Preset Input (2 clocks)	40	74LS193	SGS-Thomson	74LS90	† Signetics						
TTL	DM54191	† National	45	54LS193	Signetics	54LS290	† Signetics						
DM74191	National	54191		† National	74LS193	Signetics (3057)	74LS290		† Signetics				
54191	† Signetics	74191	Signetics (3057)	SN54LS193	◊† TI	74LS290	Signetics (3057)						
54191	† Signetics	SN54191	† TI	SN74LS193	TI	74LS90	Signetics (3057)						
74191	Signetics (3057)	SN74191	TI	Synchronous, Preset Input (2 clocks)	TTL-LS	M74LS193	Mitsubishi						
SN74191	TI	TTL-ALS	M74ALS191	Mitsubishi	Synchronous with Mode Control	TTL	RM8284		† Raytheon				
TTL-ALS	M74ALS191	Mitsubishi	50	SN54ALS191	† TI	S8284	† Signetics						
SN54ALS191	† TI	SN74ALS191	TI	SN74ALS191	TI	Synchronous 4-Bit, Look-Ahead Carry	TTL-LS		HD74LS669	Hitachi			
TTL-F	MC54F191	† Motorola (2942)	55	SN74ALS669	Motorola (2943)	Up/Down Binary Counter	TTL-LS		T54LS193	† SGS-Thomson			
MC74F191	Motorola (2942)	54F191		† National	SN74LS669	Motorola (2943)	Dual, Synchronous, Preset Input		TTL	MC4355		† Motorola	
74F191	◊ National	74F191	Signetics (3077)	SN74LS193	Signetics	4-Bit Asynchronous Presettable	TTL-ALS		74ALS191	Signetics			
74F191	Signetics (3077)	TTL-LS	GD74LS191	GoldStar (2708)	4-Bit Synchronous Presettable	TTL-ALS	74ALS193		Signetics				
HD74LS191	Hitachi	4-Bit Up/Down Counter (synchronous)	TTL-ALS	M74ALS569A	Mitsubishi	4-Bit Up/Down BCD Decade (synchronous)	TTL-ALS		M74ALS568A	Mitsubishi			
M74LS191	Mitsubishi	4-Bit Binary Counter with Asynchronous Reset	TTL-ALS	M74ALS161B	Mitsubishi	4-Bit Binary Up/Down Counter	TTL-LS		T74LS191	SGS-Thomson			
SN54LS191	† Motorola (2942)	TTL-LS	T74LS193	SGS-Thomson	8-Bit Synchronous	TTL-ALS	SN74ALS8163		TI				
SN74LS191	Motorola (2942)	SN54LS191	† National	SN74ALS8169	TI	SN74ALS869	TI						
DM54LS191	National	DM74LS191	National	SN74ALS869	TI	SN74ALS869	TI						
74LS191	National	74LS191	National	SN74ALS869	TI	SN74ALS869	TI						
DN74LS191	◊ Panasonic	DN74LS191	◊ Panasonic	SN74ALS869	TI	SN74ALS869	TI						
(Continued)		(Continued)		SN74ALS869	TI	SN74ALS869	TI						

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line		
Counters, Decade Count Up (Cont'd)				Counters, Decade Count Up/Down				Counters, Miscellaneous					
(Divide-by-2 and divide-by-5) Counter/Latch, Ripple, Preset Input (Cont'd)				Dual, Ripple (dual 54/7490A) (Cont'd)				Synchronous, Preset Input (2 clocks) (Cont'd)					
TTL-S	SN54S196	† TI	5	TTL-LS	DM74LS490	National	70	TTL-ALS	M74ALS192	Mitsubishi	130		
	SN74S196	TI			SN74LS490	Motorola (2942)			TTL-F	MC54F192		† Motorola (2942)	
Synchronous, Preset Input (asynchronous clear)					DM74LS390	National				MC74F192		Motorola (2942)	
TTL	N9310	Signetics (3076)			54LS490	† National				54F192		† National	
	54160	† Signetics			74LS390	◊ National				74F192		◊ National	
	74160	Signetics (3057)		DN74LS390	◊ Panasonic			74F192	◊ National				
	SN54160	† TI		DN74LS490	◊ Panasonic			74F192	Signetics (3077)				
	SN74160	TI		T54LS390	† SGS-Thomson			TTL-LS	HD74LS192	Hitachi	135		
TTL-ALS	DM74ALS160	National		T54LS490	† SGS-Thomson				SN54LS192	† Motorola (2942)			
	SN74ALS160B	TI		T74LS390	SGS-Thomson				SN74LS192	Motorola (2942)			
TTL-AS	DM74AS160	National		T74LS490	SGS-Thomson				54LS192	† National			
	SN74AS160	TI		54LS390	† Signetics				74LS192	National			
TTL-F	MC54F160A	† Motorola (2942)	10	54LS490	† Signetics				DN74LS192	◊ Panasonic	140		
	MC74F160A	Motorola (2942)			74LS390	Signetics (3057)				54LS192		† SGS-Thomson	
	54F160A	◊† National			74LS490	Signetics (3057)				74LS192		SGS-Thomson	
	74F160A	◊ National			SN54LS390	◊† TI				54LS192		† Signetics	
	74F160A	Signetics (3077)			SN54LS490	◊† TI				74LS192		Signetics (3057)	
	SN54F160A	† TI		SN74LS390	TI				SN54LS192	◊† TI	145		
	SN74F160A	TI							SN74LS192	TI			
TTL-LS	HD74LS160A	Hitachi	15	Dual, Ripple (54/7490A)				Synchronous, Preset Input (2 clocks)				150	
	M74LS160A	Mitsubishi			TTL-LS	M74LS390	Mitsubishi		TTL-LS	M74LS192			Mitsubishi
	SN54LS160A	† Motorola (2942)			4-Bit, Three-State				Synchronous, Preset, with Mode Control				155
	SN74LS160A	Motorola (2942)			TTL-ALS	SN74ALS560A	TI		TTL	54190	† Signetics		
	54LS160A	† National								74190	Signetics (3057)		
	74LS160	National							SN54190	† TI			
	DN74LS160A	◊ Panasonic							SN74190	TI			
	54LS160A	† Signetics	20					TTL-ALS	M74ALS190	Mitsubishi	160		
	74LS160A	Signetics (3057)			Counter/Register with Multiplexed Three-State Output					SN74ALS190		TI	
	SN54LS160A	◊† TI			TTL-LS	SN54LS696	◊† TI		TTL-F	MC54F190		† Motorola (2942)	
	SN74LS160A	TI			Synchronous					MC74F190		Motorola (2942)	
					TTL	RM8285	† Raytheon			54F190		† National	
TTL-S	93S10C	National	30	TTL-ALS	SN74ALS568A	TI			74F190	◊ National			
Synchronous, Preset Input (synchronous clear)					TTL-F	74F568	◊ National			74F190	Signetics (3077)		
TTL	SN54162	† TI				54F579	† Signetics					165	
TTL-ALS	DM74ALS162	National				74F568	Signetics (3078)						
	SN54ALS162B	† TI				74F569	Signetics (3078)						
	SN74ALS162B	TI			74F579	Signetics (3078, 3093)							
					SN74F568	TI							
TTL-AS	SN74AS162	TI	35	TTL-LS	74LS568A	Signetics (3057)					170		
TTL-F	MC54F162A	† Motorola (2942)			Synchronous, Preset Input, Mode Control, Look-Ahead Carry				BCD/Decade Up/Down Counter			175	
	MC74F162A	Motorola (2942)			TTL-ALS	M74ALS168A	Mitsubishi		TTL-LS	T74LS190			SGS-Thomson
	54F162A	◊† National				DM74ALS168	National			T74LS192			SGS-Thomson
	74F162A	◊ National				SN74ALS168B	TI		Four Counter/Latch/Display Driver (synchronous, BCD and segment drives)				180
	74F162A	Signetics (3077)						TTL	ZN1040E-RED	Plessey			
	SN54F162A	† TI									185		
	SN74F162A	TI											
TTL-LS	HD74LS162A	Hitachi	40								190		
	M74LS162A	Mitsubishi											
	SN54LS162A	† Motorola (2942)											
	SN74LS162A	Motorola (2942)											
	DM54LS162	† National											
	54LS162A	† National	45								195		
	74LS162	National											
	DN74LS162	Panasonic											
	54LS162A	† Signetics											
	74LS162A	Signetics (3057)											
	SN54LS162A	† TI	50								200		
	SN74LS162A	TI											
TTL-S	SN54S162	† TI	55								205		
	SN74S162	◊ TI											
Dual, Ripple (dual 54/7490A)			60								210		
TTL-LS	M74LS490	Mitsubishi											
Dual, Ripple (dual 54/7490A)			65								215		
TTL	SN54390	† TI											
	SN74390	TI											
TTL-LS	GD74LS390	GoldStar (2708)	70								220		
	HD74LS390	Hitachi											
	HD74LS490	Hitachi											
	SN54LS390	† Motorola (2942)											
	SN54LS490	† Motorola (2942)											
	SN74LS390	Motorola (2942)	75								225		
			80								230		
			85								235		
			90								240		
			95								245		
			100								250		
			105								255		
			110								260		
			115								265		
			120								270		
			125								275		
			130								280		
			135								285		
			140								290		
			145								295		
			150								300		
			155								305		
			160								310		
			165								315		
			170								320		
			175								325		
			180								330		
			185								335		
			190								340		

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Decoders (Cont'd)				3-Line to 8-Line Decoder/Demultiplexer, Inverting/Non-Inverting, Three-State TTL-LS (Cont'd)				Quad NAND Power Driver (to 60 V, sinks 1.5 A) UDN2540B Sprague (3258)			
One-of-Ten Decoder/Demultiplexer, Three-State	MC74F537	Motorola (2945)		AM25LS2538C	AMD			Quad Predriver, Open Collector	MC4042	Motorola	
TTL-F	MC54F537	† Motorola (2945)		AM25LS2538M	† AMD			Quad 2-Input AND Power Driver, Open Collector (to 100 V, sinks 500 mA)			
1 of 10 Decoder	TTL-LS	T74LS42	SGS-Thomson					TTL	UHC/D-400	† Sprague	
1 of 8 Decoder/Demultiplexer	TTL-ALS	M74ALS138	Mitsubishi				65	UHC/D-406	† Sprague		120
TTL-F	M74F138	Mitsubishi						UHC/D-500	† Sprague		
TTL-LS	M74ALS138	Mitsubishi						UHC/D-506	† Sprague		
1 of 8 Decoder/Demultiplexer with Address Latch	TTL-ALS	M74ALS137	Mitsubishi					UHP400	Sprague (3258)		
1-Line to 8-Line Decoder/Demultiplexer							70	UHP406	Sprague (3258)		
54F547	† National							Quad 2-Input AND Power Driver (to 80 V, sinks 600ma)			
54F548	◊† National							TTL	UDN5706A	Sprague (3258)	
74F547	◊ National							UDS5706H	† Sprague		125
74F548	◊ National							Quad 2-Input NAND Buffer, Open Collector, to 15 V Output			
74F547	Signetics (3078)							TTL	DM7426	National	
74F548	Signetics (3078)							S8T80	† Signetics		
1-of-8 Decoder/Demultiplexer	TTL-ALS	74ALS138	Signetics					5426	† Signetics		
1-of-10 Decoder	TTL-LS	T54LS42	† SGS-Thomson					7426	Signetics (3057)		
3-Line to 8-Line Decoder/Demultiplexer	TTL-ALS	M74ALS131	Mitsubishi					SN5426	† TI		130
DM74ALS138	National							SN7426	TI		
SN54ALS138	† TI							Quad 2-Input NAND Bus Driver, Open Collector, 80ma			
SN74ALS138	TI							TTL	96101	National	
TTL-AS	AM2924C	AMD						Quad 2-Input NAND Power Driver, Open Collector (to 100 V, sinks 500 mA)			
AM2924M	† AMD							TTL	UHC/D-407	† Sprague	
SN54AS138	† TI							UHC/D-408	† Sprague		
SN74AS138	TI							UHC/D-507	† Sprague		
TTL-F	MC54F138	† Motorola (2945)						UHC/D-508	† Sprague		
MC74F138	Motorola (2945)							UHP407	Sprague (3258)		
54F138	◊† National							UHP408	Sprague (3258)		
74F138	◊ National							Quad 2-Input NOR Driver			
74F138	Signetics (3077)							TTL-AS	DM74AS1036	National	
SN54F138	◊† TI							SN74AS1036A	TI		
SN74F138	◊ TI							Quad 2-Input NOR Power Driver, Open Collector (to 100 V, sinks 500 mA)			
TTL-LS	GD25LS2548	GoldStar						TTL	UHC/D-432	† Sprague	
GD74LS138	GoldStar (2708)							UHC/D-433	† Sprague		
HD74LS138	Hitachi							UHC/D-532	† Sprague		
SN54LS138	† Motorola (2945)							UHC/D-533	† Sprague		
SN74LS138	Motorola (2945)							Quad 2-Input NOR 74-Ohm/50-Ohm Line Driver			
DM54LS138	† National							TTL	74128	Signetics (3057)	
DM74LS138	National							SN54128	† TI		
54LS138	† National							SN74128	TI		
74LS138	◊ National							Quad 2-Input OR Power Driver, Open Collector (to 100 V, sinks 500 mA)			
DN74LS138	◊ Panasonic							TTL	UHC/D-402	† Sprague	
T54LS138	† SGS-Thomson							UHC/D-403	† Sprague		
T74LS138	SGS-Thomson							UHC/D-502	† Sprague		
54LS138	† SGS-Thomson							UHC/D-503	† Sprague		
74LS138	SGS-Thomson							UHP402	Sprague (3258)		
54LS138	† Signetics							UHP403	Sprague (3258)		
74LS138	Signetics (3057)							Quad 2-Input NOR Driver			
SN54LS138	◊† TI							TTL-AS	SN54AS1036A	† TI	
SN74LS138	TI							Hex			
TTL-S	GD74S138	GoldStar (2708)						TTL-AS	M74AS1034A	Mitsubishi	
DM54S138	† National							Hex Buffer/Driver, Open Collector High Voltage Output, to 30 V			
DM74S138	National							TTL	DM5407	† National	
74S138	National							DM5417	† National		
54S138	† Signetics							DM7407	National		
74S138	Signetics (3057)							DM7417	National		
SN54S138	† TI							7407	National		
SN74S138	TI							7417	National		
3-Line to 8-Line Decoder/Demultiplexer, Inverting/Non-Inverting, Three-State	TTL-F	MC54F538	† Motorola (2945)					5407	† Signetics		
MC74F538	Motorola (2945)							5417	† Signetics		
74F538	◊ National							7407	Signetics (3057)		
74F538	Signetics (3078)							7417	Signetics (3057)		
TTL-LS	AM25LS2536C	AMD						SN5407	† TI		
AM25LS2536M	† AMD							SN5417	† TI		
								SN7407	TI		
								SN7417	TI		
								TTL-LS	M74LS07	Mitsubishi	
											170

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line		
Drivers (Cont'd)				Hex 2-Input OR Driver				Dual Positive Edge-Triggered with Preset and Clear					
Hex Inverter Buffer/Driver Open Collector High Voltage Output, to 30 V				TTL-AS (Cont'd)				TTL-F (Cont'd)					
TTL	DM5406	† National	5	SN74AS1832	TI	65	70	SN54F74	† TI	120	125		
	DM5416	† National		SN74AS832B	TI			SN74F74	◊ TI				
	DM7406	National		Octal Trapezoidal Driver				TTL-H	MC3060				
	DM7416	National		TTL	DS3890	National		MC3160	† Motorola				
	7406	National		10-Bit Buffer/Driver, Three-State, Inverting				TTL-LS	GD74LS74A				
	7416	National		TTL-ALS	SN74ALS2982B	TI		HD74LS74A	GoldStar (2708)				
	5406	† Signetics		10-Bit Buffer/Driver, Three-State, Non-Inverting				SN54LS74A	Hitachi				
	5416	† Signetics		TTL-ALS	SN74ALS29827	TI		SN74LS74A	† Motorola (2941)				
	7406	Signetics (3057)		Flip-Flops, D-Type				DM54LS74	† National				
	7416	Signetics (3057)		Dual				DM74LS74	National				
	SN5406	† TI	10	Dual				54LS74	† National	130	135		
	SN5416	† TI		TTL-F	M74F74	Mitsubishi	75	74LS74	National				
	SN7406	TI		TTL-H	ML3060	Lansdale (2880)		DN74LS74A	◊ Panasonic				
	SN7416	TI			ML3160	† Lansdale (2880)		54LS74	† SGS-Thomson				
TTL-LS	M74LS06	Mitsubishi		TTL-LS	M74AS74	Mitsubishi		74LS74	SGS-Thomson				
Hex Inverter/MOS Memory Driver					T74LS74A	SGS-Thomson		54LS74A	† Signetics				
TTL	DS16149	† National		Dual D-Type				74LS74A	† Signetics				
	DS16179	† National		TTL-ALS	74ALS74A	Signetics		74LS74A	Signetics (3057)				
	DS36149	National		Dual D-Type, Synchronizing Cascaded				SN54LS74A	◊† TI				
	DS36179	National		TTL-F	74F728	Signetics		SN74LS74A	TI				
Hex, Three-State					74F729	Signetics		TTL-S					
TTL	74366	Signetics (3057)	20	Dual Edge-Triggered			85	GD74S74	GoldStar (2708)	140	145		
	74367	Signetics (3057)		TTL-ALS	DM74ALS874	National		DM74S74	National				
TTL-F	54F366	† Signetics			DM74ALS876	National		74S74	National				
	74F366	Signetics (3077)			SN54ALS874B	† TI		54S74	◊† Signetics				
TTL-LS	HD74LS366A	Hitachi			SN74ALS874B	TI		74S74	Signetics (3057)				
	HD74LS367A	Hitachi			SN74ALS876A	TI		SN54S74	† TI				
Hex, Three-State Driver					SN74ALS878A	TI		SN74S74	TI				
TTL	DM54367	† National			SN74ALS879A	TI		Dual D-Type, Metastable Transparent					
	DM74367	National			54ALS874B	† TI		TTL-F	74F74A	Signetics			
	54366A	◊† Signetics			TTL-AS			Quad					
	54367A	◊† Signetics			DM74AS874	National	90	TTL-AS	M74AS175	Mitsubishi	150		
	SN54366A	† TI			DM74AS876	National		TTL-F	M74F175	Mitsubishi			
	SN54367A	† TI			DM74AS878	National		TTL-LS	T54LS175	† SGS-Thomson			
	SN74367A	† TI			DM74AS879	National			T74LS175	SGS-Thomson			
	SN74367A	TI			SN54AS874	◊† TI		Quad, Common Clock					
Hex 2-Input					SN74AS874	TI		TTL	MC4015	Motorola			
TTL-AS	M74AS804B	Mitsubishi	30		SN74AS876	TI		Quad D-Type					
	M74AS808B	Mitsubishi			SN74AS878	TI		TTL-ALS	74ALS175	Signetics			
Hex 2-Input AND Driver					SN74AS879	TI		Quad D-Type (clock driver)					
TTL-ALS	DM74ALS808	National			Dual Edge-Triggered, Inverting, Three-State			TTL-F	MC74F803	Motorola	155		
	SN54ALS808	† TI			TTL-ALS	M74ALS876	Mitsubishi	Quad D-Type, Three-State					
	SN74ALS1808A	TI					TTL-F	74F173	Signetics				
TTL-AS	DM74AS808A	National			Dual Edge-Triggered, Non-Inverting, Three-State			Quad Edge-Triggered with Clear, Complementary Output					
	SN54AS808B	† TI			TTL-ALS	M74ALS874	Mitsubishi	TTL	DM54175	† National			
	SN74AS1808	TI					DM74175	National					
	SN74AS808B	TI			Dual Edge-Triggered, Three-State and Synchronous Reset, Non-Inverting			54175	† National				
Hex 2-Input NAND Driver					TTL-ALS	M74ALS878	Mitsubishi	74175	National				
TTL-ALS	DM74ALS804	National				M74ALS879	Mitsubishi	54175	† Signetics				
	SN54ALS804A	† TI			Dual			74175	Signetics (3057)				
	SN74ALS1804A	TI			TTL-LS	T54LS74A	† SGS-Thomson	SN54175	† TI				
	SN74ALS804A	TI					SN74175	TI					
TTL-AS	DM74AS804A	National	50		Dual Positive Edge-Triggered with Preset		100	TTL-ALS	M74ALS175	Mitsubishi	160		
	SN54AS804B	† TI			TTL-F	MC54F74		DM74ALS175	National				
	SN74AS1804	TI						SN54ALS175	† TI				
	SN74AS804B	TI			Dual Positive Edge-Triggered with Preset and Clear			SN74ALS175	TI				
Hex 2-Input NOR Driver					TTL	DM5474		TTL-AS	DM74AS175	National			
TTL-ALS	DM74ALS805	National				DM7474		SN54AS175A	† TI				
	SN54ALS805A	† TI				5474		SN74AS175A	TI				
	SN74ALS1805A	TI				7474		TTL-F					
	S74ALS1805A	TI				5474		MC54F175	† Motorola (2942)				
TTL-AS	DM74AS805A	National				7474		MC74F175	Motorola (2942)				
	SN54AS805B	◊† TI				SN5474		54F175	◊† National				
	SN74AS1805	TI				SN7474		74F175	◊ National				
	SN74AS805B	TI						74F175	Signetics (3077)				
Hex 2-Input OR Driver					TTL-ALS	DM74ALS74	110	SN54F175	† TI	170	175		
TTL-ALS	DM74ALS832	National	60		SN54ALS74A	† TI		SN74F175	† TI				
	SN54ALS832	† TI			SN74ALS74A	TI		TTL-LS					
	SN74ALS1832A	TI			TTL-AS	DM74AS74		GD74LS175	GoldStar (2708)				
TTL-AS	DM74AS832A	National				SN54AS74		HD74LS175	Hitachi				
	SN54AS832B	† TI				SN74AS74		SN54LS175	† Motorola (2942)				
								SN74LS175	Motorola (2942)				
								DM54LS175	† National				
								DM74LS175	National				
								54LS175	† National				
								74LS175	◊ National				
								(Continued)					

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Flip-Flops, D-Type (Cont'd)				Hex (Cont'd)				Octal (Cont'd)			
Quad Edge-Triggered with Clear, Complementary Output TTL-LS				TTL-LS T54LS174 † SGS-Thomson T74LS174 SGS-Thomson				TTL-F M74F374 Mitsubishi 135 TTL-LS M74LS273 Mitsubishi M74LS374 Mitsubishi			
DN74LS175 Panasonic 54LS175 † SGS-Thomson 74LS175 SGS-Thomson 54LS175 † Signetics 74LS175 Signetics (3057) SN54LS175 † TI SN74LS175 TI				Hex, D-Type TTL-ALS 74ALS174 Signetics				T54LS374 † SGS-Thomson T54LS377 † SGS-Thomson 54LS374 † SGS-Thomson 54LS377 † SGS-Thomson 74LS374 SGS-Thomson 74LS377 SGS-Thomson			
TTL-S GD74S175 GoldStar (2708) DM54S175 † National DM74S175 National 74S175 National 54S175 † Signetics 74S175 Signetics (3057) SN54S175 † TI SN74S175 TI				Hex Edge-Triggered with Clear TTL DM54174 † National DM74174 National 54174 † National 74174 National 54174 † Signetics 74174 Signetics (3057) SN54174 † TI SN74174 TI				Octal Common Clear and Enable, Three-State TTL-LS AM25LS2520C AMD AM25LS2520M † AMD			
Quad Register with Dual Three-State Outputs TTL AM2919C AMD AM2919M † AMD				TTL-ALS M74ALS174 Mitsubishi DM54ALS174 † National DM74ALS174 National SN54ALS174 † TI SN74ALS174 TI				Octal D-Type TTL-ALS M74ALS564A Mitsubishi 74ALS273 Signetics			
Quad, Standard TTL and Three-State Outputs TTL AM2918C AMD AM2918M † AMD SFC2918 SGS-Thomson				TTL-AS DM74AS174 National SN54AS174 † TI SN74AS174 TI				Octal D-Type with Enable TTL-ALS 74ALS377 Signetics			
TTL-LS AM25LS2518C AMD AM25LS2518M † AMD				TTL-F MC54F174 Motorola (2942) MC74F174 Motorola (2942) 54F174 † National 74F174 † National 74F174 Signetics (3077) SN54F174 † TI SN74F174 TI				Octal D-Type, Three-State TTL-ALS 74ALS374 Signetics 74ALS564A Signetics 74ALS574A Signetics			
TTL-S AM25S18C AMD AM25S18M † AMD				TTL-LS GD74LS174 GoldStar (2708) HD74LS174 Hitachi SN54LS174 Motorola (2942) SN74LS174 Motorola (2942) DM54LS174 † National DM74LS174 National 54LS174 † National 74LS174 † National 74LS174 † SGS-Thomson 54LS174 † Signetics 74LS174 Signetics (3057) SN54LS174 † TI SN74LS174 TI				TTL-F 74F11374 Signetics			
Quad with Common Clock Enable TTL-F MC54F379 Motorola (2942) MC74F379 Motorola (2942) 54F379 † National 74F379 † National 74F379 Signetics (3077) SN74F379 TI				TTL-LS GD74S174 GoldStar (2708) DM54S174 † National DM74S174 National 74S174 National 54S174 † Signetics 74S174 Signetics (3057) SN54S174 † TI SN74S174 TI				Octal Edge-Triggered, Common Clock and Enable, Three-State 54LS364 † Signetics 74LS364 Signetics (3057)			
TTL-LS SN54LS379 Motorola (2942) SN74LS379 Motorola (2942) 54LS379 † National 74LS379 † National T54LS379 † SGS-Thomson T74LS379 † SGS-Thomson SN54LS379 † TI SN74LS379 TI				TTL-S GD74S174 GoldStar (2708) DM54S174 † National DM74S174 National 74S174 National 54S174 † Signetics 74S174 Signetics (3057) SN54S174 † TI SN74S174 TI				Octal Edge-Triggered, Inverting, Three-State TTL-ALS M74ALS534 Mitsubishi DM74ALS534 National DM74ALS564 National DM74AS534 National SN54ALS534 † TI SN54ALS564A † TI SN54ALS576A † TI SN74ALS534 TI SN74ALS564A TI SN74ALS576A TI SN74AS534 TI			
TTL-S AM25S08C AMD AM25S08M † AMD				TTL-LS GD74S174 GoldStar (2708) DM54S174 † National DM74S174 National 74S174 National 54S174 † Signetics 74S174 Signetics (3057) SN54S174 † TI SN74S174 TI				TTL-AS DM74AS576 National SN54AS576 † TI SN74AS576 TI			
Quad, Dual Three-State Outputs TTL-LS AM25LS2519C AMD AM25LS2519M † AMD				TTL-S GD74S174 GoldStar (2708) DM54S174 † National DM74S174 National 74S174 National 54S174 † Signetics 74S174 Signetics (3057) SN54S174 † TI SN74S174 TI				TTL-F MC54F534 Motorola (2942) MC74F534 Motorola (2942) 54F534 † National 54F564 † National 74F534 † National 74F564 National 54F534 † Signetics 74F534 Signetics (3078) 74F564 Signetics (3078) SN54F534 † TI SN74F534 TI SN74F564 TI			
Quad Three-State TTL DM54173 † National DM74173 National DM8551 National 54173 † National 74173 National N8T10 Signetics (3076) S8T10 † Signetics 54173 † Signetics 74173 Signetics (3057) SN54173 † TI SN74173 TI				TTL-LS GD74S174 GoldStar (2708) DM54S174 † National DM74S174 National 74S174 National 54S174 † Signetics 74S174 Signetics (3057) SN54S174 † TI SN74S174 TI				TTL-LS 74LS534 † National TTL-S 54S534 † Signetics 74S534 Signetics (3057)			
TTL-LS M74LS173A Mitsubishi SN54LS173A Motorola (2942) SN74LS173A Motorola (2942) 54LS173A † National 74LS173A † National DN74LS173 Panasonic 54LS173 † Signetics 74LS173 Signetics (3057) SN54LS173A † TI SN74LS173A TI				Hex with Common Enable TTL-F MC54F378 Motorola (2942) MC74F378 Motorola (2942) 54F378 † National 74F378 † National 74F378 Signetics (3077) SN74F378 TI				Octal Edge-Triggered, with Clear TTL SN74273 TI TTL-ALS M74ALS273 Mitsubishi DM74ALS273 National SN54ALS273 † TI SN74ALS273 TI			
Hex TTL-AS M74AS174 Mitsubishi TTL-F M74F174 Mitsubishi				TTL-LS SN54LS378 Motorola (2942) SN74LS378 Motorola (2942) 54LS378 † National 74LS378 † National T54LS378 † SGS-Thomson T74LS378 SGS-Thomson 54LS378 † Signetics 74LS378 Signetics (3057) SN54LS378 † TI SN74LS378 TI				TTL-F 54F273 † Signetics 74F273 Signetics (3077) SN54F273 † TI SN74F273 TI			
(Continued)				TTL-S AM25S07C AMD AM25S07M † AMD				TTL-LS GD74LS273 GoldStar (2708) HD74LS273 Hitachi SN54LS273 Motorola (2942) SN74LS273 Motorola (2942) 54LS273 † National 74LS273 † National T74LS273 SGS-Thomson 54LS273 † Signetics			
(Continued)				Octal TTL-AS M74AS374 Mitsubishi M74AS534 Mitsubishi				(Continued)			

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Flip-Flops, D-Type (Cont'd)				Octal with Enable TTL-LS (Cont'd)				Dual J-K with Preset, Common Clock and Common Clear TTL-LS DN74LS78			
Octal Edge-Triggered, with Clear TTL-LS (Cont'd)				54LS377 † Signetics 74LS377 Signetics (3057) SN54LS377 † TI SN74LS377 TI				Dual J-K- Positive Edge-Triggered, Preset and Clear TTL DM54109 † National DM74109 National 54109 † Signetics 74109 Signetics (3057) SN54109 † TI SN74109 TI			
TTL-S 54S273 † Signetics 74S273 Signetics (3057)				8-Bit Parallel, Inverting TTL-AS SN54AS826 † TI SN74AS826 TI TTL-F 74F826 Signetics (3079)				TTL-ALS DM74ALS109 National SN54ALS109A † TI SN74ALS109 TI			
Octal Edge-Triggered, Three-State TTL-ALS M74ALS374 Mitsubishi M74ALS575 Mitsubishi M74ALS577 Mitsubishi DM74ALS374 National DM74ALS574 National SN54ALS374 † TI SN54ALS574A † TI SN74ALS374 TI SN74ALS574A TI SN74ALS575A TI SN74ALS577A TI				8-Bit Parallel, Non-Inverting TTL-AS SN54AS825 † TI SN74AS825 TI TTL-F 74F825 National 74F825 Signetics (3079)				TTL-AS DM74AS109 National SN74AS109 TI			
TTL-AS DM74AS374 National DM74AS574 National DM74AS575 National DM74AS577 National SN54AS374 † TI SN54AS574 † TI SN54AS575 † TI SN74AS374 TI SN74AS574 TI SN74AS575 TI SN74AS577 TI				9-Bit Parallel, Inverting TTL-AS SN74AS824 TI TTL-F 74F824 Signetics (3079)				TTL-F MC54F109 † Motorola (2941) MC74F109 Motorola (2941) 74F109 Signetics (3077) SN74F109 TI			
TTL-F MC54F374 † Motorola (2942) MC74F374 Motorola (2942) 54F374 † National 74F374 † National 74F574 National 54F374 † Signetics 74F374 Signetics (3077) SN54F374 † TI SN54F379 † TI SN74F374 TI SN74F574 TI				9-Bit Parallel, Non-Inverting TTL-AS SN54AS823 † TI SN74AS823 TI TTL-F 74F823 National 74F823 Signetics (3079)				TTL-LS GD74LS109 GoldStar HD74LS109A Hitachi SN54LS109A † Motorola (2941) SN74LS109A Motorola (2941) DM54LS109 † National DM74LS109 National 54LS109 † Signetics 74LS109 Signetics (3057) SN54LS109A † TI SN74LS109A TI			
TTL-LS GD74LS374 GoldStar (2708) HD74LS374 Hitachi SN54LS374 † Motorola (2942) SN74LS374 Motorola (2942) DM54LS374 † National DM74LS374 National 54LS374 † National 74LS374 † National 74LS574 † National T74LS374 SGS-Thomson 54LS374 † Signetics 74LS374 Signetics (3057) SN54LS374 † TI SN74LS374 TI				10-Bit Parallel, Inverting F 74F822 Signetics (3079) TTL-AS SN54AS822 † TI SN74AS822 TI				Dual J-K- with Preset, Common Clock and Common Clear TTL-LS HD74LS78A Hitachi SN54LS78A † Motorola SN74LS78A Motorola SN54LS78A † TI SN74LS78A TI			
TTL-S GD74S374 GoldStar (2708) DM74S374 National 54S374 † Signetics 74S374 Signetics (3057) SN54S374 † TI SN74S374 TI				10-Bit Parallel, Non-Inverting TTL-AS SN54AS821 † TI SN74AS821 TI TTL-F 74F821 National 74F821 Signetics (3079)				Dual Master/Slave with Preset and Clear TTL TC7476B Toshiba			
Octal Register, Non-Inverting, Three-State TTL-S AM2954C AMD AM2954M † AMD				Flip-Flops, J-K Type				Dual Master-Slave with Clear TTL DM54107 † National DM5473 † National DM74107 National DM7473 National 5473 † National 7473 National 54107 † Signetics 5473 † Signetics 74107 Signetics (3057) 7473 Signetics (3057) SN54107 † TI SN5473 † TI SN74107 TI SN7473 TI			
Octal with Enable TTL-F 54F377 † Signetics 74F377 Signetics (3077) SN74F377 TI				AND Gated, Edge-Triggered with Preset and Clear TTL SN5470 † TI SN7470 TI				TTL-H MC3061 Motorola MC3062 Motorola MC3161 † Motorola MC3162 † Motorola			
TTL-LS GD74LS377 GoldStar (2708) SN54LS377 † Motorola (2942) SN74LS377 Motorola (2942) 54LS377 † National 74LS377 † National T74LS377 SGS-Thomson				AND Gated Master-Slave with Preset and Clear TTL SN5472 † TI				TTL-LS GD74LS107 GoldStar GD74LS73 GoldStar (2708) HD74LS107A Hitachi HD74LS73A Hitachi SN54LS107A † Motorola (2941) SN74LS107A Motorola (2941) SN74LS73A Motorola (2941) DM54LS107A † National DM54LS73A † National DM74LS107A National DM74LS73A National DN74LS107 † Panasonic DN74LS73 † Panasonic 54LS107 † Signetics 54LS73 † Signetics 74LS107 Signetics (3057) 74LS73 Signetics (3057) SN54LS107A † TI SN54LS73A † TI			
(Continued)				AND Input, Single TTL-H ML3051 Lansdale (2880) ML3052 Lansdale (2880) ML3151 † Lansdale (2880) ML3152 † Lansdale (2880)				TTL-LS 54LS109 † National 74LS109 National DN74LS109 † Panasonic			
				J-K Flip-Flop (30 MHz) TTL RF250 Raytheon RF260 Raytheon				(Continued)			
				J-K Flip-Flop (50 MHz) TTL RF200 Raytheon RF210 Raytheon							
				Dual TTL-H ML3061 Lansdale (2880) ML3062 Lansdale (2880) ML3161 † Lansdale (2880) ML3162 † Lansdale (2880)							
				Dual J-K Flip-Flop (35 and 50 MHz) TTL RF100 Raytheon							
				Dual J-K, Metastable Transparent TTL-F 74F109A Signetics (3077)							
				Dual J-K Positive Edge-Triggered TTL-ALS 74ALS109A Signetics 74ALS112A Signetics							
				Dual J-K Positive Edge-Triggered, Preset and Clear TTL-AS SN54AS109 † TI TTL-F 54F109 † National 74F109 † National SN54F109 † TI							
				TTL-LS 54LS109 † National 74LS109 National DN74LS109 † Panasonic							
				TTL-S 74S109 National							

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

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Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Flip-Flops, J-K Type (Cont'd)				Dual Negative Edge-Triggered with Preset and Clear (Cont'd)				Dual 4-Input TTL-LS (Cont'd)			
Dual Master-Slave with Clear				TTL-S	GD74S112	GoldStar (2708)	65		SN54LS21	† TI	
TTL-LS					DM54S112	† National			SN74LS21	TI	
SN74LS107A	TI				DM74S112	National					
SN74LS73A	TI				74S112	National					
					54S112	† Signetics					
Dual Master-Slave with Data Lockout					74S112	Signetics (3057)	70	Dual 4-Input AND Expander			
TTL	SN54111	† TI			SN54S112	† TI		TTL	RG180	Raytheon	
					SN74S112	TI		Dual 4-Input AND/NOR Expander			
Dual Master-Slave with Preset and Clear								TTL	RG270	Raytheon	130
TTL	DM5476	† National		Dual Negative Edge-Triggered with Preset, Common Clock and Common Clear				Dual 4-Input Power			
DM7476	National			TTL-ALS	SN54ALS114A	† TI		TTL-H	MC3026	Motorola	
5476	† National				SN74ALS114A	TI			MC3126	† Motorola	
7476	National							Triple 3-Input			
5476	† Signetics				TTL-F	MC54F114	† Motorola	75	TTL	HD74LS11	Hitachi
7476	Signetics (3057)				MC74F114	Motorola			7411	National	
SN5476	† TI				74F114	◊ National			7411	Signetics (3057)	135
SN7476	TI				74F114	Signetics (3077)			TTL-ALS		
					SN54F114	† TI			DM74ALS1011A	† Mitsubishi	
TTL-LS	HD74LS76A	Hitachi			SN74F114	TI			DM54ALS11	† National	
SN54LS76A	† Motorola (2941)								DM74ALS1011	National	
SN74LS76A	Motorola (2941)				TTL-LS	HD74LS114	Hitachi	80	DM74ALS11	National	
DN74LS76	◊ Panasonic								74ALS11A	Signetics	
54LS76	† Signetics				SN54LS114A	† Motorola (2942)			SN54ALS11A	† TI	
74LS76	Signetics (3057)				SN74LS114A	Motorola (2942)			SN74ALS1011A	TI	
SN54LS76A	† TI				54LS114	† National			SN74ALS11A	TI	
SN74LS76A	TI				DN74LS114	◊ Panasonic					
					T54LS114	† SGS-Thomson		85	TTL-AS	DM74AS11	National
Dual, Negative Edge-Triggered					T74LS114	SGS-Thomson			SN54AS11	◊ † TI	
TTL-ALS	M74ALS112A	Mitsubishi			SN74LS114A	TI			SN74AS11	TI	
M74ALS113A	Mitsubishi										
M74ALS114A	Mitsubishi				TTL-S	SN54S114	† TI	90	TTL-F	M74F11	Mitsubishi
					SN74S114	TI			MC54F11	† Motorola (2937)	
TTL-F	M74F112	Mitsubishi							MC74F11	Motorola (2937)	
Dual Negative Edge-Triggered, Separate Preset and Clock, (no clear)					Dual, Positive Edge-Triggered				54F11	◊ † National	
TTL-ALS	SN54ALS113A	† TI			TTL-ALS	M74ALS109A	Mitsubishi		74F11	◊ National	
SN74ALS113A	TI				Quad J-K Edge-Triggered with Preset and Clear				74F11	Signetics (3077)	
					TTL	SN74276	TI		SN54F11	† TI	
TTL-F	MC54F113	† Motorola			Quad J-K Edge-Triggered with Clear				SN74F11	TI	
MC74F113	Motorola				TTL	SN54376	† TI				
74F113	◊ National					SN74376	TI		TTL-H	ML3006	Lansdale (2880)
74F113	Signetics (3077)								ML3106	† Lansdale (2880)	
SN54F113	† TI										
SN74F113	TI								TTL-LS	GD74LS11	GoldStar (2708)
										M74LS11	Mitsubishi
TTL-LS	HD74LS113	Hitachi			Gates, AND					M74LS15	Mitsubishi
SN54LS113A	† Motorola (2941)				Expandable AND/NOR Gates						

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Gates, AND (Cont'd)				Quad 2-Input, Open Collector TTL				Dual 4-Input TTL-H			
Triple 3-Input, Open Collector TTL-LS (Cont'd)				DM5409 † National				(Cont'd)			
SN54LS15 † TI				DM7409 National				ML3110 † Lansdale (2880)			
SN74LS15 TI				5409 † National				ML3125 † Lansdale (2880)			
TTL-S SN54S15 † TI				7409 National				TTL-LS GD74LS20 GoldStar (2708)			
SN74S15 TI				SN5409 † TI				HD74LS20 Hitachi			
Quad 2-Input TTL				SN7409 TI				M74AS20 Mitsubishi			
DM5408 † National				TTL-ALS DM74ALS09 National				M74LS13 Mitsubishi			
DM7408 National				SN54ALS09 † TI				M74LS20 Mitsubishi			
5408 National				SN74ALS09A TI				M74LS22 Mitsubishi			
5408 Signetics				TTL-LS GD74LS09 GoldStar (2708)				SN54LS20 † Motorola (2937)			
7408 Signetics (3057)				HD74LS09 Hitachi				SN74LS20 Motorola (2937)			
SN5408 † TI				SN54LS09 † Motorola (2937)				DM54LS20 † National			
SN7408 TI				SN74LS09 Motorola (2937)				DM74LS20 National			
TTL-ALS M74ALS08 Mitsubishi				DM54LS09 † National				54LS20 † National			
M74ALS09 Mitsubishi				DM74LS09 National				74LS20 † National			
M74ALS1008A Mitsubishi				DM74S09 National				DN74LS20 † SGS-Thomson			
M74ALS576 Mitsubishi				54LS09 † National				T54LS22 † SGS-Thomson			
DM74ALS08 National				54LS09 † National				T74LS20 SGS-Thomson			
DM74ALS1008 National				DN74LS09 † Panasonic				T74LS22 SGS-Thomson			
DM74ALS576 National				54LS09 † SGS-Thomson				T74LS40 SGS-Thomson			
74ALS08 Signetics				54LS09 † Signetics				54LS20 † SGS-Thomson			
SN54ALS08 † TI				74LS09 Signetics (3057)				74LS20 SGS-Thomson			
SN74ALS08 TI				SN54LS09 † TI				54LS20 † Signetics			
SN74ALS1008A TI				SN74LS09 TI				74LS20 Signetics (3057)			
TTL-AS M74AS08 Mitsubishi				TTL-S SN54S09 † TI				SN54LS20 † TI			
DM74AS08 National				SN74S09 TI				SN74LS20 TI			
DM74AS1008 National				Quad 2-Input TTL-F SN74F08 TI				TTL-S GD74S20 GoldStar (2708)			
SN54AS08 † TI				Hex 2-Input TTL-AS DM74AS1808 National				DM54S20 † National			
SN74AS08 TI				Hex 2-Input AND Driver TTL-ALS SN74ALS808A TI				DM74S20 National			
SN74AS1008A TI				Gates, NAND				74S20 † Signetics			
TTL-F M74F08 Mitsubishi				Expandable 8-Input NAND/NOR				SN54S20 † TI			
MC54F08 † Motorola (2937)				TTL RG120 Raytheon				SN74S20 TI			
MC74F08 Motorola (2937)				Dual 2-Input TTL-ALS SN74ALS8003A TI				TTL-ALS DM74ALS40 National			
54F08 † National				Dual 4-Input TTL				SN74ALS40A TI			
74F08 † National				DM5420 † National				TTL-F 74F40 National			
74F08 Signetics (3077)				DM7420 † National				74F40 Signetics			
SN54F08 † TI				7420 National				TTL-LS HD74LS40 Hitachi			
SN74F09 TI				5420 † Signetics				SN54LS40 † Motorola (2937)			
TTL-H ML3001 Lansdale (2880)				7420 Signetics (3057)				SN74LS40 Motorola (2937)			
ML3101 † Lansdale (2880)				TTL-ALS M74ALS1020A Mitsubishi				54LS40 † National			
MC3001 Motorola				M74ALS20A Mitsubishi				74LS40 † National			
MC3101 † Motorola				DM74ALS1020 National				DN74LS40 † Panasonic			
TTL-LS GD74LS08 GoldStar (2708)				DM74ALS20 National				54LS40 † SGS-Thomson			
HD74LS08 Hitachi				74ALS20A Signetics				74LS40 † Signetics			
M74LS08 Mitsubishi				SN54ALS20A † TI				74LS40 Signetics (3057)			
M74LS09 Mitsubishi				SN74ALS1020A TI				SN54LS40 † TI			
SN54LS08 † Motorola (2937)				SN74ALS20A TI				DM54S40 † National			
SN74LS08 Motorola (2937)				TTL-AS DM74AS20 National				DM74S40 National			
DM54LS08 † National				SN54AS20 † TI				74S40 National			
DM74LS08 National				SN74AS20 TI				54S40 † Signetics			
54LS08 † National				TTL-F MC54F20 † Motorola (2937)				74S40 Signetics (3057)			
74LS08 † National				MC74F20 Motorola (2937)				SN54S40 † TI			
DN74LS08 † Panasonic				MC74F40 Motorola				SN74S40 TI			
T54LS09 † SGS-Thomson				54F20 † National				Dual 4-Input NAND/NOR Driver			
T74LS08 SGS-Thomson				74F20 † National				TTL RG130 Raytheon			
T74LS09 SGS-Thomson				54F20 † Signetics				Dual 4-Input NAND/NOR Gate			
74LS08 SGS-Thomson				74F20 Signetics (3077)				TTL RG40 Raytheon			
54LS08 † Signetics				SN54F20 † TI				Dual 4-Input, Open Collector			
74LS08 Signetics (3057)				SN54F21 † TI				TTL SN5422 † TI			
SN54LS08 † TI				SN74F20 TI				SN7422 TI			
SN74LS08 TI				SN74F21 TI				TTL-ALS SN54ALS22B † TI			
TTL-S GD74S08 GoldStar (2708)				TTL-H ML3010 Lansdale (2880)				SN74ALS22B TI			
DM54S08 † National				ML3025 Lansdale (2880)				(Continued)			
DM74S08 National				Quad 2-Input AND/NOR Expander				TTL RG230 Raytheon			
74S08 National				TTL				(Continued)			
54S08 † Signetics				TTL							
74S08 Signetics (3057)											
SN54S08 † TI											
SN74S08 TI											

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◇ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Gates, NAND (Cont'd)				Triple 3-Input NAND/NOR Gate				Quad 2-Input			
Dual 4-Input, Open Collector (Cont'd)				TTL				TTL-LS			
TTL-H	ML3012	Lansdale (2880)		RG190	Raytheon			54LS00	† SGS-Thomson	(Cont'd)	
	ML3112	† Lansdale (2880)		RG320	Raytheon			74LS00	SGS-Thomson		
TTL-LS	HD74LS22	Hitachi		Triple 3-Input, Open Collector				74LS01	† SGS-Thomson		
	SN54LS22	† Motorola (2937)		TTL	SN5412	† TI		74LS26	SGS-Thomson		
	SN74LS22	Motorola (2937)			SN7412	TI		54LS00	† Signetics		
	54LS22	† National		TTL-ALS	DM74ALS12	National	75	74LS00	† Signetics (3057)		
	DN74LS22	◊ Panasonic			SN54ALS12A	† TI		SN54LS00	† TI		
	54LS22	† SGS-Thomson			SN74ALS12A	TI		SN74LS00	TI		
	74LS22	SGS-Thomson		TTL-H	ML3007	Lansdale (2880)		TTL-S	GD74S00	GoldStar (2708)	
	SN54LS22	◊ † TI			ML3107	† Lansdale (2880)		DM54S00	† National		
TTL-S	SN54S22	† TI						DM74S00	National		
	SN74S22	TI						74S00	National		
Triple 3-Input								54S00	† Signetics		
TTL	MC54F10	† Motorola (2937)		TTL-LS	HD74LS12	Hitachi	80	74S00	† Signetics (3057)		
	MC5410	† Motorola			SN54LS12	† Motorola (2937)		SN54S00	† TI		
	DM5410	† National			SN74LS12	Motorola (2937)		SN74S00	TI		
	DM7410	National			DM54LS12	† National		Quad 2-Input Buffer			
	5410	† National			DM74LS12	National		TTL	DM5437	† National	
	7410	National			74LS12	National			DM7437	National	
	5410	† Signetics			DN74LS12	◊ Panasonic			5437	† National	
	7410	Signetics (3057)			SN54LS12	◊ † TI			7437	National	
	SN5410	† TI			SN74LS12	TI			5437	† Signetics	
	SN7410	TI							7437	Signetics (3057)	
TTL-ALS	M74ALS1010A	Mitsubishi		Triple 3-Input					SN5437	† TI	
	DM74ALS10	National		TTL-F	SN54F10	† TI			SN7437	TI	
	DM74ALS1010	National						TTL-ALS	DM74ALS37	National	
	74ALS10A	Signetics							74ALS38A	Signetics	
	SN54ALS10A	† TI							SN54ALS37A	† TI	
	SN54ALS1010A	† TI							SN74ALS37A	TI	
	SN74ALS10A	TI						TTL-F	74F37	National	
	SN74ALS1010A	TI							74F37	Signetics (3077)	
TTL-AS	DM74AS10	National						TTL-LS	HD74LS37	Hitachi	
	SN54AS10	◊ † TI							SN54LS37	† Motorola (2937)	
	SN74AS10	TI							SN74LS37	Motorola (2937)	
TTL-F	M74F10	Mitsubishi							DM54LS37	† National	
	MC74F10	Motorola (2937)							DM74LS37	National	
	54F10	◊ † National							54LS37	† National	
	74F10	◊ National							74LS37	◊ National	
	74F10	Signetics (3077)							DN74LS37	◊ Panasonic	
	SN74F10	TI							54LS37	† SGS-Thomson	
TTL-H	ML3005	Lansdale (2880)							74LS37	† Signetics	
	ML3105	† Lansdale (2880)							74LS37	Signetics	
TTL-LS	GD74LS10	GoldStar (2708)							SN54LS37	◊ † TI	
	HD74LS10	Hitachi							SN74LS37	TI	
	M74LS10	Mitsubishi									
	M74LS12	Mitsubishi									
	SN54LS10	† Motorola (2937)									
	SN74LS10	Motorola (2937)									
	DM54LS10	† National									
	DM74LS10	National									
	54LS10	† National									
	74LS10	◊ National									
	DN74LS10	◊ Panasonic									
	T54LS10	† SGS-Thomson									
	T74LS10	SGS-Thomson									
	T74LS12	SGS-Thomson									
	54LS10	† SGS-Thomson									
	74LS10	SGS-Thomson									
	74LS12	SGS-Thomson									
	54LS10	† Signetics									
	74LS10	Signetics (3057)									
	SN54LS10	◊ † TI									
	SN74LS10	TI									
TTL-S	GD74S10	GoldStar (2708)									
	DM54S10	† National									
	DM74S10	National									
	74S10	National									
	54S10	† Signetics									
	74S10	Signetics (3057)									
	SN54S10	† TI									
	SN74S10	TI									

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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DIGITAL-TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Gates, NAND (Cont'd)				Quad 2-Input, Open Collector TTL-LS (Cont'd)				13-Input TTL-ALS			
Quad 2-Input Buffer, Open Collector TTL-LS				SN74LS01 TI				M74ALS133 Mitsubishi			
54LS38 † Signetics				SN74LS03 TI				DM74ALS133 National			
74LS38 Signetics (3057)				TTL-S DM54S03 † National				SN54ALS133 † TI			
SN54LS38 † TI				DM74S03 National				SN54LS133 † Motorola (2937)			
SN74LS38 TI				74S03 National				SN74LS133 Motorola (2937)			
TTL-S 54S38 † Signetics				54LS38 † SGS-Thomson				54LS133 † National			
74S38 Signetics (3057)				74LS38 SGS-Thomson				74LS133 † National			
SN54S38 † TI				54S03 Signetics				T74LS133 SGS-Thomson			
SN74S38 TI				74S03 Signetics (3057)				74LS133 SGS-Thomson			
Quad 2-Input Buffer, Open Collector, to 15 V TTL-LS				SN54S03 † TI				TTL-S GD74S133 GoldStar (2708)			
HD74LS26 Hitachi				SN74S03 TI				DM54S133 † National			
SN54LS26 † Motorola (2937)				Quad 2-Input TTL-AS				DM74S133 National			
SN74LS26 Motorola (2937)				SN54AS1000A † TI				74S133 National			
DM54LS26 † National				SN54F00 † TI				54S133 † Signetics			
DM74LS26 National				Quad 2-Input Buffer, Open Collector, to 15 V TTL-LS				74S133 Signetics (3057)			
54LS26 † National				GD74LS26 GoldStar (2708)				SN54S133 † TI			
74LS26 † National				Hex 2-Input TTL-AS				SN74S133 TI			
DN74LS26 † Panasonic				DM74AS1804 National				Gates, AND-OR			
T74LS26 SGS-Thomson				2-Input NAND/NOR Gate TTL				Expandable 4-Wide 2-2-2-3 Input TTL-H			
54LS26 † Signetics				RG220 Raytheon				ML3031 Lansdale (2880)			
74LS26 Signetics (3057)				8-Input TTL				ML3131 † Lansdale (2880)			
SN54LS26 † TI				DM5430 † National				Triple 3-Input AND/Or TTL-LS			
SN74LS26 TI				5430 † National				T54LS15 † SGS-Thomson			
Quad 2-Input NAND/NOR Driver TTL				7430 National				Gates, AND-OR-Invert			
RG7510 Raytheon				5430 † Signetics				Expandable 4-Wide 2-2-2-3 Input TTL-H			
Quad 2-Input NAND/NOR Gate TTL				7430 Signetics (3057)				ML3032 Lansdale (2880)			
RG140 Raytheon				SN5430 † TI				ML3132 † Lansdale (2880)			
Quad 2-Input, Open Collector TTL				SN7430 TI				Dual 2-Wide 2-Input TTL			
DM5401 † National				TTL-ALS DM74ALS30 National				7451 National			
DM5403 † National				74ALS30A Signetics				5451 † Signetics			
DM7401 National				SN54ALS30A † TI				7451 Signetics (3057)			
DM7403 National				SN74ALS30A TI				SN5451 † TI			
7401 National				TTL-AS DM74AS30 National				SN7451 TI			
7403 National				SN54AS30 † TI				TTL-F 74F51 Signetics			
N8881 Signetics (3076)				SN74AS30 TI				ML3020 Lansdale (2880)			
5403 † Signetics				TTL-F 74F30 Signetics (3077)				ML3023 Lansdale (2880)			
7403 Signetics (3057)				SN54F30 † TI				ML3120 † Lansdale (2880)			
SN5401 † TI				SN74F30 TI				ML3123 † Lansdale (2880)			
SN5403 † TI				TTL-H ML3015 Lansdale (2880)				TTL-LS GD74LS51 GoldStar (2708)			
SN7401 TI				ML3016 Lansdale (2880)				HD74LS51 Hitachi			
SN7403 TI				ML3115 † Lansdale (2880)				M74LS51 Mitsubishi			
TTL-ALS M74ALS1003A Mitsubishi				ML3116 † Lansdale (2880)				SN54LS51 † Motorola (2938)			
DM74ALS01 National				TTL-LS GD74LS30 GoldStar (2708)				SN74LS51 Motorola (2938)			
DM74ALS03 National				HD74LS30 Hitachi				DM74LS51 National			
DM74ALS1003 National				M74LS30 Mitsubishi				54LS51 † National			
SN54ALS01 † TI				SN54LS30 † Motorola (2937)				74LS51 † National			
SN54ALS03B † TI				SN74LS30 Motorola (2937)				DN74LS51 † Panasonic			
SN74ALS01 TI				DM54LS30 † National				LS5451 † SGS-Thomson			
SN74ALS03B TI				DM74LS30 National				LS7451 SGS-Thomson			
SN74ALS1003A TI				54LS30 † National				T74LS51 SGS-Thomson			
TTL-H ML3004 Lansdale (2880)				74LS30 † National				54LS51 † Signetics			
ML3104 † Lansdale (2880)				DN74LS30 † Panasonic				74LS51 Signetics (3057)			
TTL-LS HD74LS01 Hitachi				T54LS30 † SGS-Thomson				SN54LS51 † TI			
HD74LS03 Hitachi				T74LS30 † SGS-Thomson				SN74LS51 TI			
SN54LS01 † Motorola				54LS30 † SGS-Thomson				Dual 2-Wide 2-Input (one gate is expandable) TTL			
SN54LS03 † Motorola (2937)				74LS30 † SGS-Thomson				7450 National			
SN74LS01 Motorola				54LS30 † SGS-Thomson				5450 † Signetics			
SN74LS03 Motorola (2937)				54LS30 † SGS-Thomson				7450 Signetics (3057)			
DM54LS03 † National				54LS30 † Signetics				SN5450 † TI			
DM74LS01 National				74LS30 Signetics (3057)				SN7450 TI			
DM74LS03 National				SN54LS30 † TI				Dual 2-Wide, 2-Input/3-Input TTL-LS			
54LS03 † National				SN74LS30 TI				74LS51 SGS-Thomson			
74LS03 † National				12-Input, Three-State TTL-S							
DN74LS01 † Panasonic				54S134 † Signetics							
DN74LS03 † Panasonic				74S134 Signetics (3057)							
54LS03 † SGS-Thomson				SN54S134 † TI							
74LS03 † SGS-Thomson				SN74S134 TI							
54LS01 † Signetics											
54LS03 † Signetics											
74LS01 Signetics (3057)											
SN54LS01 † TI											
SN54LS03 † TI											
(Continued)											

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Gates, AND-OR-Invert (Cont'd)				Dual 4-Input OR Expander				Gates, NOR			
2-Wide 2-Input, 2-Wide 3-Input, Dual TTL-F	MC54F51 MC74F51	† Motorola (2938) Motorola (2938)		TTL	RG170	Raytheon		Expandable Dual Output, Dual 2-Input TTL	RG70	Raytheon	
2-Wide, 4-Input TTL-LS	HD74LS55 SN54LS55 SN74LS55 54LS55 74LS55 DN74LS55 T54LS55 T74LS55 54LS55 74LS55 SN74LS55	Hitachi † Motorola (2938) Motorola (2938) † National ◊ National ◊ Panasonic † SGS-Thomson SGS-Thomson † SGS-Thomson SGS-Thomson TI	5	Quad 2-Input TTL	DM5432 DM7432 5432 7432 5432 7432 SN5432 SN7432	† National National † National National † Signetics † Signetics (3057) † TI TI	55	Expandable Dual Output, Dual 2-Input AND/NOR Gate TTL	RG310	Raytheon	
2-3-3-2 Input TTL-LS	T54LS54	† SGS-Thomson		TTL-ALS	M74ALS1032A DM74ALS1032 DM74ALS32 74ALS32 SN54ALS32 SN74ALS1032A SN74ALS32	Mitsubishi National National Signetics † TI TI TI	60	Dual 4-Input, with Strobe TTL	5425 7425 5425 7425 SN5425 SN7425	† National National † Signetics † Signetics (3057) † TI TI	120
3-2-2-3 Input TTL-LS	T74LS54	SGS-Thomson	10	TTL-AS	DM74AS1032 DM74AS32 SN54AS1032A SN54AS32 SN74AS1032A SN74AS32	National National ◊† TI † TI TI TI	65	Dual 4-Input, with Strobe, Expandable (see 54/7460 expander) TTL	SN5423 SN7423	† TI TI	125
4-Wide 2-Input TTL	SN5454 SN7454	† TI TI	15	TTL-F	M74F32 MC54F32 MC74F32 54F32 74F32 74F32 SN54F32 SN74F32	Mitsubishi † Motorola (2937) Motorola (2937) ◊† National ◊ National † Signetics (3077) † TI TI	70	Dual 5-Input TTL-F TTL-LS	74F260 SN54LS260 SN74LS260 54LS260 74LS260 DN74LS260 T54LS260 T74LS260 74LS260 54LS260A 74LS260	† Signetics (3077) † Motorola (2938) Motorola (2938) † National ◊ National ◊ Panasonic † SGS-Thomson SGS-Thomson SGS-Thomson † Signetics † Signetics (3057)	130
4-Wide 2-Input, Expandable TTL	SN5453	† TI	20	TTL-H	ML3003 ML3103 MC3003	† Lansdale (2880) † Lansdale (2880) Motorola	75	TTL-S	54S260 74S260 SN54S260 SN74S260	† Signetics † Signetics (3057) † TI TI	135
4-Wide 2-2-3-3-Input TTL-LS	HD74LS54 SN54LS54 SN74LS54 54LS54 74LS54 DN74LS54 54LS54 74LS54 54LS54 74LS54 SN54LS54 SN74LS54	Hitachi † Motorola (2938) Motorola (2938) † National ◊ National ◊ Panasonic † SGS-Thomson SGS-Thomson † Signetics † Signetics (3057) ◊† TI TI	25	TTL-LS	GD74LS32 HD74LS32 M74ALS32 M74LS32 SN54LS32 SN74LS32 DM54LS32 DM74LS32 54LS32 74LS32 DN74LS32 T54LS32 T74LS32 54LS32 74LS32 54LS32 74LS32 SN54LS32 SN74LS32	Hitachi Mitsubishi Mitsubishi † Motorola (2937) Motorola (2937) † National National † National ◊ National ◊ Panasonic † SGS-Thomson SGS-Thomson † SGS-Thomson SGS-Thomson † Signetics † Signetics (3057) ◊† TI TI	30	Triple 3-Input TTL	DM7427 7427 5427 7427 SN5427 SN7427	National National † Signetics † Signetics (3057) † TI TI	140
4-2-3-2 Input TTL-F	MC54F64	Motorola (2938)	30				85	TTL-ALS	DM74ALS27 74ALS27 SN54ALS27 SN74ALS27	National National † Signetics TI	145
4-2-3-2-Input TTL-F	MC74F64 54F64 74F64 54F64 74F64	Motorola (2938) ◊† National ◊ National † Signetics † Signetics (3078)	35				90	TTL-AS	DM74AS27 SN54AS27 SN74AS27	National † TI TI	150
	GD74S64 DM54S64 DM74S64 74S64 54S64 74S64 SN54S64 SN74S64	GoldStar (2708) † National National National † Signetics † Signetics (3057) TI TI	40				95	TTL-F	SN54F27 SN74F27	† TI TI	155
4-2-3-2-Input, Open Collector TTL-S	54S65 SN54S65 SN74S65	† Signetics † TI TI	45				100	TTL-LS	GD74LS27 HD74LS27 M74LS27 SN54LS27 SN74LS27 DM54LS27 DM74LS27 54LS27 74LS27 DN74LS27 T54LS27 T74LS27 54LS27 74LS27 54LS27 74LS27 SN54LS27 SN74LS27	GoldStar (2708) Hitachi Mitsubishi † Motorola (2938) Motorola (2938) † National National † National ◊ National ◊ Panasonic † SGS-Thomson SGS-Thomson † SGS-Thomson SGS-Thomson † Signetics † Signetics (3057) ◊† TI TI	160
2-Wide, 4-Input TTL-LS	GD74LS55	GoldStar (2708)		TTL-S	GD74S32 DM54S32 DM74S32 74S32 54S32 74S32 SN54S32 SN74S32	GoldStar (2708) † National National National † Signetics † Signetics (3057) † TI TI	105				165
Gates, OR							110				170
Expandable Dual 4-Input TTL	RG110	Raytheon		Quad 2-Input OR Expander TTL	RG150	Raytheon					175
Expandable Triple 3-Input TTL	RG100	Raytheon	50	Hex 2-Input TTL-AS	DM74AS1832	National		Quad 2-Input TTL-ALS	M74ALS02 74ALS02	Mitsubishi Signetics	
Expandable Triple 3-Input OR Gate TTL	RG300	Raytheon		Hex 2-Input Line Driver/Buffer TTL-ALS	DM74ALS832 SN54ALS832	National † TI	115	TTL-AS	SN54AS02	◊† TI	
Expandable Quad 2-Input TTL	RG50	Raytheon		Hex 2-Input OR Driver TTL-ALS	SN74ALS832A	TI		TTL-F	M74F02 SN54F36 SN74F36	Mitsubishi † TI TI	180

(Continued)

† Military Temperature Range (-55° to 125°C) ‡ High Radiation Resistance *Typical Value °Macrocell ◊ Available in Surface Mount Package
Bold face indicates additional data is provided on the page noted.

DIGITAL-TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Gates, NOR (Cont'd)				Quad 2-Input (54/7428 devices are also buffers)				Quad 2-Input, Totem Pole Outputs			
Quad 2-Input				TTL-LS				TTL			
TTL-H	ML3002	Lansdale (2880)		74LS02	◊ National		70	DM5486	National		130
	ML3102	† Lansdale (2880)		74LS28	◊ National			DM7486	National		
	MC3002	Motorola		DN74LS02	◊ Panasonic			5486	† National		
	MC3102	† Motorola		DN74LS28	◊ Panasonic			7486	National		
TTL-LS	M74AS02	Mitsubishi	5	T54LS28	† SGS-Thomson		75	RM8241	† Raytheon		
	M74LS02	Mitsubishi		T74LS28	SGS-Thomson			5486	† Signetics		
	M74LS266	Mitsubishi		54LS02	† SGS-Thomson			7486	Signetics (3057)		135
	T54LS02	† SGS-Thomson		74LS02	SGS-Thomson			SN5486	† TI		
	T74LS02	SGS-Thomson		54LS02	† Signetics			SN7486	TI		
Quad 2-Input Buffer, Open Collector				74LS02	Signetics (3057)		80	TTL-ALS	DM74ALS86	National	
TTL	5433	† Signetics	10	SN54LS02	† TI			SN54ALS86	† TI		
	7433	Signetics (3057)		SN54LS28	◊† TI			SN74ALS86	TI		
	SN5433	† TI		SN74LS02	TI			TTL-AS	DM74AS86	National	140
	SN7433	TI		SN74LS28	TI			SN54AS86A	† TI		
TTL-ALS	DM74ALS33	National	15	TTL-S	GD74S02	GoldStar (2708)	85	TTL-F	MC54F86	Motorola (2938)	
	SN54ALS33A	† TI		DM54S02	† National			MC74F86	Motorola (2938)		
	SN74ALS33A	TI		DM74S02	National			54F86	◊† National		145
TTL-LS	SN54LS33	† Motorola (2938)	20	74S02	National			74F86	◊ National		
	SN74LS33	Motorola (2938)		54S02	† Signetics			54F86	† Signetics		
	54LS33	† National		74S02	Signetics (3057)		90	74F86	Signetics		
	74LS33	◊ National		SN54S02	† TI			TTL-LS	GD74LS86	GoldStar (2708)	
	DN74LS33	◊ Panasonic		SN74S02	TI			HD74LS386	Hitachi		150
	T54LS33	† SGS-Thomson						HD74LS86	Hitachi		
	T74LS33	SGS-Thomson		Quad 2-Input (547/428 devices are also buffers)				SN54LS386	† Motorola (2938)		
	54LS33	† Signetics	25	TTL-F	SN54F02	† TI		SN54LS86	† Motorola (2938)		
	74LS33	Signetics (3057)		Hex 2-Input				SN74LS386	Motorola (2938)		
	SN54LS33	◊† TI		TTL-AS	DM74AS1805	National		DM54LS86	† National		155
	SN74LS33	TI		Hex 2-Input NOR Driver				DM74LS86	National		
Quad 2-Input, Open Collector				TTL-ALS	SN74ALS805A	TI	95	74LS386	◊ National		
TTL-LS	74LS266	Signetics (3057)		8-Input NAND/NOR Gate				74LS86	◊ National		
Quad 2-Input (54/7428 devices are also buffers)				TTL	RG60	Raytheon		DN74LS386	◊ Panasonic		160
M74ALS1002A	Mitsubishi							74LS86	◊ Panasonic		
TTL	DM5402	† National	30	Gates, OR/NOR				74LS86	◊ SGS-Thomson		
	DM7402	National		Quad 2-Input Exclusive OR/NOR				54LS86	† Signetics		
	5402	† National		TTL-S	54S135	† Signetics		74LS86	Signetics (3057)		
	7402	National		74S135	Signetics (3057)			SN54LS386A	◊† TI		165
	5402	† Signetics		SN54S135	† TI			SN54LS86A	◊† TI		
	5428	† Signetics	35	SN74S135	TI		100	SN74LS86A	TI		
	7402	Signetics (3057)						TTL-S	GD74S86	GoldStar (2708)	
	7428	Signetics (3057)						DM74S86	National		
	SN5402	† TI		Gates, Exclusive OR				74S86	National		
	SN5428	† TI		Exclusive-OR with Complement				54S86	† Signetics		170
	SN7402	TI	40	TTL	RG90	Raytheon		74S86	Signetics (3057)		
	SN7428	TI						SN54S86	† TI		
TTL-ALS	DM74ALS02	National		Quad 2-Input				SN74S86	TI		
	DM74ALS1002	National		TTL-ALS	74ALS86	Signetics		Gates, Exclusive NOR			
	DM74ALS28	National		TTL-H	ML3021	Lansdale (2880)		Quad			
	SN54ALS02	† TI	45		ML3121	† Lansdale (2880)		TTL-LS	T54LS266	† SGS-Thomson	
	SN54ALS28A	† TI			MC3021	Motorola		Quad 2-Input			
	SN74ALS02	TI			MC3121	† Motorola		TTL-ALS	DM74ALS810	National	175
	SN74ALS1002A	TI		TTL-LS	T54LS136	† SGS-Thomson			DM74AS810	National	
	SN74ALS28A	TI			T74LS136	SGS-Thomson			SN74ALS810	TI	
TTL-AS	DM74AS02	National	50		T74LS86	SGS-Thomson		TTL-H	ML3022	Lansdale (2880)	
	DM74AS1036	National		Quad 2-Input, Open Collector					ML3122	† Lansdale (2880)	
	SN74AS02	TI		TTL	SN54136	† TI	110		MC3022	Motorola	180
	SN74AS1036A	TI			SN74136	TI			MC3122	† Motorola	
TTL-F	MC54F02	† Motorola (2938)	55	TTL-ALS	DM74ALS136	National		TTL-LS	T74LS266	SGS-Thomson	
	MC74F02	Motorola (2938)			SN74ALS136	TI		Quad 2-Input, Open Collector			
	54F02	◊† National		TTL-LS	HD74LS136	Hitachi	115	TTL	9386C	National	
	74F02	◊ National			SN54LS136	† Motorola (2938)			9386M	† National	
	74F02	Signetics (3077)			SN74LS136	Motorola (2938)			RM8242	† Raytheon	185
	SN74F02	TI			DM54LS136	† National			N8242	Signetics (3076)	
TTL-LS	GD74LS02	GoldStar (2708)	60		54LS136	National			N9386	Signetics (3076)	
	HD74LS02	Hitachi			74LS136	◊ National			S9386	† Signetics	
	SN54LS02	† Motorola (2938)			DN74LS136	◊ Panasonic	120	TTL-ALS	DM74ALS811	National	
	SN54LS28	† Motorola (2938)			54LS136	† SGS-Thomson			DM74AS811	National	190
	SN74LS02	Motorola (2938)			74LS136	SGS-Thomson			SN74ALS811	TI	
	SN74LS28	Motorola (2938)	65		54LS136	† Signetics		TTL-LS	HD74LS266	Hitachi	
	DM54LS02	† National			74LS136	Signetics (3057)			SN54LS266	† Motorola (2938)	
	DM74LS02	National			SN54LS136	◊† TI	125		SN74LS266	Motorola (2938)	
	54LS02	† National			SN74LS136	TI			54LS266	† National	195
	54LS28	† National		TTL-S	N82S41	Signetics (3076)					

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Gates, Exclusive NOR (Cont'd)								Octal 2-Input Multiplexed, Three-State Outputs (Cont'd)			
Quad 2-Input, Open Collector TTL-LS				Quad Bistable, Single Output TTL-LS				TTL-F			
				HD74LS77				Hitachi			
				SN54LS77				† Motorola (2941)			
				SN74LS77				Motorola (2941)			
				Quad Multifunction TTL				9314C			
				9314M				National			
				S9314				† National			
				Quad R-S Type TTL-LS				M74LS279			
				T74LS279				Mitsubishi			
				Quad Set-Reset TTL				54279			
				74279				† National			
				54279				National			
				74279				† Signetics			
				SN54279				† TI			
				SN74279				TI			
				TTL-LS				HD74LS279			
				SN54LS279				† Motorola (2941)			
				SN74LS279				Motorola (2941)			
				DM54LS279				† National			
				DM74LS279				National			
				54LS279				† National			
				74LS279				◊ National			
				DN74LS279				◊ Panasonic			
				54LS279				† SGS-Thomson			
				74LS279				SGS-Thomson			
				54LS279				Signetics			
				SN54LS279A				◊† TI			
				SN74LS279A				TI			
				Octal D-Type TTL-AS				M74AS373			
				TTL-F				M74F373			
				TTL-LS				M74LS373			
				Octal D-Type, Inverting TTL-AS				M74AS533			
				Octal D-Type Transparent Latch, Three-State TTL-ALS				74ALS573B			
				Octal D-Type with Readback, Inverting TTL-ALS				SN74ALS867A			
				Octal D-Type, Three-State TTL-F				74F11373			
				Octal, Transparent TTL-LS				74LS373			
				Octal Transparent Bidirectional Latch, Inverting, Three-State TTL-ALS				74ALS543			
				74ALS543-1				Signetics			
				TTL-F				74F11544			
				Octal Transparent Bidirectional Latch, Non-Inverting, Three-State TTL-ALS				74ALS544			
				74ALS544-1				Signetics			
				TTL-F				74F11543			
				Octal Transparent, Inverting TTL-ALS				DM74ALS880			
				SN74ALS880A				National			
				TTL-AS				DM74AS880			
				SN74AS880				National			
				Octal Transparent Latch TTL-LS				54LS373			
				Octal Transparent Latch, Three-State TTL-ALS				74ALS563A			
				Octal Transparent, Non-Inverting, Three-State TTL-S				AM2956C			
				AM2956M				† AMD			
				Octal Transparent, Three-State TTL-ALS				74ALS373			
				Octal 2-Input Multiplexed, Three-State Outputs TTL-F				54F604			
				54F605				† Signetics			
								† Signetics			
								(Continued)			

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Latches (Cont'd)								Memories			
8-Bit, Transparent, D Type, Three-State TTL-F				8-Bit, Transparent, D-Type, Three State TTL-ALS SN74ALS573B TI				Asynchronous First-In, First-Out Memory (16x5) TTL-ALS SN74ALS229A TI (3300)			
74F573 ◊ National 54F373 † Signetics 74F373 Signetics (3077) 74F412 Signetics (3078) 74F432 Signetics (3078) 74F573 Signetics (3078) SN54F373 † TI SN54F573 † TI SN74F373 TI SN74F573 TI				8-Bit, Transparent D-Type, Three-State (bus interface) TTL AM29845 AMD AM29846 AMD AM29846A AMD TTL-ALS SN74ALS845 TI SN74ALS845-1 TI SN74ALS846 TI SN74ALS846-1 TI				Cache Address Comparator, with 512x9 RAM TTL(N) TMS2150-35 ◊ TI (3298)			
TTL-LS GD74LS373 GoldStar (2708) HD74LS373 Hitachi SN54LS373 † Motorola (2941) SN74LS373 Motorola (2941) DM54LS373 † National DM74LS373 National 74LS373 ◊ National 74LS573 ◊ National DN74LS373 ◊ Panasonic T74LS373 SGS-Thomson S8TS805 † Signetics S8TS806 † Signetics 54LS363 † Signetics 54LS373 † Signetics 74LS363 Signetics (3057) 74LS373 Signetics (3057) SN54LS373 ◊† TI SN74LS373 TI				9-Bit, Inverting TTL-ALS M74ALS844 Mitsubishi 9-Bit, Inverting, Three-State TTL-ALS SN74ALS29844 TI (3301) 9-Bit, Non-Inverting TTL-ALS M74ALS843 Mitsubishi 9-Bit, Non-Inverting, Three-State TTL-ALS SN74ALS29843 TI (3301) 9-Bit to 8-Bit with Ready TTL-F 74F755 Signetics 9-Bit, Transparent, D-Type, Inverting TTL-AS SN74AS844 TI TTL-F 74F844 Signetics (3079) 9-Bit, Transparent, D-Type, Inverting (bus interface) TTL-ALS SN74ALS844 TI SN74ALS844-1 TI				Cache Tag RAM (2048x9) SSL2152 Saratoga SSL2154 Saratoga Cache Tag RAM (4096x4) SSL4180 Saratoga SSL4181 Saratoga Data Access Register TTL-F 74F407 ◊ National FIFO, 64x4 TTL-ALS SN74ALS236 TI (3300) FIFO (64x4 BiCMOS) SSL7401 Saratoga FIFO (64x4 BiCMOS with output enable) SSL7403 Saratoga FIFO (64x5 BiCMOS) SSL7402 Saratoga FIFO (64x5 BiCMOS with output enable) SSL7404 Saratoga FIFO (64x5 with flags) SSL7413 Saratoga FIFO, 64x8 Asynchronous TTL-ALS SN74ALS2232 TI (3300) FIFO, 64x9 Asynchronous TTL-ALS SN74ALS2233 TI (3300) FIFO (64x9 BiCMOS) SSL7409 Saratoga FIFO (512x9 BiCMOS) SSL7201 Saratoga FIFO (1024x9 BiCMOS) SSL7202 Saratoga FIFO (2048x9 BiCMOS) SSL7203 Saratoga			
TTL-S DM54S373 † National DM74S373 National 54S373 Signetics 74S373 Signetics (3057) SN54S373 † TI SN74S373 TI				9-Bit, Transparent D-Type Read-Back, Inverting TTL-ALS SN74ALS991 TI 9-Bit, Transparent D-Type Read-Back, Non-Inverting TTL-ALS SN74ALS990 TI 9-Bit, Transparent D-Type Read-Back, Three-State, Non-Inverting TTL-ALS SN74ALS992 TI (3301) SN74ALS993 TI (3301) 9-Bit, Transparent D-Type, Three-State (bus interface) TTL AM29843 AMD AM29844 AMD 10-Bit, Inverting TTL-ALS M74ALS842 Mitsubishi 10-Bit, Inverting, Three-State TTL-ALS SN74ALS29842 TI (3301) 10-Bit, Non-Inverting TTL-ALS M74ALS841 Mitsubishi SN74ALS29841 TI (3301) 10-Bit Readback Latch, Inverting TTL-ALS SN74ALS995 TI (3301) 10-Bit Readback Latch, Non-Inverting TTL-ALS SN74ALS994 TI (3301) 10-Bit, Transparent, D-Type, Inverting TTL-ALS SN74ALS842 TI TTL-AS SN74AS842 TI TTL-F 74F842 Signetics (3079) 10-Bit, Transparent, D-Type, Non-inverting TTL-AS SN74AS841 TI TTL-F 74F841 Signetics (3079) 10-Bit, Transparent, D-Type, Non-Inverting (bus interface) TTL-ALS SN74ALS841 TI 10-Bit, Transparent D-Type, Three-State (bus interface) TTL AM29841 AMD AM29841A AMD AM29842 AMD				Memory Address Multiplexer TTL-F 74F1762 Signetics Memory Mapper (expands 4 address lines to 12) UM74HCT612 UMC Memory Mappers TTL-LS SN74LS610 TI (3299) SN74LS611 TI (3299) SN74LS612 TI (3299) SN74LS613 TI (3299) RAM, 64-Bit Inverting Output TTL-S AM27S02 AMD AM27S03 AMD RAM, 64-Bit Inverting Output (low power) TTL-LS AM27LS02 AMD RAM, 64-Bit Inverting Output, Three-State (low power) TTL-LS AM27LS03 AMD RAM, 64-Bit Non-Inverting Output TTL-LS AM27LS07 AMD TTL-S AM27S07 AMD RAM, 1024x4 (three-state) TTL AM93425 AMD Register File, Dual 16x4 TTL-ALS SN74ALS870 TI SN74ALS871 TI Register File, 10-Bit, Non-Inverting, Three-State TTL-ALS SN74ALS29821 TI (3301) SIPO Shift Register TTL-LS T74LS164 SGS-Thomson Static-Column and Page-Mode Detector TTL-ALS SN74ALS6310 TI (3298) SN74ALS6311 TI (3298)			
8-Bit, Transparent, D-Type, Inverting Three State TTL-ALS SN74ALS563A TI SN74ALS580A TI				35				90			
8-Bit, Transparent, D-Type, Inverting Three-State TTL-ALS M74ALS533 Mitsubishi DM74ALS533 National DM74ALS563 National DM74ALS580 National SN54ALS563A † TI SN54ALS580A † TI SN74ALS533 TI S74ALS580A TI				40				95			
TTL-AS DM74AS533 National DM74AS580 National SN74AS533 TI SN74AS580 TI				45				100			
TTL-F MC54F533 † Motorola (2941) MC74F533 Motorola (2941) 54F533 ◊† National 54F563 † National 74F533 ◊ National 74F563 National 54F533 † Signetics 74F533 Signetics (3078) 74F563 Signetics (3078) SN54F533 † TI SN74F533 TI SN74F563 TI				50				105			
TTL-LS 74LS533 ◊ National 74LS563 ◊ National 74LS564 ◊ National				55				110			
8-Bit, Transparent, D-Type, Non-inverting TTL-AS SN74AS845 TI TTL-F 74F845 Signetics (3079)				60				115			

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Memories (Cont'd)								(Cont'd)			
Dual Rank 8-Bit Shift Register (8-Bit I/O buffer, "D" register, and serial "B" register)				64-Bit (16x4) RAM, Open Collector			55	Dual 4-Input			105
TTL-LS DM86LS52 National				TTL DM7489B National				TTL-F	74F153	Signetics (3077)	
DM86LS62 National				DM7589 National					SN54F153	TI	
				DM8589 National					SN74F153	TI	
Dual 16-Word x 4-Bit Register File				TTL-S DM74S289 National			60	TTL-LS	GD74LS153	GoldStar (2708)	110
TTL-ALS SN54ALS870 TI (3297)				64-Bit (16x4) RAM, Two Port, Three-State					HD74LS153	Hitachi	
TTL-AS SN74AS870 TI (3297)				TTL AM29705C AMD					M74LS253	Mitsubishi	
SN74AS871 TI (3297)				TTL-S IDM29705M AMD					M74LS352	Mitsubishi	
				IDM29705C National					M74LS353	Mitsubishi	
Octal Storage Register (two stage, 4-Bit wide shift register)				IDM29705M National					SN54LS153	Motorola	
TTL-LS SN54LS396 TI				64-Bit (16x4) RAM, Three-State			65		SN74LS153	Motorola (2944)	115
4x4 Register File				TTL-F MC54F189 Motorola					DM54LS153	National	
TTL-LS T74LS170 SGS-Thomson				54F189 TI National					DM74LS153	National	
T74LS670 SGS-Thomson				54F219 TI National					54LS153	National	
8-Bit Feedback Register, Inverting				74F189 TI National					74LS153	National	
TTL-ALS SN74ALS667 TI (3301)				74F219 TI National					DN74LS153	Panasonic	
8-Bit Feedback Register, Non-Inverting				TTL-S DM74S189 National			70		T74LS253	SGS-Thomson	120
TTL-ALS SN74ALS666 TI (3301)				64-Bit (16x4) Register File with Latch, Three-State					74LS153	SGS-Thomson	
8-Bit Multiport Register (RAM with simultaneous read/write)				TTL-S DM85S68 National					74LS352	SGS-Thomson	
TTL 9338C National				64-Bit (16x4) Simultaneous Read/Write RAM with Output Register					74LS353	SGS-Thomson	
9338M TI National				TTL 74F410 TI National					54LS153	Signetics	
16-Bit Active Element Memory				80-Bit (16x5) First-In/First-Out Memory					74LS153	Signetics (3057)	125
TTL MC4004 Motorola				TTL-ALS SN74ALS233A TI (3300)				TTL-S	SN54LS153	TI	
MC4005 Motorola				80-Bit (16x5) First-In/First-Out Memory, Asynchronous, Three-State					SN74LS153	TI	
MC4304 TI Motorola				TTL-S 74S225 Signetics (3057)					DM54S153	TI	
MC4305 TI Motorola				SN74S225 TI					DM74S153	National	
16-Bit Scratch Pad Memory				256-Bit (64x5) First-In/First-Out Memory					74S153	National	
TTL RL80 Raytheon				TTL-ALS SN74ALS234 TI (3300)					54S153	Signetics	
16-Bit (4x4) Register File, Simultaneous Read/Write, Open Collector				320-Bit (64x5) First-In/First-Out Memory					74S153	Signetics (3057)	
TTL 54170 TI National				TTL-ALS SN74ALS235 TI (3300)					SN54S153	TI	
74170 National									SN74S153	TI	
54170 TI Signetics				Multiplexers (Digital)							
74170 Signetics (3057)				Quint 2-Input				Dual 4-Input, Complementary Output			
SN54170 TI				TTL-F 74F711 Signetics (3078)				TTL 9309C National			
SN74170 TI				Quint 2-Input (with 30 ohm term.)				9309M TI National			
TTL-LS GD74LS670 GoldStar (2708)				TTL-F 74F711-1 Signetics (3078)				N9309 Signetics (3076)			
HD74LS170 Hitachi				Quint 3-Input				S9309 TI Signetics			
M74LS170 Mitsubishi				TTL-F 74F712 Signetics (3078)							
SN54LS170 TI Motorola (2943)				Quint 3-Input (with 30 ohm term.)				Dual 4-Input, Inverting			
SN54LS670 TI Motorola (2943)				TTL-F 74F712-1 Signetics (3078)				TTL-ALS M74ALS352 Mitsubishi			
SN74LS170 Motorola (2943)				Synchronous Address				DM74ALS352 National			
SN74LS670 Motorola (2943)				TTL-LS SN74ALS783 Motorola (2944)				SN54ALS352 TI			
DM54LS670 TI National				Dual 1-of-4 Data Selector/Multiplexer				SN74ALS352 TI			
DM74LS670 National				TTL-ALS 74ALS153 Signetics				TTL-AS SN74AS352 TI			
54LS170 TI National				Dual 2-Line							

♦ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Multiplexers (Digital) (Cont'd)				Quad 2-Input TTL-LS (Cont'd)				Quad 2-Input, Inverting Three-State TTL-LS (Cont'd)			
Dual 4-Input, Inverting, Three-State TTL-LS				T74LS158	SGS-Thomson	60		M74LS258A	Mitsubishi	125	
	74LS353	◊ National		T74LS257	SGS-Thomson			SN54LS258A	† Motorola (2944)		
	T54LS353	† SGS-Thomson		T74LS258	SGS-Thomson			SN74LS258A	† Motorola (2944)		
	T74LS353	SGS-Thomson						DM54LS258B	† National		
	54LS353	† Signetics		Quad 2-Input Data Selector/Multiplexer, Inverting TTL-ALS	74ALS158	Signetics		DM74LS258B	National		130
	74LS353	Signetics (3057)	5	Quad 2-Input Data Selector/Multiplexer, Non-Inverting TTL-ALS	74ALS157	Signetics		54LS258A	† National		
	SN54LS353	◊ TI		Quad 2-Input Digital (suitable for driving adders, registers)				74LS258	National		
	SN74LS353	TI		TTL	RM8266	† Raytheon	65	DN74LS258A	◊ Panasonic		
Dual 4-Input (three-state 54/75153) TTL	DM8214	National			N8266	Signetics (3076)		54LS258	† SGS-Thomson		135
Dual 4-Input, Three-State TTL-ALS	M74ALS253	Mitsubishi			S8266	† Signetics		74LS258	SGS-Thomson		
	DM74ALS253	National		Quad 2-Input, Inverting TTL	54158	† Signetics		54LS256	† Signetics		
	74ALS253	Signetics			74158	Signetics (3057)		54LS258A	† Signetics		
	SN54ALS253	† TI		TTL-ALS	M74ALS158	Mitsubishi	70	74LS258A	Signetics (3057)		
	SN74ALS253	TI			SN54ALS158	† TI		SN54LS258B	◊ TI		140
TTL-F	MC54F253	† Motorola (2944)	15		SN74ALS158	TI		TTL-S	DM54S258	† National	145
	MC74F253	† Motorola (2944)							DM74S258	National	
	54F253	◊ National							74S258	National	
	74F253	◊ National							54S258	† Signetics	
	74F253	Signetics (3077)	20						74S258	Signetics (3057)	
	SN54F253	† TI							SN54S258	† TI	
	SN74F253	TI							SN74S258	TI	
TTL-LS	HD74LS253	Hitachi		TTL-F	MC54F158	† Motorola (2944)	75	Quad 2-Input Multiplexer TTL-LS	GD74LS298	GoldStar	
	SN54LS253	† Motorola (2944)			MC74F158	† Motorola (2944)		Quad 2-Input, Non-Inverting TTL			
	SN74LS253	† Motorola (2944)			54F158	◊ National			DM54157	† National	
	DM54LS253	† National			74F158	◊ National			DM74157	National	
	DM74LS253	National			54F158	† Signetics			DM8322	National	150
	54LS253	† National			74F158	Signetics (3077)			DM9322	† National	
	74LS253	◊ National			SN54F158A	† TI			54157	◊ National	
	DN74LS253	◊ Panasonic			SN74F158A	TI			74157	National	
	74LS253	SGS-Thomson							9322C	National	
	54LS253	† Signetics							9322M	† National	155
	74LS253	Signetics (3057)	30						RM8233	† Raytheon	
	SN54LS253	◊ TI							N9322	Signetics (3076)	
	SN74LS253	TI							S8233	† Signetics	
TTL-S	DM54S253	† National	35						54157	† Signetics	160
	DM74S253	National							74157	Signetics (3057)	
	74S253	National							SN54157	† TI	
	54S253	† Signetics							SN74157	TI	
	74S253	Signetics (3057)									
	SN74S253	TI									
Dual 4-to-1 Multiplexer TTL-S	GD74LS153	GoldStar (2708)	40								
Dual 8-Input (two 8-to-1 sections) TTL	DM74LS451	National									
Dual 4-Input TTL-AS	SN54AS153	† TI									
Quad Data Multiplexer, Non-Inverting TTL-F	74F732	Signetics (3078)									
	74F733	Signetics (3078)									
Quad 1-of-2 Data Selector/Multiplexer, Inverting, Three-State TTL-ALS	74ALS258	Signetics	45								
Quad 1-of-2 Data Selector/Multiplexer, Non-Inverting, Three-State TTL-ALS	74ALS257	Signetics									
Quad 2-Input TTL-AS	M74AS257	Mitsubishi									
	M74AS258	Mitsubishi									
TTL-F	M74F157	Mitsubishi									
	M74F158	Mitsubishi									
	M74F257	Mitsubishi									
	M74F258	Mitsubishi									
	MC74F157A	† Motorola (2944)									
	MC74F158A	† Motorola (2944)									
	74F723	Signetics (3078)	55								
TTL-LS	T54LS157	† SGS-Thomson									
	T54LS158	† SGS-Thomson									
	T54LS258A	† SGS-Thomson									
	T74LS157	SGS-Thomson									
(Continued)				(Continued)				(Continued)			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Multiplexers (Digital) (Cont'd)				Quad 2-Input with Output Register TTL-LS (Cont'd)				8-Input, Complementary Output, Strobe (Cont'd)			
Quad 2-Input, Non-Inverting TTL-S (Cont'd)				74LS298 SGS-Thomson				TTL-F MC54F151 † Motorola (2944)			
SN54S157 † TI				54LS298 † Signetics				MC74F151 † Motorola (2944)			
SN74S157 TI				74LS298 † Signetics (3057)				54F151 † National			
Quad 2-Input, Non-Inverting, Three-State TTL-ALS				SN54LS298 † TI				74F151 † National			
M74ALS257 Mitsubishi				SN54LS399 † TI				74F151 † Signetics (3077)			
DM74ALS257 National				SN74LS298 TI				SN54F151 TI			
DM74AS257 National				SN74LS399 TI				SN74F151 TI			
SN54ALS257 † TI				TTL-S AM25S09C AMD				TTL-LS GD74LS151 † GoldStar (2708)			
SN74ALS257 TI				AM25S09M † AMD				HD74LS151A Hitachi			
TTL-AS SN74AS257 TI				Quad 2-Input with Storage TTL-LS M74LS298 Mitsubishi				SN54LS151 † Motorola (2944)			
TTL-F MC54F257 † Motorola (2944)				Quad 2-Input (with 30 ohm term.) TTL-F 74F723-1 † Signetics (3078)				SN74LS151 † Motorola (2944)			
MC74F257 † Motorola (2944)				Quad 2-Input, Three-State TTL-F MC74F257A † Motorola (2944)				DM54LS151 † National			
54F257 † National				MC74F258A † Motorola (2944)				DM74LS151 † National			
74F257 † National				Quad 2-Port TTL-F MC54F398 † Motorola (2944)				54LS151 † National			
54F257 † Signetics				MC54F399 † Motorola (2944)				74LS151 † National			
74F257 † Signetics (3077)				MC74F398 † Motorola (2944)				DN74LS151 † Panasonic			
SN54F257 † TI				MC74F399 † Motorola (2944)				54LS151 † SGS-Thomson			
SN74F257 TI				Quad 3-Input TTL-F 74F725 † Signetics (3078)				74LS151 † SGS-Thomson			
TTL-LS GD74LS257A † GoldStar (2708)				Quad 3-Input, Conditional Complementing TTL RM8263 † Raytheon				74LS151 † Signetics			
HD74LS257 Hitachi				Quad 3-Input, Open Collector, Conditional Complementing, Output Enable TTL RM8264 † Raytheon				74S151 † Signetics (3057)			
M74LS257A Mitsubishi				Quad 3-Input (with 30 ohm term.) TTL-F 74F725-1 † Signetics (3078)				SN54S151 † TI			
SN54LS257A † Motorola (2944)				Quad 4-Input TTL-LS DM74LS453 National				SN74S151 TI			
SN74LS257A † Motorola (2944)				Hex 2-Input, Three-State TTL-ALS SN54ALS857 † TI				TTL-LS HD74LS152 Hitachi			
DM54LS257B † National				SN74ALS857 TI				54LS152 † National			
DM74LS257B National				TTL-AS SN74AS857 TI				T74LS152 † SGS-Thomson			
54LS257A † National				4-to-1 Data Selector/Multiplexer TTL-AS SN74AS253 TI				8-Input, Inverted Output TTL-LS HD74LS152 Hitachi			
74LS257 National				8-Input TTL-ALS 74ALS151 Signetics				54LS152 † National			
DN74LS257A Panasonic				TTL-F M74F151 Mitsubishi				T74LS152 † SGS-Thomson			
74LS257 SGS-Thomson				TTL-LS M74ALS151 Mitsubishi				8-Input, Inverting/Non Inverting, Control Storage TTL-LS AM2922C AMD			
54LS257A † Signetics				M74LS251 Mitsubishi				AM2922M † AMD			
74LS257A † Signetics (3057)				T74LS151 SGS-Thomson				8-Input Multiplexer TTL-LS T54LS151 † SGS-Thomson			
SN54LS257B † TI				T74LS251 SGS-Thomson				74LS152 † SGS-Thomson			
SN74LS257B TI				8-Input, Complementary Output TTL DM8312 National				8-Input Multiplexer/Data Selector/Register, Complementary Output, Three-State TTL-LS SN54LS356 † TI			
TTL-S GD74S257 † GoldStar (2708)				9312C National				SN74LS354 TI			
DM54S257 † National				9312M † National				SN74LS356 TI			
DM74S257 National				RM8232 † Raytheon				8-Input, Strobe, Complementary Output, Three-State TTL-F SN54F251 † TI			
74S257 † National				TTL-S S82S30 † Signetics				8-Input, Strobe, Complementary Output TTL-ALS M74ALS251 Mitsubishi			
54S257 † Signetics				S82S31 † Signetics				SN54251 † TI			
74S257 † Signetics (3057)				S82S32 † Signetics				SN74251 TI			
SN54S257 † TI				8-Input, Complementary Output, Open Collector TTL RM8231 † Raytheon				TTL-ALS M74ALS251 Mitsubishi			
SN74S257 TI				8-Input, Complementary Output, Strobe TTL DM54151A † National				DM74ALS251 National			
Quad 2-Input, Open Collector (for adder, register input) TTL RM8267 † Raytheon				54151 † National				SN54ALS251 † TI			
Quad 2-Input, (three-state 54/74LS157) TTL DM7123 National				74151 † National				SN74ALS251 TI			
DM8123 † National				54151 † Signetics				TTL-F MC54F251 † Motorola (2944)			
Quad 2-Input with Output Register TTL 54298 † National				SN54151A † TI				MC74F251 † Motorola (2944)			
54298 † Signetics				SN74151A TI				54F251A † National			
74298 † Signetics (3057)				TTL-ALS M74ALS151 Mitsubishi				74F251 † National			
SN54298 † TI				DM74ALS151 National				74F251 † Signetics (3077)			
SN74298 TI				SN54ALS151 † TI				SN74F251 TI			
TTL-AS SN74AS298 TI				SN74ALS151 TI				TTL-LS GD74LS251 † GoldStar (2708)			
TTL-F 54F398 † National				TTL-ALS M74ALS151 Mitsubishi				HD74LS251 Hitachi			
54F399 † National				SN54ALS151 † TI				SN54LS251 † Motorola (2944)			
74F298 National				SN74ALS151 TI				SN74LS251 † Motorola (2944)			
74F398 † National				TTL-ALS M74ALS151 Mitsubishi				DM54LS251 † National			
74F399 † National				DM74ALS151 National				DM74LS251 † National			
74F298 † Signetics (3077)				SN54ALS151 † TI				54LS251 † National			
74F398 † Signetics (3078)				SN74ALS151 TI				74LS251 † National			
74F399 † Signetics (3078)				TTL-AS SN54AS151 † TI				DN74LS251 † Panasonic			
TTL-LS AM25LS399C AMD				SN74AS151 TI				74LS251 † SGS-Thomson			
AM25LS399M † AMD				(Continued)				74LS251 † Signetics (3057)			
HD74LS298 Hitachi				(Continued)				(Continued)			
SN54LS298 † Motorola (2944)											
SN54LS398 † Motorola (2944)											
SN54LS399 † Motorola (2944)											
SN74LS298 † Motorola (2944)											
SN74LS398 † Motorola (2944)											
SN74LS399 † Motorola (2944)											
54LS298 † National											
74LS298 † National											
54LS298 † SGS-Thomson											

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Multiplexers (Digital) (Cont'd)				Dual Monostable, Schmitt-Trigger Input (dual 54/74121) TTL-LS (Cont'd)				Hex Parallel D Register TTL-LS 74LS378 SGS-Thomson				
8-Input, Strobe, Complementary Output, Three-State (Cont'd)				M74LS221 Mitsubishi				Octal D-Type, Common Clear and Enable, Three-State TTL-LS GD25LS2520 GoldStar				
TTL-LS	SN54LS251	† TI	5	M74LS221 † Motorola (2946)				Octal Shift/Storage Register TTL-LS M74LS299 Mitsubishi				
TTL-S	GD74S251	GoldStar (2708)		SN74LS221 † Motorola (2946)				M74LS323 Mitsubishi				
	DM54S251	† National		DM54LS221 † National				4-Bit TTL-LS T74LS295A SGS-Thomson				
	DM74S251	National		DM74LS221 † Signetics				T74LS95 SGS-Thomson				
	54LS251	† Signetics		SN54LS221 TI				54LS195A † SGS-Thomson				
	54S251	† Signetics	10	SN74LS221 TI				74LS195 SGS-Thomson				
	74S251	Signetics (3057)		Dual Retriggerable Monostable (AND triggered) TTL-LS SN74LS423 TI				74LS395 SGS-Thomson				
	SN54S251	† TI		Dual Retriggerable Monostable with Clear (AND triggered) TTL				4-Bit Bidirectional TTL-LS 74LS194 SGS-Thomson				
	SN74S251	TI		DM74123 National				4-Bit Parallel In, Parallel Out, Right/Left, Three-State TTL-LS SN54LS295A † Motorola				
				54123 † National				SN74LS295A Motorola				
8-Input, Switches 1 of 8 Inputs to 2 complementary outputs				74123 National				74LS295A SGS-Thomson				
TTL-AS	AM2923C	AMD	15	54123 † Signetics				54LS295B † Signetics				
	AM2923M	† AMD		74123 Signetics (3057)				74LS295B † Signetics				
8-Input, Three-State TTL-ALS 74ALS251 Signetics				SN54123 † TI				SN54LS295B † TI				
16-Input, Complementary Output, Three-State TTL-AS SN74AS850 TI				SN74123 TI				SN74LS295B † TI				
SN74AS851 TI				TTL-LS GD74LS123 GoldStar (2708)				4-Bit Parallel Input, Parallel Output TTL DM8300 National				
16-Input, Inverted Output, Strobe				HD74LS123 Hitachi				9300C National				
TTL	DM54150	† National	20	M74LS123 † Mitsubishi				9300M † National				
	DM74150	National		M74LS423 Mitsubishi				54195 † Signetics				
	54150	† National		SN54LS123 † Motorola (2946)				74195 Signetics (3057)				
	74150	National		SN74LS123 Motorola (2946)				SN54195 † TI				
	54150	† Signetics		DM74LS123 National				SN74195 TI				
	74150	Signetics (3057)	25	DN74LS123 † Panasonic				TTL-F MC74F195 Motorola (2944)				
	SN54150	† TI		SN54LS123 † TI				74F195 Signetics (3077)				
	SN74150	TI		SN74LS123 TI				TTL-LS GD74LS195 GoldStar				
TTL-LS DM74LS450 National				Dual Retriggerable Monostable with Reset (OR triggered) TTL				HD74LS195A Hitachi				
16-Input, Inverting Output, Three-State				AM2602C AMD				SN54LS195A † Motorola (2944)				
TTL-AS	SN54AS250A	† TI	30	AM2602M † AMD				SN74LS195A Motorola (2944)				
	SN74AS250	TI		DM8602 National				DM74LS195A National				
Multivibrators				DM9602 † National				DN74LS195A † Panasonic				
Bidirectional Monostable (low level input) TTL RC8T20 † Raytheon				96L02C National				T74LS195A SGS-Thomson				
	N8T20	Signetics (3076)		96L02M † National				SN54LS195A † TI				
Monostable, Schmitt Trigger Input				9602C National				SN74LS195A TI				
TTL	DM54121	† National	35	9602M † National				TTL-S DM54S195 † National				
	54121	† National		N9602 Signetics (3076)				DM74S195 National				
	74121	National		S9602 † Signetics				93S00C National				
	54121	† Signetics		TTL-LS 96LS02C † National				54S195 † Signetics				
	74121	Signetics (3057)		96LS02M † National				74S195 Signetics (3057)				
	SN54121	† TI	40	TTL-S AM26S02C AMD				SN54S195 † TI				
	SN74121	TI		AM26S02M † AMD				SN74S195 TI				
Retriggerable Monostable				96S02C National				4-Bit Parallel-In, Parallel Out, Right/Left TTL MC4012 Motorola				
TTL	DM8601	National		96S02M † National				MC4312 † Motorola				
	DM9601	† National		Dual Voltage-Controlled TTL MC4024 Motorola				DM5495 † National				
	9601C	National	45	MC4324 † Motorola				DM7495 National				
	9601M	† National		Shift Registers				5495 † National				
	RF9601	Raytheon		Latched Octal with 2:1 Multiplexer TTL-F 74F835 Signetics				7495 National				
Retriggerable Monostable with Clear				Parallel 4-Bit D-Type with Enable TTL-F MC54F379 Motorola (2942)				5495A † Signetics				
TTL	54122	† National		Parallel 6-Bit D-Type with Enable TTL-F MC54F378 Motorola (2942)				SN5495A † TI				
	SN54122	† TI	50	Pipeline Register with On-Board 8-Bit Shadow Register TTL-S AM29818C AMD				SN7495A TI				
	SN74122	TI		Register File, Five Port (64x18-bit) B2210A Bipolar				TTL-AS SN74AS95 TI				
TTL-LS	HD74LS122	Hitachi		Serial Data Polynomial Generator/Checker TTL-F 74F402 † National				TTL-LS GD74LS95 GoldStar				
	M74LS122	Mitsubishi		Quad Parallel Register TTL-LS 74LS379 SGS-Thomson				HD74LS95B Hitachi				
	SN54LS122	† Motorola (2946)		Quad 2-Port Register TTL-LS T74LS298 SGS-Thomson				SN54LS95B † Motorola (2944)				
	SN74LS122	Motorola (2946)	55	T74LS399 SGS-Thomson				SN74LS95B Motorola (2944)				
	DM74LS122	National		T74LS399 SGS-Thomson				54LS95B † National				
	SN54LS122	† TI		T74LS399 SGS-Thomson				74LS95B † National				
	SN74LS122	TI		T74LS399 SGS-Thomson				DN74LS95B Panasonic				
Dual Monostable, Schmitt-Trigger Input (dual 54/74121) TTL 54221 † Signetics				TTL-LS T74LS298 SGS-Thomson				74LS95B SGS-Thomson				
	74221	Signetics (3057)	T74LS399 SGS-Thomson				54LS95B † Signetics					
	SN54221	† TI	T74LS399 SGS-Thomson				74LS95B Signetics (3057)					
	SN74221	TI	T74LS399 SGS-Thomson				SN54LS95B † TI					
TTL-LS	GD74LS221	GoldStar	T74LS399 SGS-Thomson				SN74LS95B † TI					
	HD74LS221	Hitachi	T74LS399 SGS-Thomson									

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◇ Available in Surface Mount Package

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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Shift Registers (Cont'd)				8-Bit				8-Bit Parallel-In, Serial-Out with Clear			
4-Bit Parallel-In, Parallel Out, (with load, shift, hold control)				TTL-LS	54LS273	† SGS-Thomson		TTL	SN54166	† TI	
TTL	RM8270	† Raytheon			74LS166	SGS-Thomson			SN74166	TI	125
	SN54178	† TI						TTL-F	74F166	Signetics (3077, 3091)	
4-Bit Parallel-In, Parallel Out, with Reset, Complementary Output for Last Bit				8-Bit Diagnostic/Pipeline		TI	(3301)	TTL-LS	GD74LS166	GoldStar (2708)	
TTL	RM8271	† Raytheon		TTL-ALS	SN74ALS29818				SN54LS166	† Motorola (2944)	
	N8271	Signetics (3076)		8-Bit Gated Serial-In, Parallel-Out					SN74LS166	Motorola (2944)	
	S8271	† Signetics	5	TTL	DM74164	National	65		DM74LS166	National	130
4-Bit Parallel-In, Parallel-Out, Cascadable, Three-State					DM8570	National			SN54LS166A	† TI	
TTL-F	74F395	Signetics (3078)			54164	† National		8-Bit Parallel-In, Serial-Out with Input Latches			
TTL-LS	GD74LS395A	GoldStar (2708)			74164	National		TTL-F	74F597	Signetics (3078)	
	74LS395	◊ National			54164	† Signetics			74F598	Signetics (3078)	
	DN74LS395A	◊ Panasonic			74164			TTL-LS	SN54LS597	† TI	135
	T54LS395	† SGS-Thomson	10		SN54164	† TI			SN54LS598	† TI	
	T74LS395	SGS-Thomson			SN74164	TI			SN74LS597	TI	
	54LS395A	† Signetics		TTL-F	MC54F164	† Motorola			SN74LS598	TI	
	74LS395A	Signetics (3057)			MC74F164	Motorola		8-Bit Register			
	SN54LS395A	◊† TI			74F164	† National		TTL-LS	74LS273	SGS-Thomson	
	SN74LS395A	TI			74F164	Signetics (3077)		8-Bit Serial/Parallel-In Register with Sign Extend (for use with 25LS14/74LS384 multiplier)			
4-Bit Parallel-In, Serial-Out				TTL-LS	GD74LS164	GoldStar (2708)		TTL-F	54F322	† National	140
TTL	7494	Signetics (3057)			HD74LS164	Hitachi			74F322	◊ National	
	SN5494	† TI			SN54LS164	† Motorola (2943)			74F322	Signetics (3077)	
4-Bit Shift Register					DM54LS164	† National		TTL-LS	74LS322	National	
TTL-LS	T54LS194A	† SGS-Thomson			DM74LS164	National		8-Bit Serial-In, Parallel-Out			
	T54LS195A	† SGS-Thomson			54LS164	† National		TTL-ALS	74ALS164	Signetics	
4-Bit Universal Bidirectional					74LS164	◊ National		8-Bit Serial-In, Parallel-Out Register with Output Latches			
TTL	DM54194	† National	20		DN74LS164	◊ Panasonic		TTL-F	74F595	Signetics (3078)	145
	DM74194	National			74LS164	† Signetics			M74LS595	Mitsubishi	
	54194	† Signetics			54LS164B	† Signetics			M74LS596	Mitsubishi	
	74194	Signetics (3057)			74LS164	Signetics (3057)			SN54LS595	† TI	
	SN74194	TI			SN54LS164	◊† TI			SN74LS594	TI	
					SN74LS164	TI			SN74LS595	TI	
TTL-AS	SN54AS194	† TI	25	8-Bit, Inverting, Three-State					SN74LS599	TI	150
	SN74AS194	TI		TTL-ALS	SN74ALS29826	TI	(3301)	8-Bit Serial-In, Serial-Out			
TTL-F	MC54F194	† Motorola (2944)		8-Bit Parallel-In, Parallel-Out, Right/Left				TTL	5491	† Signetics	
	MC74F194	Motorola (2944)		TTL	SN54198	† TI			SN5491A	† TI	
	54F194	◊† National			SN74198	TI		TTL-LS	HD74LS91	Hitachi	155
	74F194	◊ National		TTL-F	74F198	Signetics (3077)			SN74LS91	Motorola	
	74F194	Signetics (3077)		8-Bit Parallel-In, Parallel-Out, Unidirectional					SN54LS91	† TI	
TTL-LS	GD74LS194A	GoldStar (2708)		TTL	54199	† Signetics		8-Bit Synchronous with Parallel Load, Load Complement, Preset, Clear and Hold			
	HD74LS194A	Hitachi			74199	Signetics (3057)		TTL-LS	DM74LS380	National	160
	SN54LS194A	† Motorola (2944)			SN54199	† TI		8-Bit Universal Shift/Storage, Three-State			
	SN74LS194A	Motorola (2944)			SN74199	TI		TTL-ALS	SN54ALS299	† TI	
	DM74LS194A	National	35						SN54ALS323	† TI	
	54LS194A	† National		TTL-F	74F199	Signetics (3077)			SN74ALS299	TI	
	DN74LS194A	◊ Panasonic		8-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip Flops (bus interface)					SN74ALS323	TI	
	T74LS194A	SGS-Thomson		TTL	AM29825	AMD		TTL-AS	SN74AS299	TI	165
	54LS194A	† Signetics			AM29826	AMD		TTL-F	MC54F323	† Motorola (2944)	
	74LS194A	Signetics (3057)			AM29826A	AMD			MC74F323	Motorola (2944)	
	SN54LS194A	◊† TI							74F299	National	
	SN74LS194A	TI		TTL-ALS	SN54ALS29825	† TI			74F323	◊ National	
TTL-S	DM54S194	† National			SN54ALS29826	† TI			74F299	◊ Signetics (3077)	
	DM74S194	National		8-Bit Parallel-In, Serial-Out, Complementary Output					74F323	Signetics (3077)	
	74S194	National		TTL	54165	† National			SN54F299	† TI	170
	SN54S194	† TI			74165	National			SN74F299	TI	
	SN74S194	TI			54165	† Signetics			SN74F323	TI	
5-Bit Parallel-In, Parallel-Out					74165	Signetics (3057)		TTL-LS	GD74LS299	GoldStar (2708)	
TTL	5496	† Signetics			SN54165	† TI			HD74LS299	Hitachi	
	7496	Signetics (3057)			SN74165	TI			SN54LS299	† Motorola (2944)	
	SN5496	† TI		TTL-LS	GD74LS165	GoldStar (2708)			SN54LS323	† Motorola (2944)	
	SN7496	TI			HD74LS165A	Hitachi			SN74LS299	Motorola (2944)	
TTL-LS	54LS96	† Signetics			SN54LS165	† Motorola (2943)			SN74LS323	Motorola (2944)	
	74LS96	Signetics (3057)			54LS165	† National			54LS299	† National	
	SN74LS96	TI	55		74LS165	◊ National			54LS323	† National	
5-Bit Dual Parallel-In, Parallel-Out Buffer Register, (clocked flip-flops)					SN54LS165A	◊† TI			74LS299	◊ National	
TTL	RM8200 [†]	† Raytheon			SN74LS165A	TI			74LS323	National	
	RM8201	† Raytheon		8-Bit Parallel-In, Serial-Out with Clear					SN54LS299	◊† TI	
8-Bit				TTL	DM74166	National	120		SN54LS323	◊† TI	
TTL-LS	T54LS170	† SGS-Thomson			74166	National					
	T54LS273	† SGS-Thomson			54166	† Signetics					
	T74LS166	SGS-Thomson	60		74166	Signetics (3057)					

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Shift Registers (Cont'd)				Transceivers, Bus							
8-Bit Universal Shift/Storage, Three-State TTL-LS (Cont'd)				Differential Bus Transceiver TTL-ALS SN74ALS176 TI				Quad Transceiver with Series Output Resistor, Inverting TTL-ALS SN74ALS2242 TI (3299)			
	SN74LS299	TI		Dual Latched Transceiver with Parity TTL-F 74F899 Signetics				Quad Tridirectional Bus Transceiver, Three-State TTL-LS SN54LS442 † TI			
	SN74LS323	TI		Triple 2-Input Bus Driver TTL RG160 Raytheon				Hex 2-Input AND Driver TTL-F 74F1808 Signetics			
	TTL-S GD74S299 GoldStar (2708)			Quad Bus Transceiver TTL-ALS DM74ALS1242 National				Hex 2-Input NAND Driver TTL-F 74F1804 Signetics			
	DM74S299	National			DM74ALS1243 National			Hex 2-Input NOR Driver TTL-F 74F1805 Signetics			
	SN54S299	† TI			DM74ALS242 National			Hex 2-Input OR Driver TTL-F 74F1832 Signetics			
	SN74S299	TI			DM74ALS243 National			Octal Buffer/Driver with Series Output Resistor, Inverting TTL-ALS SN74ALS2240 TI (3299)			
8-Bit Dual Serial-In, Serial-Out TTL 9328C National					SN54ALS242B † TI			Octal Buffer/Line Driver, Inverting, Three-State TTL-ALS 74ALS240A Signetics			
	9328M	† National			SN54ALS243A † TI			Octal Buffer/Line Driver, Non-Inverting, Three-State TTL-ALS 74ALS241A Signetics			
9-Bit Bidirectional Register with Parity TTL SL6007 Universal					SN74ALS242B TI			Octal Bus Driver TTL-AS M74AS241 Mitsubishi			
	SL6008	Universal			SN74ALS242B-1 TI			TTL-F M74AS244 Mitsubishi			
	SL6009	Universal			SN74ALS243A TI			Octal Bus Driver, Inverting TTL-AS M74AS240 Mitsubishi			
	SL6010	Universal			SN74ALS243A-1 TI			TTL-F M74F240 Mitsubishi			
9-Bit, Non-Inverting, Three-State TTL-ALS SN74ALS29823 TI (3301)					TTL-AS DM74AS242 National			Octal Bus Driver, Inverting and Non-Inverting, Three-State TTL-ALS SN74ALS231 TI			
9-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface) TTL AM29823 AMD					DM74AS243 National			TTL-AS SN74AS230 TI			
	AM29824	AMD			SN54AS242 † TI			TTL-AS SN74AS231 TI			
	TTL-ALS SN54ALS29823 † TI				SN74AS242 TI			Octal Bus Driver, Inverting, Open Collector TTL-F 74F756 Signetics			
	SN54ALS29824 † TI				SN74AS243 TI			Octal Bus Driver, Inverting, Open Collector, Symmetrical Controls TTL-ALS SN74ALS756 TI			
10/9-Bit Serial/Parallel-In, Serial-Out TTL-F 74F847 Signetics					TTL-F MC74F242 Motorola (2939)			TTL-F MC54F20 † Motorola (2937)			
10-Bit Parallel-In, Parallel-Out Buffer Register, with Reset (clocked flip-flops) TTL RM8202 † Raytheon					MC74F243 Motorola (2939)			Octal Bus Driver, Inverting, Three-State, Symmetrical Controls TTL-ALS M74ALS1240 Mitsubishi			
	RM8203	† Raytheon			54F243 † National			TTL-ALS M74ALS240A Mitsubishi			
10-Bit Parallel-In, Parallel-Out, Three-State, with Positive Edge-Triggered D-Type Flip-Flops (bus interface) TTL AM29821 AMD					54F242 † Signetics			DM74ALS240 National			
	AM29821A	AMD			54F243 † Signetics			SN74ALS1240 TI			
	AM29822	AMD			74F1242 Signetics (3077)			SN74ALS1240-1 TI			
	TTL-ALS SN54ALS29821 † TI				74F1243 Signetics (3077)			SN74ALS2540 TI (3299)			
	SN54ALS29822 † TI				74F242 Signetics (3077)			SN74ALS540 TI			
10-Bit Parallel-In, Serial Out TTL RM8274 † Raytheon					74F243 Signetics (3077)			SN74ALS540-1 TI			
	N8274 Signetics (3076)				SN54F242 † TI			TTL-AS DM54AS240 † National			
10-Bit Serial-In, Parallel-Out TTL RM8273 † Raytheon					SN54F243 † TI			DM74ALS1240 National			
	N8273 Signetics (3076)				SN74F242 TI			SN54ALS240A † TI			
	S8273	† Signetics			SN74F243 TI			SN54AS240 † TI			
16-Bit Parallel-In, Serial Out (ECL) SLS6016 STC					TTL-LS GD74LS242 GoldStar			SN74ALS240A † TI			
	SLS6216	STC			GD74LS243 GoldStar (2708)			SN74ALS240-1 TI			
16-Bit Parallel-In, Serial-Out TTL-F 74F674 Signetics (3078)					HD74LS242 Hitachi			SN74ALS240 TI			
	TTL-LS SN74LS674 Motorola (2944)				HD74LS243 Hitachi			SN74ALS240-1 TI			
	SN54LS674 † TI				SN54LS242 † Motorola (2939)			SN74ALS240 TI			
	SN74LS674	TI			SN54LS243 † Motorola (2939)			SN74ALS240-1 TI			
16-Bit Serial/Parallel-In, Serial Out 54F676 † National					SN74LS242 Motorola (2939)			SN74ALS240 TI			
	74F676 † National				SN74LS243 Motorola (2939)			SN74ALS240-1 TI			
TTL-F 74F676 Signetics (3078)					DM54LS242 † National			SN74ALS240 TI			
16-Bit Serial-In, Serial/Parallel Out 74F675 † National					DM54LS243 † National			SN74ALS240-1 TI			
	74F675	Signetics			DM74LS243 National			SN74ALS240 TI			
16-Bit Serial-In, Serial-Out Register plus Stored Parallel Output TTL-F 74F673 † National					54LS242 Signetics			SN74ALS240-1 TI			
	74F673A Signetics (3078)				54LS243 Signetics			SN74ALS240 TI			
	TTL-LS SN74LS673 Motorola (2944)				74LS242 Signetics (3057)			SN74ALS240-1 TI			
	SN54LS673 † TI				74LS243 Signetics (3057)			SN74ALS240 TI			
8-Bit Gated Serial-In, Parallel-Out TTL-S GD74S164 GoldStar					74S242 Signetics (3057)			SN74ALS240-1 TI			
					74S243 Signetics (3057)			SN74ALS240 TI			
					SN54LS242 † TI			SN74ALS240-1 TI			
					SN54LS243 † TI			SN74ALS240 TI			
					SN74LS242 TI			SN74ALS240-1 TI			
					SN74LS243 TI			SN74ALS240 TI			
					Quad Bus Transceiver (BTL-uses Backplane Transceiver Logic) TTL DS3893 National			SN74ALS240-1 TI			
					Quad Bus Transceiver, Open Collector TTL-AS SN74AS758 TI			SN74ALS240-1 TI			
					SN74AS759 TI			SN74ALS240-1 TI			
					Quad Bus Transceiver, Three-State TTL-ALS SN74ALS758 TI			SN74ALS240-1 TI			
					TTL-F MC54F242 † Motorola (2939)			SN74ALS240-1 TI			
					MC54F243 † Motorola (2939)			SN74ALS240-1 TI			
					Quad FutureBus Transceiver TTL-F 74F3893 Signetics			SN74ALS240-1 TI			
					Quad Transceiver, Inverting TTL-ALS SN74ALS1242 TI			SN74ALS240-1 TI			
								SN74ALS240-1 TI			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Transceivers, Bus (Cont'd)				Octal Bus Driver, Non-Inverting, Three-State, Complementary Controls (Cont'd)				Octal Bus Driver (Schmitt trigger), Non-Inverting, Three-State, Symmetrical Controls			
Octal Bus Driver, Inverting, Three-State, Symmetrical Controls				TTL-F				TTL-LS			
TTL-F				74F541				74F245			
74F540				SN54F241				74F245			
54F240				SN74F241				M74F245			
54F540				† Signetics				M74LS643-1			
74F1240				† TI				T74LS245			
† Signetics (3077, 3089)				† TI				74LS245			
74F240				† Signetics (3077)				74LS245			
74F30240				† Motorola (2939)				74LS245			
74F540				† Motorola (2940)				74LS245			
74F540				† Motorola (2939)				74LS245			
SN54F240				† Motorola (2940)				74LS245			
SN74F240				† National				74LS245			
† TI				† National				74LS245			
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DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Transceivers, Bus (Cont'd)											
Octal Bus Transceiver, Inverting, Three-State				Octal Bus Transceiver Noninverting, Three-State				Octal Bus Transceiver, True, Inverting, Open Collector (Cont'd)			
TTL-ALS				TTL-ALS				TTL-AS			
SN54ALS640A				M74ALS245A-1				SN74AS644			
SN54ALS652				M74ALS645				SN54LS644			
SN74ALS1640A				M74ALS645A-1				SN74LS644			
SN74ALS1640A-1				DM74ALS245				SN54LS644			
SN74ALS640A				DM74ALS645				SN54LS644			
SN74ALS640A-1				SN54ALS1245A				SN74LS644			
SN74ALS643A				SN54ALS245A				SN74LS644			
SN74ALS643A-1				SN54ALS645A				SN74LS644-1			
SN74ALS651				SN74ALS1245A							
SN74ALS652				SN74ALS1245A-1							
				SN74ALS1645A-1							
				SN74ALS245A							
				SN74ALS245A-1							
				SN74ALS645A							
				SN74ALS645A-1							

Function	Device	Source
Transceivers, Bus (Cont'd)		

† Military Temperature Range (-55° to 125°C) ‡ High Radiation Resistance *Typical Value *Macrocell ♦ Available in Surface Mount Package

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Miscellaneous (Cont'd)				Dual Pulse Synchronizer/Driver	TTL SN54120	† TI		Quad 2-Input NAND Schmitt-Trigger	TTL-LS	(Cont'd)	
Memory Mapper, Expands 4 Address Lines to 12 Address Lines					SN74120	TI	50	DN74LS132	◊ Panasonic		
TTL-LS GD74LS612	GoldStar (2708)			Dual Voltage Controlled Oscillator (or crystal controlled)	TTL-S SN54LS626	◊† TI		54LS132	† Signetics		
SN54LS610	† TI			SN54LS629	◊† TI			54LS132A	† Signetics		
SN74LS610	TI (3299)			SN74LS625	TI			74LS132	Signetics (3057)		110
SN74LS611	TI (3299)			SN74LS629	TI			SN54LS132	◊† TI		
SN74LS612	TI (3299)							SN74LS132	TI		
SN74LS613	TI (3299)			Dual 4-Bit Parity Tree	TTL MC4010	Motorola	55	TTL-S 74S132	National		
Microprogram Sequencer				MC4310	† Motorola			SN54S132	† TI		115
TTL-LS AM2909A	AMD							SN74S132	TI		
AM2909M	† AMD			Dual 4-Input Lamp Driver	TTL RG7540	Raytheon					
AM2911A	AMD							Quad 2-Input 30-Ohm Transmission Line Driver	TTL-F 54F3037	† Signetics	
AM2911C	AMD			Dual 4-Input NAND Schmitt-Trigger	TTL 5413	† Signetics		74F3037	Signetics (3077, 3097)		
AM2911M	† AMD			7413	Signetics (3057)			74F3038	Signetics (3077)		
M3001	Intel			SN5413	† TI						
IDM2909AC	National			SN7413	TI			Hex Schmitt Trigger, Inverting	TTL		
IDM2911AC	National							DM5414	† National		
SFC2909	SGS-Thomson			TTL-ALS DM74ALS13	National			DM7414	National		120
SFC2911A	SGS-Thomson			TTL-F 74F13	Signetics (3077)			5414	† National		
N3001	Signetics			TTL-LS HD74LS13	Hitachi			7414	National		
N8X02A	Signetics			M74LS18	Mitsubishi			5414	† Signetics		
S3001	† Signetics			SN54LS13	† Motorola (2940)			7414	Signetics (3057)		125
				SN74LS13	Motorola (2940)			SN5414	† TI		
Microsequencer				54LS13	† National			SN7414	TI		
TTL-AS SN54AS890	† TI			74LS13	◊ National						
SN74AS890	TI (3297)			DN74LS13	◊ Panasonic			TTL-ALS DM74ALS14	National		
Multimode Associative Stack				T54LS13	† SGS-Thomson			TTL-F 74F14	Signetics (3077)		
TTL-S DP8402	National			T74LS13	SGS-Thomson			GD74LS14	GoldStar (2708)		130
Multivibrator, Retriggerable Monostable				54LS132	† SGS-Thomson			HD74LS14	Hitachi		
TTL RF9601	Raytheon			74LS132	SGS-Thomson			M74LS19	Mitsubishi		
Oscillator Clock/Driver				54LS13	† Signetics			SN54LS14	† Motorola (2940)		
TTL-LS SN54LS320	† TI			74LS13	Signetics (3057)			SN74LS14	Motorola (2940)		
SN54LS321	† TI			SN54LS13	◊† TI			DM74LS14	National		135
SN74LS321	TI			SN74LS13	TI			54LS14	† National		
Phase Locked Loop				TTL-S 54S13	† Signetics			74LS14	◊ National		
TTL-LS SN74LS297	TI							DN74LS14	◊ Panasonic		
Phase-Frequency Detector				Dual 4-Input 30-Ohm Transmission Line Driver	TTL-F 54F3040	† Signetics	80	54LS14	† SGS-Thomson		
TTL MC4044	Motorola			74F3040	Signetics (3077)			74LS14	SGS-Thomson		
MC4344	† Motorola							54LS14	† Signetics		140
Pipeline Register, 8-Bit, Diagnostic				Quad Backplane Transceiver	TTL AM26LS38	AMD		74LS14	Signetics (3057)		
TTL-ALS SN74ALS819	TI			TTL-ALS SN54ALS056	TI			SN54LS14	◊† TI		
Processor, 8-Bit Microcodeable				Quad Bus Receiver	TTL N8T380	Signetics (3076)		SN74LS14	TI		
TTL-AS SN74AS887	TI (3297)			Quad Bus Transceiver	UDN2522A	Sprague	85	SN74LS19	TI		
S-R Clocked Flip-Flop				Quad Complementary-Output Elements (for symmetrical generation of complementary outputs)	TTL SN54265	† TI		Octal Backplane Transceiver	TTL-ALS SN55ALS057	TI	145
TTL RF20	Raytheon			SN74265	TI			Octal Receiver, Three-State	TTL-S DS3892	National	
S-R-T Flip-Flop								Octal Trapezoidal Repeater	TTL-S DS3898	National	
TTL RF30	Raytheon			Quad S-R Latch	TTL-LS T54LS279	† SGS-Thomson		4-Bit Parallel Bus Transceiver, Inverting Three-State	TTL-S		
Set-Reset Flip-Flop				Quad 2-Input Lamp Driver	TTL RG7520	Raytheon		GD8T26A	GoldStar		
TTL RF10	Raytheon			Quad 2-Input NAND Schmitt-Trigger	TTL DM54132	† National	90	MC8T26A	Motorola (2981)		150
Synchronous Decade Rate Multiplier					DM74132	National		DS8T26A	National		
TTL 74167	National				74132	National		DS8T26AM	† National		
SN54167	† TI				54132	† Signetics		N8T126	† Signetics (3076)		
SN74167	TI				74132	Signetics (3057)		N8T127	Signetics (3076)		
Trajectory Generator (for Winchester disk drives)					SN54132	† TI		N8T26A	Signetics (3076)		
ML414	MicroLinear				SN74132	TI		S8T126	† Signetics		155
Voltage Comparator (analog input-digital output)								S8T127	† Signetics		
TTL-S AM686C	◊ AMD							S8T26A	† Signetics		
AM686M	◊† AMD							N8T26	◊ TI		
Voltage Controlled Oscillator (or crystal controlled)								N8T26A	◊ TI		
TTL-LS SN54LS624	◊† TI							SN75136	TI		160
SN54LS628	◊† TI										
SN74LS624	TI							4-Bit Parallel Bus Transceiver, Non-Inverting, Three-State	TTL-S		
SN74LS628	TI							GD8T28	GoldStar		
Voltage-Controlled Oscillator, Low Power								MC6889	Motorola (2981)		
TTL-LS SN74LS724	Motorola							MC8T28	Motorola (2981)		
Binary-To-BCD Converter								DS8T28	National		
TTL DM74185A	National							DS8T28M	† National		165
BCD-To-Binary Converter								N8T129	Signetics (3076)		
TTL DM74184	National							N8T28	Signetics (3076)		
Dual Pulse Shaper/Delay and Gate								S8T128	† Signetics		
TTL RG80	Raytheon							S8T129	† Signetics		
								S8T28	† Signetics		170

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—TTL (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Miscellaneous (Cont'd)				8-Input Priority Encoder (Cont'd)				10-Bit Priority Encoder				
4-Bit Parallel Bus Transceiver, Open Collector Drivers	TTL-S	AM26S10C	5	TTL-F	74F148	◊ National	60	TTL	54147	† Signetics	125	
		AMD			74F148	Signetics (3077)			SN54147	† TI		
		AM26S10M		TTL-LS	AM25LS2513M	† AMD			SN74147	TI		
		AM26S11C			HD74LS148	Hitachi		TTL-LS	M74LS147	Mitsubishi		
		AM26S11M			M74LS148	Mitsubishi			SN74LS147	Motorola (2946)		
		AM26S12AC			SN54LS148	† Motorola (2946)			SN54LS147	◊† TI		
		AM26S12AM			SN74LS148	Motorola (2946)			SN74LS147	TI		
		AM26S12C			SN74LS748	Motorola (2946)		12-Bit Successive Approximation Register				
		AM26S12M			SN54LS148	◊† TI		TTL	AM2504C	AMD	130	
		MC26S10			SN74LS148	TI			AM2504M	† AMD		
4-Bit Priority Register, Cascadable	TTL	SN54278	10	8-Input Priority Encoder, Three State					DM2504C	National		
		SN74278		TTL-LS	SN54LS848	† Motorola (2946)		DM2504M	† National			
					SN74LS348	Motorola (2946)	12-Input Odd/Even Parity Checker/Generator					
					SN74LS848	Motorola (2946)	TTL	9348C	National	135		
					SN54LS348	† TI		9348M	† National			
4-Bit Shifter, Three-State (shifts 0, 1, 2, or 3-bits under 2-line select control)	TTL-S	AM25S10C	15	9-bit Bus Interface D-Type Latches, Three-State				TTL-S	AM93S48C		AMD	
		AM25S10M		TTL-AS	SN74AS1843	TI	75		AM93S48M		† AMD	
								16-Bit Shift Register, Video, Parallel In Serial Out (ECL)				
4-Bit Universal Presettable Polynomial Generator	TTL	MC8504	20	9-bit Bus Interface Flip-Flops, Three-State				ECL	SLS6216	STC	140	
				TTL-AS	SN74AS1823	TI			SLS6016	STC		
6-Bit Synchronous Binary Rate Multiplier	TTL	5497	25	9-Bit Odd/Even Parity Generator/Checker				16-Bit Shift Register, Video, Parallel-In, Parallel Out				
		7497			T54LS280	† SGS-Thomson	80		DP8515	National	145	
		7497			T74LS280	SGS-Thomson			DP8515-350	National		
		SN5497		TTL	DM54180	† National			DP8516	National		
		SN7497			DM74180	National			DP8516-350	National		
8-Bit Bidirectional I/O Port, Latched, Addressable	TTL-S	N8T31	30		74180	National	90	16-Stage Programmable Counter/Divider				
		N8T32			RM8262	† Raytheon			74F525	◊ National	150	
		N8T33			N8262	Signetics (3076)		32-Bit Parallel Error Correction and Detection Circuit				
		N8T36			S8262	† Signetics		TTL-AS	SN74AS632	TI (3298)		
		S8T32			54180	† Signetics		32-Bit Parallel Error Detection and Correction Circuit				
		S8T33			74180	Signetics (3057)		TTL-ALS	SN74ALS632B	TI (3298)		
		S8T35			SN54180	† TI			SN74ALS634A	TI (3298)		
		S8T36			SN74180	TI			SN74ALS635	TI		
		S8T39			TTL-ALS	SN74ALS280		64x18 Five Port Register File				
					TTL-AS	DM74AS280		B2210	Bipolar			
8-Bit Parity Tree	TTL	MC4008	35		SN54AS280	† TI	95					
		MC4308			SN74AS280	TI						
					TTL-F	MC54F280						
						MC74F280						
						54F280						
8-Bit Position Scaler (The output is shifted with respect to the input up to 8 positions as determined by a 3-bit selector code.)	TTL	RM8243	40		74F280	◊† National	100					
					74F280A	† Signetics						
					74F280B	Signetics (3077)						
					SN54F280A	† TI						
					SN74F280A	TI						
8-Bit Successive Approximation Register	TTL	AM2502C	45	TTL-LS	GD74LS280	GoldStar (2708)	105					
		AM2502M			HD74LS280	Hitachi						
		AM2503C			M74LS280	Mitsubishi						
		AM2503M			SN54LS280	† Motorola (2947)						
		DM2502C			SN74LS280	Motorola (2947)						
8-Bit Universal Transceiver/Port Controller	TTL-LS	54LS502	50		SN54LS280	◊† TI	110					
		54LS503			SN74LS280	TI						
		74LS502			TTL-S	AM82S62C						
		74LS503				AM82S62M						
						GD74S280						
8-Input Priority Encoder	TTL-AS	SN54AS877	55		DM54S280	† National	115					
					DM74S280	National						
					93S62C	National						
					93S62M	† National						
					N82S62	Signetics (3076)						
9-Input Priority Encoder	TTL	DM54148	60		54S280	† Signetics	120					
		DM74148			74S280	Signetics (3057)						
		DM8318			SN54S280	† TI						
		DM9318			SN74S280	TI						
		9318C										
9-Input Priority Encoder, Three State	TTL	74148	65	9-Bit Parity Generator/Checker with Parity I/O Port								
		SN54148		TTL-AS	DM74AS286	National	125					
		SN74148			SN74AS286	TI						
10-Bit Bus Interface D-Type Latches, Three-State	TTL-AS	SN74AS1841	70	10-bit Bus Interface Flip-Flops, Three-State								
				TTL-AS	SN74AS1821	TI	130					

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—Special

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Arithmetic Processor (supply 5–12 V) AM9511A	AMD			Counter, Universal (8 decade)/Latch/Display Driver (direct 7 segment and digit drivers for common anode LEDs: 'A' types) ICM7216A GE/Intersil (2684)				Divider, Divide by 2, to 2 GHz, ECL Output U822BS	Telefunken		80
Baud Rate Generator/Programmable Divider (ROM controlled divider) COM5026 SMC COM5026T SMC COM5046 SMC COM5046T SMC COM8046 SMC COM8046T SMC COM8126 SMC COM8126T SMC COM8146 SMC COM8146T SMC			5	ICM7216B GE/Intersil (2684) ICM7226A GE/Intersil (2684) ICM7226B GE/Intersil (2684)			50	Divider, Divide by 2, 0.2 to 1 GHz SP8602A † Plessey SP8602B Plessey SP8605B Plessey SP8605M Plessey SP8607A † Plessey SP8607B Plessey			85
Baud Rate Generator/Programmable Divider, Dual (ROM controlled divider) COM5016 SMC COM5016T SMC COM5036 SMC COM5036T SMC COM8116 SMC COM8116T SMC COM8136 SMC COM8136T SMC COM8156 SMC COM8156T SMC WD1943 Western			10	Counter, Dual (two 3-decade up/down counters with latch, BCD output, 0.5 MHz, supply 5–15 V) LS7040 LSI Comp				Divider, Divide by 2, 740 MHz MC12090 Motorola			
Bidirectional Interface Circuit, High Voltage TEA1512 SGS-Thomson				Counter, Dual 16-Bit Binary Up Counter with 32-Bit Latch, Multiplexer and Three-State Drivers LS7062 LSI Comp (2883)				Divider, Divide by 3/4, 40 to 300 MHz SP8720 Plessey			
Counter/Display Decoder, 4 Decade (7 segment and BCD outputs, 0.25 MHz; supply 5 V) MIC5002 Micrel MIC5005 Micrel MIC5007 Micrel MK5002 SGS-Thomson MK5005 SGS-Thomson MK5007 SGS-Thomson			15	Counter, Dual 16-Bit, Prescalable, Multiplexed and Latched Outputs (5 V supply) LS7063 LSI Comp (2883)			55	Divider, Divide by 4, 0.07 to 1 GHz SP8613 Plessey			90
Counter/Display Driver, 6 Decade Up/Down (7 segment and BCD output, 1MHz, presetable compare register, latched output, LED driver maximum count 999999, 995959, or 595999 versions, supply 10–15V) MIC50395 Micrel MIC50396 Micrel MIC50397 Micrel MIC50398 Micrel MIC50399 Micrel MK50395 SGS-Thomson MK50396 SGS-Thomson MK50397 SGS-Thomson MK50398 SGS-Thomson MK50399 SGS-Thomson			20	Counter, 6 Decade Up/Down (predetermining, 3 pre-set storage registers, latched output) LS7055 LSI Comp (2883) LS7056 LSI Comp (2883)				Divider, Divide by 4, 0.15 to 1 GHz SP8600A † Plessey SP8600B Plessey			
Counter Logic Control (use with MC12013 and MC4016) MC12014 Motorola			25	Counter, 6 Decade, BCD Output, 5 MHz, 8 Latches (supply 5–15 V) LS7031 LSI Comp (2883)				Divider, Divide by 4/10/11/20/21 TD6109 Toshiba			
Counter/Timer, 4 Digit Up/Down Presetable Counter/Timer, Settable Register with Comparison to Counter, Multiplexed 7-Segment and BCD Output (maximum count 5959) ICM7217B GE/Intersil (2684) ICM7217C GE/Intersil (2684) ICM7227B GE/Intersil (2684) ICM7217B ♦ Maxim ICM7217C ♦ Maxim			30	Counter, 8 Decade Frequency Counter/Latch/Display Driver (Direct 7 segment and digit drivers for common anode LEDs: 7216C; common cathode LEDs: 7216D. DC to 10 MHz, 5 V supply) ICM7216C GE/Intersil (2684) ICM7216D GE/Intersil (2684)			60	Divider, Divide by 5/6, to 1 MHz RED5/6 LSI Comp (2883)			95
Counter/Timer, 4 Digit Up/Down Presetable Counter/Timer, Settable Register with Comparison to Counter, Multiplexed 7-Segment and BCD Output (maximum count 5959) ICM7227C GE/Intersil (2684)			35	Counter, 8 Decade, BCD and 7 Segment Outputs, 5 MHz, Latches (supply 5–15 V) LS7030 LSI Comp (2883)				Divider, Divide by 5/6, 0.2 to 1 GHz MC12009 Motorola SP8740A † Plessey SP8740B Plessey			
			40	Counter, 24-Bit, Universal LS7066 LSI Comp (2883)				Divider, Divide by 6/7, 0.2 to 1 GHz SP8741A † Plessey SP8741B Plessey			100
			45	Counter, 32-Bit, Multiplexed and Latched Outputs (5 V supply) LS7060 LSI Comp (2883)				Divider, Divide by 8, 0.25 to 1 GHz SP8735B Plessey			
				Counter, 32-Bit, 8-Bit Prescalable, Multiplexed and Latched Outputs (5 V supply) LS7061 LSI Comp (2883)				Divider, Divide by 8/9, 0.25 to 1 GHz SP8743B Plessey SP8743M Plessey			105
				Counter, 3 Timers, 0.01 to 99 sec Counter RP5C06 Ricoh			65	Divider, Divide by 10, Above 1 GHz SP8665B Plessey SP8668B Plessey			110
				Data Encryption Device (high speed) WD20C03 Western (3394)				Divider, Divide by 10, 0.2 to 1 GHz SP8630A † Plessey SP8630B Plessey			115
				Data Encryption Device (NBS standard) WD2001 ♦ Western WD2002 ♦ Western				Divider, Divide by 10/11, 0.2 to 1 GHz MC12013 Motorola SP8643B Plessey SP8647A † Plessey SP8647B Plessey SP8680A † Plessey SP8680B Plessey SP8685A † Plessey SP8685B Plessey SP8690A † Plessey SP8690B Plessey			120
				Data Security Device (data encryption standard) MC6859 Motorola (2932)				Divider, Divide by 10/100/1000/10,000 to 2 MHz RDD104 LSI Comp (2883)			125
				Delay Generator (digitally programmable, TTL and ECL compatible) AD9500B AD (2433) AD9500T † AD (2433)			70	Divider, Divide by 16, 0.2 to 1 GHz SP8659A † Plessey SP8659B Plessey			
				Delay Line, 3-in-1 DS1013 ♦ Dallas				Divider, Divide by 20, 0.2 to 1 GHz DS8628 National SP8657A † Plessey SP8657B Plessey SP8658 Plessey			
				Delay Line, 10-Tap DS1010 ♦ Dallas				Divider, Divide by 20/21, to 225 MHz DS8614 National			
				Digital Gain Set, for setting gain of op-amps LF13006 National LF13007 National			75	Divider, Divide by 24, 0.2 GHz DS8627 National			
				Digitally Controlled Transconductance Block LV560 Gennum				Divider, Divide by 32, 0.2 to 1 GHz SP8655A † Plessey SP8655B Plessey			
				Direct Digital Synthesizer (DDS), Aka Numerically Controlled Oscillator Q2334-C1 ♦ Qualcomm (3020)				Divider, Divide by 32/33, to 225 MHz DS8615 National			
				Divider, Divide by 2, Above 1 GHz SP8606B Plessey SP8606M Plessey							

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

DIGITAL—Special (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Divider, Divide by 40/41, to 225 MHz	DS8616	National		Divider Extender, Divide by 4, to Extend Division Ratios of Two Modulus Counters while Maintaining the Difference (i.e., 5/6 to 20/21)	SP8790A SP8790B	† Plessey Plessey		Schmitt Trigger, Zener Clamped Output (supply 2.2 to 6 V)	CS102	Cherry Semi	
Divider, Divide by 40/41, 225 MHz	MC12016	Motorola						Schmitt Trigger, Dual, Low Voltage	SN76811	TI	85
Divider, Divide by 50/60, to 1 MHz	RED50/60	LSI Comp (2883)		Divider Extender, Divide by 8 (i.e., extends 5/6 to 40/41)	SP8794A SP8794B	† Plessey Plessey		Solid State Relay (high voltage)	LH1191AT LH1192AT	AT&T (2536) AT&T (2536)	
Divider, Divide by 64, above 1 GHz	SP8755A SP8755B U264	† Plessey Plessey Telefunken	5	Divider, Programmable; 6–1/2 Decade, to 4.5 GHz	HEF4751	Signetics	40	Static RAM, 256x8, w/ Alarm Clock/Calendar	PCF8583	Signetics	
Divider, Divide by 64, 0.03 to 1 GHz, ECL Output	U664B U664BS	Telefunken Telefunken		Dividorted priority interrupts, ROM/PROM expandable to 64K with ISBC Multi-Module.	MC12011	Motorola					
Divider, Divide by 64, 0.03 to 1.2 GHz, ECL Output	U624BS	Telefunken		Filter, Digital Programmable High Order, Low-Pass	FLJ-DC FLJ-D1 FLJ-D2 FLJ-D5 FLJ-D6 FLT-C1	Datel (2599) Datel (2599) Datel (2599) Datel (2599) Datel (2599) Datel (2599)	45				
Divider, Divide by 64/65, to 225 MHz	DS8617	National	10	Filter, Resistor Tuneable	FLJ-UR	Datel (2599)					
Divider, Divide by 64/65, 225 MHz	MC12017	Motorola		Hall Effect Switch (senses magnetic field)	DN6835 DN6837 DN6838 DN6839 DN834 DN835 DN837 DN838 DN839 TL170C TL172C	Panasonic Panasonic Panasonic Panasonic Panasonic Panasonic Panasonic Panasonic Panasonic TI TI	50 55 60				
Divider, Divide by 64/256, 90–1000 MHz	CA3163 MC12071	GE/RCA (2657) Motorola		Inverter, Triple PMOS	LM8942	Sanyo					
Divider, Divide by 64, 1 GHz	SAB1164 SAB1165	Signetics Signetics	15	LED Driver System, 8 Decade 8x8 Memory, Decoder (versions either hardware or processor controlled)	ICM7218A ICM7218B ICM7218C ICM7218D ICM7218E	GE/Intersil (2686) GE/Intersil (2686) GE/Intersil (2686) GE/Intersil (2686) GE/Intersil (2686)					
Divider, Divide by 64, 1.1 GHz	MC12073	Motorola			ICM7218A ICM7218B ICM7218C ICM7218D	◊ Maxim ◊ Maxim ◊ Maxim ◊ Maxim	65 70				
Divider, Divide by 64, 225 MHz	MC12023	Motorola		Multiplexer/Demultiplexer, 8-Channel Latched, Binary Addressable (supply –5 to –70 V)	LS7110	LSI Comp (2883)					
Divider, Divide by 100, to 150 MHz	DS8629 SP8629	National Plessey		Multiplier (16x16)	WTL1516	Weitek					
Divider, Divide by 100/120	RED100/120	LSI Comp (2883)	20	Multiplier-Accumulator (16x16)	WTL1010C WTL1010M	Weitek † Weitek					
Divider, Divide by 128/129, 520 MHz	MC12018	Motorola		PIN Diode Drivers	DH0035 DH0035C UDS5791H	† National National † Sprague	75				
Divider, Divide by 239,240,255,256, to 0.5 GHz	SP8906	Plessey		Programmable Diode Martix, 8x10	CA416	Calmos					
Divider, Divide by 256, above 1 GHz	U266	Telefunken		Programmable Diode Matrix, 10x16	S353	Siemens					
Divider, Divide by 256, 0.03 to 1 GHz, ECL Output	U666B U666BS	Telefunken Telefunken	25	Resistor Network, Logic Controlled	FLJ-ACR1 FLJ-ACR2	Datel Datel	80				
Divider, Divide by 256, 0.03 to 1 GHz, TTL Output	U666BST	Telefunken		Schmitt Trigger, Programmable	CA3098 CA3099	† GE/RCA (2648) † GE/RCA					
Divider, Divide by 256, 0.03 to 1.2 GHz, ECL Output	U626BS	Telefunken									
Divider, Divide by 256, 0.03 to 1.3 GHz, ECL Output	U636BS	Telefunken									
Divider, Divide by 256, 0.03 to 1.5 GHz, ECL Output	U656BS	Telefunken									
Divider, Divide by 256, 1 GHz	SAB1256	Signetics	30								
Divider, Divide by 256, 1.1 GHz	MC12074	Motorola									
Divider, Divide by 300/360	RED300/360	LSI Comp (2883)									
Divider, Divide by 478,480,510,512, to 1 GHz	SP8901	Plessey									
Divider, Divide by 960/1024, 0.03 to 1 GHz, TTL Output	U665B	Telefunken									
Divider, Divide by 3000/3600	RED3000/3600	LSI Comp (2883)	35								
Divider, Divide by 4096, 0.03 to 1 GHz, TTL Output	U496BS	Telefunken									

† Military Temperature Range (–55° to 125°C)

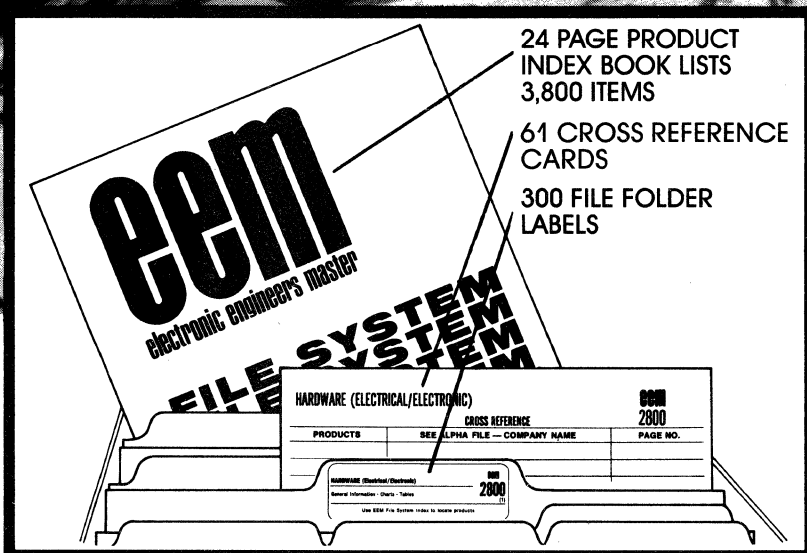
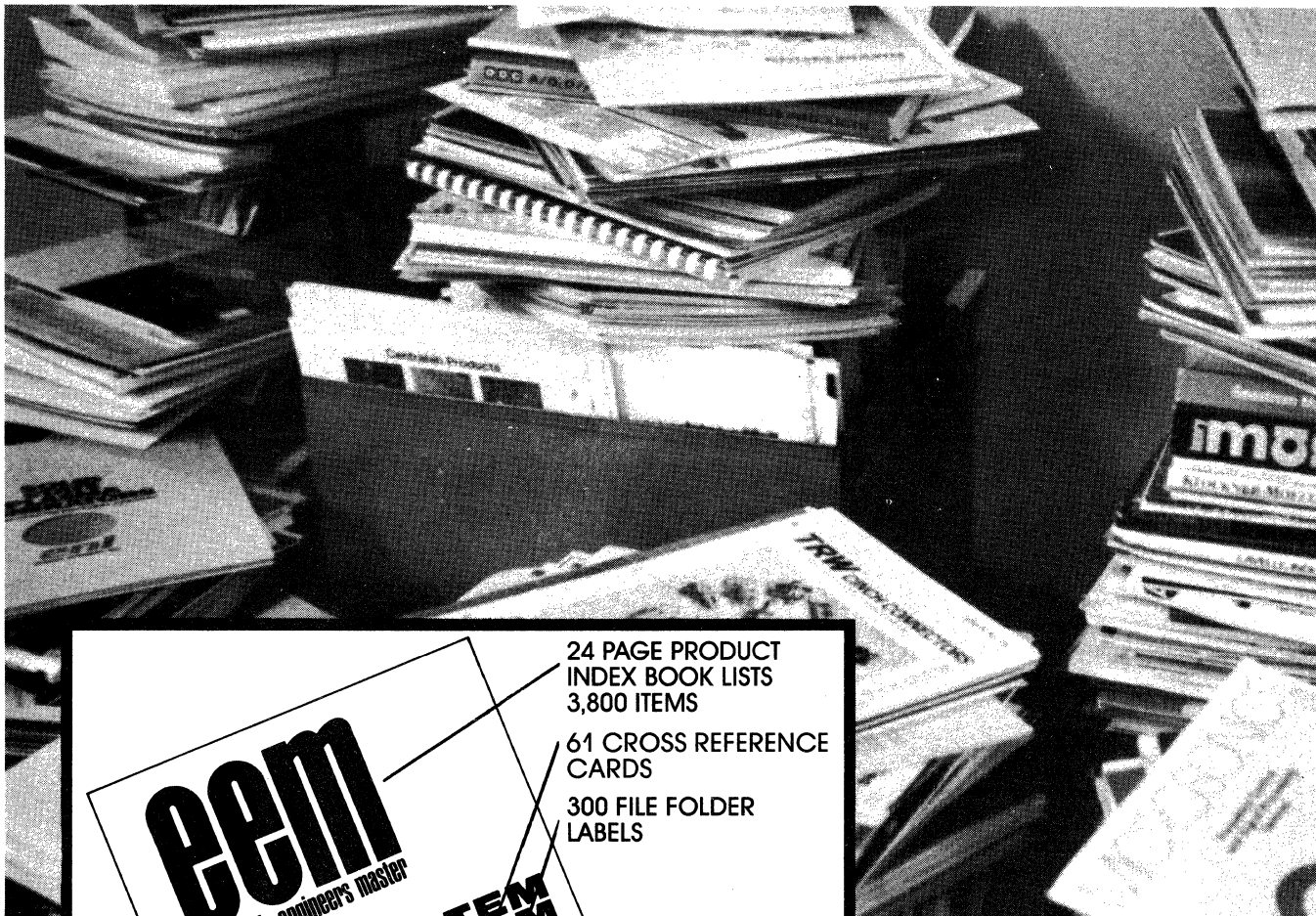
‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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INTRODUCTION TO MICROPROCESSORS

This section begins with a Master Selection Guide that covers all major parameters needed to choose a microprocessor for a particular application. Microprocessors are sequenced by increasing data word size and then alphabetically by manufacturer.

Once you've chosen the proper microprocessor for your application, go to the System Components section. These are arranged alphanumerically by microprocessor, and shows all of the available peripheral devices that work with a particular microprocessor.

Finally, there is a General Purpose section describing devices that can be used in many different microprocessor systems, not just in certain families.

MICROPROCESSORS

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
—	CMOS	5	84	20	152	30	9216			10	0.1			
S8	CMOS		20	8	32K	44	64x8	1Kx8		20	1	3	x	x
x	BIP	5	24							10				
2BS	TTL	5	40	18	512	512				6	45			
2BS	TTL	5	40	18	512	512				6	45			
4	CMOS	5	40							32				
4	CMOS	5	40	9	User defined	512				32				
4	CMOS	5	40	9	User defined	512				31				
4	CMOS	5	40	9	User defined	512				31				
4	CMOS	5	16	8,16	512	72	16x4	512x8		2	3		x	x
4	CMOS	5	16	8,16	1024	72	32x4	1Kx8		2	3		x	x
4	CMOS	5,3.5–6	42	8,16	4K	70	192x4	4Kx8		2	3		x	x
4	CMOS	5,3.5–6	42	8,16	2K	70	128x4	2Kx8		2	3		x	x
4	CMOS	5	42	8,16	1K	70	64Kx4	1Kx8		2	3		x	x
4	CMOS	3.5–6	42	8,16	2K	70	128x4	2Kx8		2	3		x	x
4	CMOS	2.5–3.5	42	8,16	2K	70	128x4	2Kx8		2	3		x	x
4	CMOS	5	42	8,16	1K	70	64Kx4	1Kx8		2	3		x	x
4	CMOS	5	42	8,16	2K	72	128x4	2Kx8		2	3		x	x
4	CMOS	5	42	8,16	2K	72	128x4	2Kx8		2	3		x	x
4	CMOS	5	28	8,16	1K	72	64x4	1Kx8		2	3		x	x
4	CMOS	3.5–6	28	8,16	1K	72	64x4	1Kx8		2	3		x	x
4	CMOS	2.5–3.5	28	8,16	1K	72	64x4	1Kx8		2	3		x	x
4	CMOS	5	70	8,16	4K	72	196x4	4Kx8		2	3		x	x
4	CMOS	5	80			76	256x4			3	2.0		x	x
4	CMOS	5	80			80	256x4			3	2.0		x	x
4	CMOS	5	80			82	256x4			3	2.5		x	x
4	CMOS	5	80			82	256x4			4	1.5		x	x
4	CMOS	5	80			82	256x4			3	2.5		x	x
4	CMOS	5	80			82	256x4			4	1.5		x	x
4	CMOS	5	80			70				4.5	6.67			
4	CMOS	5	80			71				4.5	6.67		x	x
4	CMOS	5	64	10		99	256x4	4096x10		4.5	1.78/20	5	x	x
4	CMOS	5	80	10		71	160x4	2.1Kx10		0.5	10	2	x	
4	CMOS	5	64	10		99	576x4	4Kx10			1.33	5	x	x
4	CMOS	5	42	10		98	576x4			6.2	1.33	3	x	x
4	CMOS	5	64	10		99	576x4			6.2	1.33	5	x	x
4	CMOS	5	42	10		98	576x4	4Kx10			2.0	3	x	x
4	CMOS	4.5–6.0	64	10	2048	99	160x4	2Kx10		6.2	1.33	5	x	x
4	CMOS	4.0–6.0	64	10	2048	99	160x4	2Kx10		4.5	2	5	x	x
4	CMOS	2.7–6.0	64	10	2048	99	160x4	2Kx10		2.25	4	5	x	x
4	CMOS	4.5–6.0	64	10	4096	99	256x4	4Kx10		6.2	1.33	5	x	x
4	CMOS	4.0–6.0	64	10	4096	99	256x4	4Kx10		4.5	2	5	x	x
4	CMOS	2.7–6.0	64	10	4096	99	256x4	4Kx10		2.25	4	5	x	x

Cross Assem- bler	Software Support				Alternate Sources	Comments	Device	Source	Line	
	High Level Lan- guage	Programs								
		Debug	Diag- nostic	Edit						
X	X	X	X			Systolic array of 72 parallel processor elements	NCR45CG72	NCR	5	
X		X	X	X	Sierra	Software Selectable I/O Options.	COP822C	National		
					National	System Support, System Timing and Control Unit, special cycle for slow peripherals.	TI32201	TI		
						Use 74S182 for look-ahead carry and N3001 microprogram control unit.	N3001	Signetics		
						Use 74S182 for look-ahead carry and N3001 microprogram control unit.	N3002	Signetics		
						Compatible with bipolar 2901.	CA29C01	Calmos		
						25% Faster than "C" Spec 70mA lcc	CY7C901-23C	Cypress (2590)		
						15% Faster than "C" Spec 90mA lcc	CY7C901-27M	Cypress (2590)		
						lcc = 26.5mA, 1/10 Bipolar	CY7C901-31C	Cypress (2590)		
X						Low cost, 12 I/O ports, TTL/CMOS compatible.	MB88201	Fujitsu	10	
X						Low cost, 12 I/O ports, TTL/CMOS compatible.	MB88202	Fujitsu		
X						Other Vcc ranges available, 36 I/O ports TTL/CMOS compatible.	MB88501	Fujitsu		
X						Other Vcc ranges available, 36 I/O ports TTL/CMOS compatible.	MB88503	Fujitsu	15	
X						37 I/O ports, TTL/CMOS compatible.	MB8851	Fujitsu		
X						37 I/O ports, TTL/CMOS compatible.	MB8851A	Fujitsu		
X						37 I/O ports, TTL/CMOS compatible.	MB8851L	Fujitsu		
X						37 I/O ports, TTL/CMOS compatible.	MB8853	Fujitsu		
X						6 bit 3 Channel D/A, 34 I/O ports, TTL/CMOS compatible.	MB88535	Fujitsu		
X						6 bit 3 Channel, 13 bit 1 CHL D/A, 34 I/O ports, TTL/CMOS compatible.	MB88536	Fujitsu		
X						23 I/O ports, TTL/CMOS compatible.	MB8854	Fujitsu		
X						23 I/O ports, TTL/CMOS compatible.	MB8854A	Fujitsu		20
X						23 I/O ports TTL/CMOS compatible.	MB8854L	Fujitsu		
X						LCD driver, 29 I/O ports, TTL/CMOS compatible.	MB88541	Fujitsu		
X						On-chip LCD driver with 24-segment output.	MB88543	Fujitsu	25	
X						On-chip LCD driver with 32-segment output.	MB88545	Fujitsu		
X						On-chip A/D converter, 68 I/O ports.	MB88551	Fujitsu		
X						On-chip A/D converter, high speed version of 88551.	MB88551H	Fujitsu		
X						On-chip A/D converter, 68 I/O ports.	MB88552	Fujitsu		
X						On-chip A/D converter, high speed version of 88552.	MB88552H	Fujitsu		
						On-chip LCD driver, PLL, A/D converter.	MB88561	Fujitsu		30
X						On-chip VFD driver, PLL, A/D converter.	MB88562	Fujitsu		
X		X		X		26 High voltage pins, 8-bit serial interface	GM8460	GoldStar		
X						Drives seven segment LCDs, on chip counter timer. 32 I/O lines.	HD44790	Hitachi	35	
X		X	X	X		58 I/O lines, 26 high voltage (40 V max)	HD614P0160S	Hitachi		
X		X	X	X		EPROM-on-package device (8K ROM max) for HMCS412 series	HD614P080C	Hitachi		
X		X	X	X		EPROM-on-package device (8K ROM max) for HMCS402/404 series	HD614P080S	Hitachi		
X		X	X	X		36 I/O lines, 24 high voltage (40 V max)	HD614P180S4	Hitachi		
X		X	X	X		58 I/O Lines; 26 high voltage (40V max), serial interface	HMCS402AC	Hitachi		
X		X	X	X		58 I/O Lines; 26 high voltage (40V max), serial interface	HMCS402C	Hitachi		
X		X	X	X		58 I/O Lines; 26 high voltage (40V max), serial interface	HMCS402CL	Hitachi		40
X		X	X	X		58 I/O Lines; 26 high voltage (40V max), serial interface	HMCS404AC	Hitachi		
X		X	X	X		58 I/O Lines; 26 high voltage (40V max), serial interface	HMCS404C	Hitachi		
X		X	X	X		58 I/O Lines; 26 high voltage (40V max), serial interface	HMCS404CL	Hitachi		

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-tying System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
4	CMOS	4.5 to 6	64	10		99	512x4	8Kx10			3.55	5	x	x
4	CMOS	4.5–6.0	42	10	2048	98	160x4	2Kx10		6.2	1.33	3	x	x
4	CMOS	4.0–6.0	42	10	2048	98	160x4	2Kx10		4.5	2	3	x	x
4	CMOS	2.7–6.0	42	10	2048	98	160x4	2Kx10		2.25	4	3	x	x
4	CMOS	5	42	10		98	160x4	4Kx10			2	3	x	x
4	CMOS	5	42	10	2048	71	160x4	2Kx10		0.5	10	3	x	x
4	CMOS	3	42	10	2048	71	160x4	2Kx10		0.5	20	3	x	x
4	CMOS	5	54	10	2048	71	160x4	2Kx10		0.5	10	3	x	x
4	CMOS	3	54	10	2048	71	160x4	2Kx10		0.5	20	3	x	x
4	CMOS	5	42	10	4096	71	256x4	4Kx10		0.9	5	3	x	x
4	CMOS	3	42	10	4096	71	256x4	4Kx10		0.9	20	3	x	x
4	CMOS	5	54	10	4096	71	256x4	4Kx10		0.9	5	3	x	x
4	CMOS	3	54	10	4096	71	256x4	4Kx10		0.9	20	3	x	x
4	CMOS	2.5 to 6	64	10		99	512x4	8Kx10			1.78	5	x	x
4	CMOS	5	80	10	2048	71	160x4	2Kx10		0.5	10	3	x	x
4	CMOS	5	80	10	4096	71	256x4	4Kx10		1.0	5	3	x	x
4	NMOS	4.5–6.3	48	8	2K		160x4	.25/1			4/10	4/CPU	x	x
4	NMOS	4.5–9.5	40	8	512	40	32x4	see comments		2.097	15/40		x	x
4	NMOS	4.5–9.5	40	8	512	40	32x4	see comments		0.50	16/40		x	x
4	NMOS	4.5–9.5	40	8	512	40	32x4	see comments		0.50	16/40		x	x
4	NMOS	4.5–6.3	40	8	1K	49	64x4	See comments		4	4/10	3	x	x
4	NMOS	4.5–6.3	40	8	1K	49	64x4	See comments		4	4/10		x	x
4	NMOS	4.5–9.5	40	8	2K	49	128x4	See comments		2.1	16/40	3	x	x
4	NMOS	4.5–9.5	40	8	2048	49	128x4	See comments		2.1	16/40	3	x	x
4	CMOS	2.4–6.0	24	8	512	40	32x4	512		0.25	4/dc		x	x
4	NMOS	4.5–6.3	24	8	512	40	32x4	512		0.25	15/40		x	x
4	CMOS	2.4–6.0	20	8	512	40	32x4	512		0.25	4/dc		x	x
4	NMOS	4.5–6.3	20	8	512	40	32x4	512x8		0.25	15/40	2	x	x
4	CMOS	3.0–5.5	20	8	512	40	32x4	512x8		0.50	16/dc		x	x
4	CMOS	4.5–5.5	20	8	512	40	32x4	512x8		2.0	4/dc		x	x
4	NMOS	4.5–5.5	20	8	512	40	32x4	512x8		0.50	16/40		x	x
4	NMOS		20	8	512		64x4	512		.25	16		x	x
4	NMOS	4.5–6.3	28	8	1K	49	64x4	1Kx8		2.1	4/10	3	x	x
4	NMOS	4.5–9.5	28	8	1K	49	64x4	1Kx8		2.1	4/dc	3	x	x
4	NMOS	4.5–6.3		8	1K	49	64x4	1Kx8		2.1		3	x	x

Cross Assem- bler	High Level Lan- guage	Software Support			Alternate Sources	Comments	Device Source		Line
		Programs							
		Debug	Diag- nostic	Edit					
x		x	x	x		58 I/O lines, 26 high voltage (40 V max)	HMCS408AC	Hitachi	5
x		x	x	x		36 I/O Lines, 24 high voltage (40V max)	HMCS412AC	Hitachi	
x		x	x	x		36 I/O Lines, 24 high voltage (40V max)	HMCS412C	Hitachi	
x		x	x	x		36 I/O Lines, 24 high voltage (40V max)	HMCS412CL	Hitachi	
x		x	x	x		36 I/O lines, 24 high voltage (40 V max)	HMCS414C	Hitachi	
x		x	x	x		32 I/O Lines, stand-by mode, on-chip counter	HMCS44C	Hitachi	10
x		x	x	x		32 I/O Lines, stand-by mode, on-chip counter	HMCS44CL	Hitachi	
x		x	x	x		44 I/O Lines, stand-by moe, on-chip counter	HMCS45C	Hitachi	
x		x	x	x		44 I/O Lines, stand-by moe, on-chip counter	HMCS45CL	Hitachi	
x		x	x	x		32 I/O Lines, stand-by mode, on-chip counter	HMCS46C	Hitachi	
x		x	x	x		32 I/O Lines, stand-by mode, on-chip counter	HMCS46CL	Hitachi	15
x		x	x	x		44 I/O Lines, stand-by mode, on-chip counter	HMCS47C	Hitachi	
x		x	x	x		44 I/O Lines, stand-by mode, on-chip counter	HMCS47CL	Hitachi	
x		x	x	x		58 I/O lines, 26 high voltage (40 V max)	HMC408CL	Hitachi	
x		x	x	x		32 I/O Lines, power-on-reset, on-chip LCD drive	LCD-III	Hitachi	
x		x	x	x		32 I/O Lines, power-on-reset, on-chip LCD drive	LCD-IV	Hitachi	20
x		x	x	x		Same as COP2440 except no on chip ROM and faster execution time (4μs). Interfaces with MM2716 EPROM. COP2304 is extended temperature range device.	COP2404	National	
x		x	x	x		Romless microcontroller, emulated COP410L/COP411L, interfaces with external memory, will accept MM2716, NM27C16, MM2758A, MM2758B 1K byte accessories.	COP401L	National	
x		x	x	x		Same as COP401L except emulates COP413L with selected RC oscillator option.	COP401L-R13	National	
x		x	x	x		Same as COP401L except emulates COP413L with selected RC oscillator option.	COP401L-X13	National	
x		x	x	x	Western Digital	Has piggyback EPROM socket. Will accept: MM2716, NM27C16, MM2758A, MM2758B. 1K byte accessible.	COP402	National	25
x		x	x	x	Western Digital	Has piggyback EPROM socket. Will accept: MM2716, NM27C16, MM2758A, MM2758B. 1K byte accessible.	COP402M	National	
x		x	x	x	Western Digital	Has piggyback EPROM socket. Will accept MM2716, 2758A, 2758B or NM27C16 EPROM. 2K Byte accessible. Open drain memory interface drivers.	COP404LP	National	
x		x	x	x	Western Digital	Same as COP404LP except push pull memory interface drivers.	COP404LS	National	
x		x	x	x		4μs instruction cycle time, 20 I/O lines, 2 level subroutine stack, COP310C operates extended temperature range, COP210C operates full temperature range.	COP410C	National	
x		x	x	x	Eurotechnique, Western Digital	16 I/O lines, 24 pins, COP310L has extended temperature range (-40°C to -85°C).	COP410L	National	30
x		x	x	x		4μs instruction cycle time, 16 I/O lines, 2 level subroutine stack, COP311C operates extended temperature range, COP211C operates full temperature range.	COP411C	National	
x		x	x	x	Eurotechnique, Western Digital	13 I/O lines, 20 pins, COP311L has extended temperature range (-40°C to -85°C).	COP411L	National	
x		x	x	x		16 I/O lines, 20 pins COP313C has extended temperature range (-40°C to 85°C)	COP413C	National	
x		x	x	x		16 I/O lines, 20 pins COP313CH has extended temperature range.	COP413CH	National	
x		x	x	x		15 I/O lines, 20 pins, COP313L has extended temperature range.	COP413L	National	35
x		x	x	x			COP414L	National	
x		x	x	x	Eurotechnique, Western Digital	COP32X is extended temperature range version. Also available in smaller packages: COP421 series-24 pins, COP422 series-20 pins.	COP420	National	
x		x	x	x	Eurotechnique, Western Digital	Same as COP420 except 23 I/O lines.	COP420L	National	
x		x	x	x		Basically the same as COP420 except piggyback microcontroller. CPU, RAM, I/O and EPROM socket. Accepts: MM2716, NMC27C16, MM2758A, MM2758B. 1K byte accessible.	COP420R	National	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-tying System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
4	CMOS	3-5	28	8	1K		64x4	1Kx4		4	4/dc		x	x
4	CMOS	3-5	24	8	1K		64x4	1Kx4		4	4/dc		x	x
4	CMOS	2.4-5.0	20	8	1K		64x4	1Kx8		0.25	4/dc		x	x
4	NMOS	4.5-6.3	40	8	2K	49	160x4	2Kx8		1.0	4/10	4	x	x
4	NMOS	4.5-6.3	40	8	2K	49	160x4	2Kx8			4/10	4	x	x
4	NMOS	4.5-6.3	28	8	2K		160x4	2Kx8			4/10	4	x	x
4	NMOS	4.5-6.3	24	8	2K		160x4	2Kx8			4/10	4	x	x
4	CMOS	3-5	28	8	2K		128x4	2Kx4		4	4/dc		x	x
4	NMOS	4.5-6.3	28	8	2K	49	128x4	2Kx8		2.1	15/40	3	x	x
4	NMOS	4.5-6.3	28	8	2K	49	128x4	2Kx8		2.1	15/40	3	x	x
4	CMOS	3-5	24	8	2K		128x4	2Kx4		4	4/dc		x	x
4	NMOS	4.5-6.3	24	8	2K	49	128x4	2Kx8		2.1	15/40	3	x	x
4	CMOS	5		8			96x4 max	2000 max		0.44			x	
4	CMOS	4.5-5.5	40	8	4K	92	224x4	4K		0.4	5	x	x	x
4	CMOS	4.5-5.5	40	8	4K	92	224x4	4K		4.19	2.86	4	x	x
4	CMOS	4.5-5.5	64	8	6K	107	256x4	6K		6.55	2.44	4	x	x
4	CMOS	4.5-5.5	64	8	4K	106	256x4	4K		4.19	7.63	4	x	x
4	CMOS	4.5-5.5	64	8	4K	106	256x4	4K		6.55	2.44	4	x	x
4	CMOS	4.5-5.5	64	8	8K	43	497x4	8K		5	0.8	8	x	x
4	CMOS	4.5-5.5	42	8	4K	67	160x4	4K		0.4	5	3	x	x
4	CMOS	4.5-5.5	42	8	4K	67	160x4	4K		0.4	5	3	x	x
4	CMOS	4.5-6.0	42	8	4K	67	160x4	4K		0.4	5	3	x	x
4	CMOS	4.5-5.5	64	8	8K	43	512x4	8K		5	0.8	7	x	x
4	CMOS	4.5-5.5	80	8	8K	42	512x4	8K		5	0.8	6	x	x
4	CMOS	2.7-5.5	64	8		110	256x4			0.28	6.67		x	x
4	CMOS	4.5-5.5	64	8	1K	45	64x4	1K		0.7	2.86	2	x	x
4	CMOS	2.7-5.5	64	8		63	96x4	1Kx8		0.28	6.67	4	x	x
4	CMOS	2.7-5.5	64	8		92	128x4	2Kx8		0.28	6.67	4	x	x
4	CMOS	2.7-5.5	64	8		92	224x4	4Kx8		0.28	6.67	4	x	x
4	CMOS	2.7-5.5	28/52	8		58	64x4	1Kx8		0.28	10	2	x	x
4	CMOS	2.7-5.5	40/52	8		92	128x4	2Kx8		0.28	10	4	x	x
4	CMOS	2.7-6.0	40/44	8	2K	92	128x4	2K		4.19	2.86	4	x	x
4	CMOS	2.7-5.5	40/52	8		91	128x4	2Kx8		0.28	10	4	x	x
4	CMOS	2.7-5.5	28/40	8		92	224x4	4Kx8		0.28	10	4	x	x
4	CMOS	2.7-5.5	40	8		92	208x4	4Kx8		0.28	10	4	x	x

MASTER SELECTION GUIDE

Cross Assembler	Software Support				Alternate Sources	Comments	Device Source		Line
	High Level Language	Programs							
		Debug	Diagnostic	Edit					
X		X	X	X		23 I/O lines. COP324C has extended temperature range (−40°C to 85°C).	COP424C	National	5
X		X	X	X		COP424C less 4 general-purpose inputs.	COP425C	National	
X		X	X	X		COP424C less eight general purpose inputs.	COP426C	National	
X		X	X	X		CPU version of COP2440 series, COP340 is extended temperature range version. 40 pins. 35 I/O lines.	COP440	National	
X		X	X	X		Piggyback Microcontroller: CPU, RAM, I/O and EPROM socket. Accepts: MM2716, NMC27C16, MM2758A, MM27588 EPROMs. Same electrical specs as base P/N.	COP440R	National	
X		X	X	X		CPU version of COP2440 series, COP341 is extended temperature range version. 28 pins. 23 I/O lines.	COP441	National	10
X		X	X	X		CPU version of COP2440 series, COP342 is extended temperature range version. 24 pins. 19 I/O lines.	COP442	National	
X		X	X	X		23 I/O Lines. COP344C has extended temperature range (−40° C to 85°C).	COP444C	National	
X		X	X	X		28 pins, 16 I/O lines.	COP444L	National	
X		X	X	X		Piggyback Microcontroller: CPU, RAM, I/O and EPROM socket. Accepts: MM2716, NMC27C16, MM2758A, MM27588 EPROMs. Same electrical specs as base P/N.	COP444LR	National	
X		X	X	X		COP444C less 4 general-purpose inputs.	COP445C	National	15
X		X	X	X		24 pin package, no interrupt, 12 I/O lines.	COP445L	National	
X						μCOM−4 single chip microprocessor family. Consists of 14 individual devices with various RAM, ROM, I/O subroutine stack level options.	μCOM-4	NEC	
	X	X	X			Piggyback version for uPD7507, and uPD7508.	μPD75CG08	NEC	
X		X	X	X		Piggyback version for uPD7507H and uPD7508H.	μPD75CG08H	NEC	
X		X	X	X		Piggyback version for uPD7516H.	μPD75CG16H	NEC	20
X		X	X	X		Piggyback version for uPD7519.	μPD75CG19	NEC	
X		X	X	X		Piggyback version for uPD7519H.	μPD75CG19H	NEC	
X		X	X	X		Piggyback version for uPD76206, uPD75208.	μPD75CG208	NEC	
X		X	X	X		Piggyback version for uPD7527A, uPD7528A.	μPD75CG28A	NEC	
X		X	X	X		Piggyback version for uPD7533.	μPD75CG33	NEC	25
X		X	X	X		Piggyback version for uPD7537, uPD7538.	μPD75CG38	NEC	
X		X	X	X		EPROM version for uPD75104, uPD75106, uPD75108	μPD75P108	NEC	
X		X	X	X		EPROM version for uPD75308.	μPD75P308	NEC	
X	X	X	X	X		ROM-less evaluation chip, 8-bit timer/counter, 8-bit serial interface, 32 I/O lines	μPD7500	NEC	
X		X	X	X		8-Bit timer/counter, comparator-four channel, direct drive LED−14 lines, mask option I/O.	μPD7500H	NEC	30
X	X	X	X	X			μPD7501	NEC	
X	X	X	X	X			μPD7502	NEC	
X	X	X	X	X			μPD7503	NEC	
X	X	X	X	X		Eight-bit timer/counter, 8-bit serial interface, 32 I/O lines	μPD7506	NEC	
X	X	X	X	X		Eight-bit timer/counter, 8-bit serial interface, 22 I/O lines	μPD7507	NEC	35
X		X	X	X		8-Bit timer/conter, 8-Bit SIO, 32 I/O lines, direct drive LED−16 lines.	μPD7507H	NEC	
X	X	X	X	X		Eight-bit timer/counter, 8-bit serial interface, 20 I/O lines	μPD7507S	NEC	
X	X	X	X	X		Eight-bit timer/counter, 8-bit serial interface, 40 I/O lines	μPD7508	NEC	
X	X	X	X	X		Vacuum fluorescent display driver, 8-bit timer/counter, 8-bit serial interface, 32 I/O lines	μPD7508A	NEC	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture							Hardware Support			
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-tying System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
4	CMOS	2.7-6.0	64	8	4K	43	320x4	4K		5	0.8	7	x	x
4	CMOS	2.7-6.0	64	8	6K	43	320x4	6016		5	0.8	7	x	x
4	CMOS	2.7-6.0	64	8	8K	43	512x4	8064		5	0.8	7	x	x
4	CMOS	2.5-6.0	64	8	6K	107	256x4	6K		6.55	2.44	4	x	x
4	CMOS	2.7-5.5	64	8		92	256x4	4Kx8		0.2	10	4	x	x
4	CMOS	2.5-6.0	64	8	4K	106	256x4	4K		6.55	2.44	4	x	x
4	PMOS	-6 to -10	28	8	750	47	48x4	768		0.45			x	x
4	CMOS	4.5-5.5	64	8	6K	43	368x4	6016		5	0.8	8	x	x
4	CMOS	2.5-6.0	64	8	8K	43	497x4	8064		5	0.8	8	x	x
4	CMOS	2.7-6.0	42	8	2K	67	128x4	2K		0.6	3.3	3.0	x	x
4	CMOS	2.7-6.0	42	8	4K	67	160x4	4K		0.6	3.3	3.0	x	x
4	CMOS	2.7-6.0	80	8	8K	42	512x4	8064		5	0.8	6	x	x
4	CMOS	2.7-6.0	42/44	8	4K	67	160x4	4K		0.4	5	3	x	x
4	CMOS	2.7-6.0	42	8	2K	67	128x4	2K		0.6	3.3	3	x	x
4	CMOS	2.7-6.0	42	8	4K	67	160x4	4K		0.6	3.3	3	x	x
4	CMOS	2.5-6.0	20	8	1K	47	64x4	1K		0.7	2.86	3	x	x
4	CMOS	2.5-6.0	24	8	1K	45	64x4	1K		0.7	2.86	2	x	x
4	CMOS	2.5-6.0	20	8	1K	45	64x4	1K		0.7	2.86	3	x	x
4	CMOS	2.5-6.0	24	8	1K	45	64x4	1K		0.7	2.86	2	x	x
4	CMOS	3-6	42	8	—	98	128x4	—		2	16	2	x	x
4	CMOS	3-6	42	8	2K	98	128x4	2K		2	16	2	x	x
4	CMOS	4-6	60	8	1536	52	40x4	1536x8		4	8/16		x	x
4	CMOS	5	40	8	1536	52	32x4	1280x8		4	8/16		x	x
4	CMOS	3-6	42	8	1280	49	64x4	1280x8		4	8/16	2	x	x
4	NMOS	5	40	8	1024	75	64x4	1024		0.45	10/20	1		
4	NMOS	5	28	8	768	57	32x4	768		0.45	10/20	1	x	x
4	NMOS	5	18	8	512	50	16x4	512		0.45	10/20	1	x	x
4	NMOS	5	16	8	512	48	16x4	512		0.45	10/20	1	x	x
4	NMOS	5	40	8	2048	75	128x4	2048		0.45	10/20	2	x	x
4	PMOS	-15	40	8	1024	75	64x4	1024		0.3	15/30	1	x	x
4	PMOS	-15	28	8	768	57	32x4	768		0.3	15/30	1	x	x
4	PMOS	-15	40	8	2048	75	128x4	2048		0.3	15/30	2	x	x
4	CMOS	5	40	8	1024	75	64x4	1024		0.5	10/20	1	x	x
4	CMOS	5	18	8	512	50	16x4	512x8		0.5	10/20	1	x	x
4	CMOS	5	16	8	512	48	16x4	512x8		0.5	10/20	1	x	x

Cross Assembler	Software Support				Alternate Sources	Comments	Device		Line
	High Level Language	Programs					Source		
		Debug	Diagnostic	Edit					
X		X	X	X		Three 8-Bit Timers, 8-Bit SIO, Four Comparators, LED direct drive	μPD75104	NEC	5
X		X	X	X		Three 8-Bit timers, 8-Bit SIO, Four Comparators, LED direct drive.	μPD75106	NEC	
X		X	X	X		Three 8-Bit timers, 8-Bit SIO, Four Comparators, LED direct drive.	μPD75108	NEC	
X		X	X	X		8-Bit timer/counter, 8-Bit SIO, 14-Bit PWM, 10-Bit signal generator.	μPD7516H	NEC	
X	X	X	X	X		Vacuum fluorescent display driver, 14-bit D/A, 28 I/O lines	μPD7519	NEC	
X		X	X	X		8-Bit timer/counter, 8-Bit SIO, 14-Bit PWM, 10-Bit signal generator.	μPD7519H	NEC	10
X	X	X	X	X		Directly drives 8 digit, 8 segment LED display, 24 I/O lines.	μPD7520	NEC	
X		X	X	X		Four 8-Bit timers, 8-Bit SIO, 14-Bit PWM.	μPD75206	NEC	
X		X	X	X		Four 8-Bit timers, 8-Bit SIO, 14-Bit PWM.	μPD75208	NEC	
X		X	X	X		8-Bit timer/counter, 8-Bit SIO, direct drive LED-16 lines.	μPD7527A	NEC	
X		X	X	X		8-Bit timer/counter, 8-Bit SIO, direct drive FIP-31 lines.	μPD7528A	NEC	
X		X	X	X		Three 8-Bit timers, 8-Bit SIO, 14-Bit PWM.	μPD75308	NEC	
X		X	X	X		Direct drive LED-16 lines, Four channel 8-Bit A/D converter.	μPD7533	NEC	
X		X	X	X		Direct drive FIP-31 lines, 8-Bit timer/counter, Zero cross detection circuit.	μPD7537A	NEC	
X		X	X	X		8-Bit timer/counter, 8-Bit SIO, direct drive FIP-31 lines, direct drive LED-16 lines.	μPD7538A	NEC	
X		X	X	X		8-Bit timer/counter, 8-Bit SIO, direct drive LED-12 lines, mask option I/O.	μPD7554	NEC	
X		X	X	X		8-Bit timer/counter, comparator-four channel, direct drive LED-14 lines, mask option I/O.	μPD7556	NEC	
X		X	X	X		8-Bit timer/counter, 8-Bit SIO, direct drive LED-12 lines, mask option I/O.	μPD7564	NEC	
X		X	X	X		8-Bit timer/counter, comparator-four channel, direct drive LED-14 lines, mask option I/O.	μPD7566	NEC	
X		X	X	X		Evaluator chip for Series 40 microcomputers.	MSM5840	OKI	20
X		X	X	X		30 I/O lines, 8-Bit programmable timer.	MSM5840RS	OKI	
X		X	X	X		13 I/O lines, 40 LCD segment outputs, 12-bit timer.	MSM58421GS	OKI	
X		X	X	X		9 I/O lines, 24 Vacuum Fluorescent segment outputs, 8-bit timer.	MSM584223RS	OKI	
X		X	X	X		30 I/O lines, 8-bit timer/counter.	MSM5845	OKI	
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1400	Panasonic	25
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1402	Panasonic	
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1403	Panasonic	
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1404	Panasonic	
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1405	Panasonic	
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1430	Panasonic	30
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1432	Panasonic	
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1435	Panasonic	
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1450	Panasonic	
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1453	Panasonic	
X		X	X	X		All the MN14XX series members are available in at least one other process type.	MN1454	Panasonic	35

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture							Hardware Support			
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
4	CMOS	5	40	8	2K	75	128x4	2Kx8		0.5	10/20	1	x	x
4	NMOS	5	40	8	1K	68	64x4			0.45	10/20	1	x	x
4	NMOS	5	64	8	2K	75	64x4			0.45	10/20	1	x	x
4	NMOS	5	64	8	2K	75	128x4			0.45	10/20	1	x	x
4	NMOS	5	40	8	4K	124	152x4	1536x8		4	2/4	4	x	x
4	NMOS	5	40	8	4K	124	152x4	2048x8		4	2/4	4	x	x
4	NMOS	5	40	8	4K	124	256x4	4096x8		4	2/4	4	x	x
4	NMOS	5	64	8	4K	124	152x4	2048x8		4	2/4	4	x	x
4	NMOS	5	64	8	4K	124	256x4	4096x8		4	2/4	4	x	x
4	CMOS	3-5		8	2K		128x4	2Kx4		0.03	30	4	x	x
4	CMOS	5.0	16	8	512	44	64	4K	x	6	1	2	x	x
4	CMOS	5.0	18	8	512	44	64	4K	x	6	1	2	x	x
4	CMOS	5.0	18	8	1024	46	128	8K	x	5	1	2	x	x
4	CMOS	5.0	24	8	1024	46	128	8K	x	5	1	2	x	x
4	CMOS	5.0	28	8	1024	46	128	8K	x	5	1	2	x	x
4	CMOS	1.5	60	12	3K	54	64x4	1024x12		0.04	122	3	x	x
4	CMOS	1.5-3	80	10	7.5K	58	128x4	3072x10		0.04	122	4	x	x
4	CMOS	3.0	60	12	1K	78	192	12K	x	0.04	122	1	x	x
4	CMOS	1.5	60	12	1K	78	192	12K	x	0.04	122	1	x	x
4	CMOS	3.0	60	12	1K	78	192	12K	x	0.6	8	1	x	x
4	CMOS	3.0	60	9	2K	45	192	18K	x	0.04	122	0	x	x
4	CMOS	1.5	60	9	2K	45	192	18K	x	0.04	122	0	x	x
4	CMOS	3.0	60	9	2K	45	192	18K	x	0.6	8	0	x	x
4	CMOS	3.0	60	9	3K	45	192	27K	x	0.04	122	0	x	x
4	CMOS	1.5	60	9	3K	45	192	27K	x	0.04	122	0	x	x
4	CMOS	3.0	60	9	3K	45	192	27K	x	0.6	8	0	x	x
4	CMOS	5	28	8	1K	43	64x4	1Kx8		0.6	15/60		x	
4	CMOS	5	40	8	1K	43	64x4	1Kx8		0.6	15/60		x	
4	CMOS	3	60	8	1K	54	96x4	2Kx8		0.3	6/120		x	
4	CMOS	2.7 to 5.5	80	4		97	1280	6Kx8		2.5	1.6	5	x	
4	PMOS	-9	28	8	1134	58	64x4	1134		0.4 *	10	x		x
4	PMOS	-9	60	9	2032	90	128x4	2032		0.4 *	10	1		
4	PMOS	-9	60	9	4064	90	192x4	4064		0.4 *	10	1	x	
4	PMOS	-9	60	9	4064	90	192x4	4064			10	3	x	
4	PMOS	-9	44	8	1536	54	64x4	1336		0.8	10		x	
4	PMOS	-12	64	9		95	192x4	4096x9		0.4	10	3	x	
4	NMOS	5	60	9	3072	100	128x4 + 16	3072		0.262 *	10	1	x	
4	PMOS	-15	60	8	2268	57	128x4	2268		0.2 *	10		x	
4	CMOS	-3	60	8	2268	54	96x4	2268		0.032 *	61		x	

MASTER SELECTION GUIDE

Cross Assem- bler	Software Support				Alternate Sources	Comments	Device		Line
	High Level Lan- guage	Programs					Source		
		Debug	Diag- nostic	Edit					
x		x	x	x		All the MN14XX series members are available in at least one other process type.	MN1455	Panasonic	5
x		x	x	x		All the MN14XX series members are available in at least one other process type.	MN1498	Panasonic	
x		x	x	x		All the MN14XX series members are available in at least one other process type.	MN1499	Panasonic	
x		x	x	x		All the MN14XX series members are available in at least one other process type.	MN1499A	Panasonic	
x		x	x	x		All the MN15XX series members have bidirectional I/O lines, 8 bit counter/timer, 8 bit serial shift register, and power down feature to save contents of RAM.	MN1541	Panasonic	
x		x	x	x		All the MN15XX series members have bidirectional I/O lines, 8 bit counter/timer, 8 bit serial shift register, and power down feature to save contents of RAM.	MN1542	Panasonic	10
x		x	x	x		All the MN15XX series members have bidirectional I/O lines, 8 bit counter/timer, 8 bit serial shift register, and power down feature to save contents of RAM.	MN1544	Panasonic	
x		x	x	x		All the MN15XX series members have bidirectional I/O lines, 8 bit counter/timer, 8 bit serial shift register, and power down feature to save contents of RAM.	MN1562	Panasonic	
x		x	x	x		All the MN15XX series members have bidirectional I/O lines, 8 bit counter/timer, 8 bit serial shift register, and power down feature to save contents of RAM.	MN1564	Panasonic	
x		x	x	x		1/4 duty 32-segment LCD driver. Instruction set is same as TMS1000.	SMC1112	S-MOS	
x		x	x	x		10 I/O ports	SMC4040C	S-MOS	15
x		x	x	x		12 I/O ports	SMC4041C	S-MOS	
x		x	x	x		12 I/O ports	SMC4051C	S-MOS	
x		x	x	x		18 I/O ports	SMC4052C	S-MOS	
x		x	x	x		22 I/O ports	SMC4053C	S-MOS	
x		x	x	x		2.5 μ A operating current, 27-segment LCD driver.	SMC4151F	S-MOS	20
x		x	x	x		5 μ A operating current, 46-segment LCD driver.	SMC4170F	S-MOS	
x		x	x	x		1.5 μ A typical operating current, 96 segment LCD driver	SMC6115F	S-MOS	
x		x	x	x		3 μ A typical operating current, 96 segment LCD driver	SMC6117F	S-MOS	
x		x	x	x		100 μ A typical operating current, 96 segment LCD driver	SMC6118F	S-MOS	
x		x	x	x		78 Segment LCD driver	SMC6125F	S-MOS	25
x		x	x	x		78 Segment LCD driver	SMC6127F	S-MOS	
x		x	x	x		78 Segment LCD driver	SMC6128F	S-MOS	
x		x	x	x		78 Segment LCD driver	SMC6135F	S-MOS	
x		x	x	x		78 Segment LCD driver	SMC6137F	S-MOS	
x		x	x	x		78 Segment LCD driver	SMC6138F	S-MOS	30
x		x	x	x			KS51000	Samsung	
x		x	x	x			KS51200	Samsung	
x		x	x	x		Built in LCD Driver Circuit	KS52000	Samsung	
x		x		x			LU5E4POP	Sharp	
							SM100	Sharp	35
x						Built-in 8-bit A/D converter.	SM110	Sharp	
x							SM111	Sharp	
x							SM114	Sharp	
x						Built-in display digit decoder.	SM120	Sharp	
x		x		x			SM143	Sharp	
x						Optionally expandable for external ROM/RAM.	SM200	Sharp	
x						Optionally expandable for external RAM.	SM3A	Sharp	
x						Optionally expandable for external RAM, built-in LCD driver circuit.	SM4A	Sharp	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
4	CMOS	-3	60	8	1827	51	65x4	1827		0.032 *	61			
4	CMOS	2.7 to 5.5	80	8		99	192x4	4096x4		2.5	1	5	x	
4	CMOS	2.7 to 5.5	80	8		99	256x4	6144x8		2.5	1	5	x	
4	CMOS	2.7 to 5.5	80	4		97	1792	8Kx8		2.5	1.6	5	x	
4	CMOS	2.7 to 5.5	48	9		104	256x4	4096x9		4	4	6		
4	CMOS	2.7 to 5.5	64	4		93	768	4Kx9		4	1	5	x	
4	CMOS	2.7 to 5.5	64	4		93	1024	6Kx9		4	1	5	x	
4	CMOS	2.7 to 5.5	64	4		94	1024	8Kx9		4	1	5	x	
4	CMOS	-3	60	8	14K	51	65x4	14K	x	0.032 *	61	—	x	
4	CMOS	-3	48	8	1197	52	64 40	1197		0.032 *	61		x	
4	CMOS	-3	60	8	2772	49	96x4 + 32x4	2772		0.032 *	61		x	
4	CMOS	-3	60	8	4032	55	128x4	4032		0.032 *	61		x	
4	CMOS	-3.0	80	8		55	80x4/48x4	4032x8/256x6		0.032	61		x	
4	CMOS	-5	64	9	3072	93	160x4 + 16x2	3072		0.27 *	11	1	x	
4	CMOS	-5	64	10	30K	93	168x4	30K	x	0.09 *	11	1	x	
4	CMOS	-1.5	80	8	2016	49	64x4 + 24x4	2016		0.032 *	91.6		x	
4	CMOS	-1.5	60	8	1260	45	32x4 + 20x4	1260		0.032 *	91.6		x	
4	CMOS	-1.5	60	8		46	64x4/36x4	2016x8/128x8		0.032	92		x	
4	CMOS	-1.5	60	8		46	64x4/36x4	2016x8/128x6		0.032	92		x	
4	CMOS	-4.5	60	8	2016	57	64x4 + 64x4	2016		0.12 *	16		x	
4	CMOS	5	48	8	1024	94	80x4	1024		2.5	1.6	5	x	
4	CMOS	5	60/64	8	2048	94	128x4	2048		2.5	1.6		x	
4	CMOS	5	60/64	8	4096	94	256x4	4096		2.5	1.6	5	x	
4	CMOS	3-5	48	8	8K	94	80x4	8K	x	2.5	1.6	5	x	
4	CMOS	3-5	60	8	16K	94	128x4	16K	x	2.5	1.6	5	x	
4	CMOS	3-5	60	8	32K	94	256x4	32K	x	2.5	1.6	5	x	
4	CMOS	3	64	8	4096	94	160x4	4096		0.032 *	6.6	5	x	
4	CMOS	2.7 to 5.5	64	9		94	192x4	4096x9		4	2	5	x	
4	CMOS	2.7 to 5.5	64	9		94	256x4	6096x9		4	2	5	x	
4	CMOS	5	64	9		93	192x4	4064x9		4	2	5	x	
4	CMOS	5	16/18/20	8	508	40	32x4	508		2	2		x	
4	CMOS	5	16/18/20	8	1016	40	56x4	1016		2	2		x	
4	CMOS	2.7 to 5.5	20	8		41	32x4	762x8		4	1		x	
4	PMOS	-15V		8	1K		64x4			0.4	15/60			
4	PMOS	-15V		8	4K		128x4			0.55	11/60			
4	PMOS	-15V		8	2K		128x4			4	15/60			
4	PMOS	9,15	28	8	1K	43	64x4	1Kx8		0.4	15/60		x	x
4	PMOS	9,15	28	8	1K	43	64x4	1Kx8		0.4	15/60		x	

Cross Assembler	Software Support				Alternate Sources	Comments	Device	Source	Line
	High Level Language	Debug	Diagnostic	Programs Edit					
x						Built-in LCD driver.	SM5A	Sharp	5
x		x		x			SM5E3	Sharp	
x		x		x			SM5E4	Sharp	
x		x		x			SM5E5	Sharp	
x		x		x			SM5F3	Sharp	
x		x		x			SM5G3	Sharp	
x		x		x			SM5G4	Sharp	
x		x		x			SM5J5	Sharp	
x		x			—		SM5L	Sharp	
x						Built-in LCD driver.	SM500	Sharp	10
x						Multi LCD display. Built-in LCD driver.	SM510	Sharp	
x						Built-in melody generator circuit and LCD driver.	SM511	Sharp	
x		x		x			SM512	Sharp	
x						Optionally expandable for external RAM.	SM520	Sharp	
x		x			—		SM525	Sharp	
x						Built-in melody generator circuit and LCD driver circuit.	SM530	Sharp	
x						Built-in LCD driver circuit.	SM531	Sharp	
x		x		x			SM534	Sharp	
x		x		x			SM535	Sharp	
x						Built-in LCD driver circuit. Capable of Dot Matrix display.	SM540	Sharp	20
x						Capable of driving at 3V. Serial input/output.	SM550	Sharp	
x						Capable of driving at 3V. Serial input/output.	SM551	Sharp	
x						Capable of driving at 3V. Serial input/output.	SM552	Sharp	
x		x			—		SM555	Sharp	
x		x			—		SM556	Sharp	
x		x			—		SM557	Sharp	
x						Built-in LCD driver circuit.	SM563	Sharp	
x		x		x			SM578	Sharp	
x		x		x			SM579	Sharp	
x		x		x			SM579A	Sharp	30
x						High-speed, low-end type.	SM590	Sharp	
x						High-speed, low-end type.	SM591	Sharp	
x		x		x			SM595	Sharp	
						ROMless system evaluator supports TMS1000/1070/1200/1270/1700 PMOS family members.	SE1000P	TI	
						ROMless system evaluator supports TMS1400/1470/1600/1670 PMOS family members.	SE1400P	TI	
						ROMless system evaluator supports TMS1100/1170/1300/1370 PMOS family members.	SE2200P	TI	
x		x	x	x		64 pin version, TMS-1099/SE-1, permits use of external PROM, RAM or ROM for program development. -9 volt VDD version available.	TMS1000	TI	
x		x	x	x		3.5 V output drive capability. -9 volt VDD version available.	TMS1070	TI	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto- typing System	In- Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
4	PMOS	9,15	28	8	2K	40	128x4	2Kx8		0.4	15/60		x	x
4	PMOS	9,15	28	8	2K	40	128x4	2Kx8		0.4	15/60		x	x
4	PMOS	9,15	40	8	1K	43	64x4	1Kx8		0.4	15/60		x	
4	PMOS	9,15	40	8	2K	40	128x4	2Kx8		0.4	15/60		x	x
4	PMOS	9	28	8	4K	41	128x4	4Kx8		0.55	11/60		x	x
4	PMOS	9	28	8	4K	41	128x4	4Kx8		0.55	11/60		x	x
4	PMOS	9	40	8	4K	41	64x4	4Kx8		0.55	11/60		x	x
4	PMOS	9	40	8	4K	41	64x4	4Kx8		0.55	11/60		x	x
4	PMOS	9	28	8	4K	43	64x4	4Kx8		0.4	15/60		x	x
4	CMOS	4–6		8	4K		160x4			0.2			x	
4	CMOS	5	16/28	8		44	32x4	512 to 1024		5/2	1.0/2.5			x
4	NMOS	5	16/28	8		42	32x4	512 to 1024		2	2.5/25			x
4	CMOS	5	42	8		90	256x4	4Kx8		4	2	6		x
4	NMOS	5	42/66	8		90	256x4	4Kx8		4	2	6		x
4	CMOS	5	42	8		92	512x4	8Kx8		6	1.33	6		x
4	NMOS	5		8	2K		128x4			0.5			x	
4	NMOS	5		8	4K		256x4			0.25			x	
4	GaAs E/D Mode	–2	52	9	16	8	64			80	6 ns/1 ns			
4	GaAs E/D Mode	–2	52	9	16	8	64			80	9 ns/16 ns			
4	GaAs E/D Mode	–2	28	9	16	8	64			80	—/5.5 ns			
4	GaAs E/D Mode	–2	28	9	16	8	64			80	—/5.5 ns			
4	NMOS	4.5–6.3	28	8	2K	49	64x4	1Kx8		4	4/10	3		
4	NMOS	4.5–6.3	24	8	2K	49	64x4	1Kx8		4	4/10	3		
4	NMOS	4.5–6.3	28	8	2K	49	64x4	1Kx8		4	4/10	3		
4	NMOS	4.5–6.3	24	8	2K	49	64x4	1Kx8		4	4/10	3		
4	PMOS	13.2	40											
4 BS	CMOS	5	40	9	User defined	512				33				
4 BS	CMOS	5	40	9	User defined	512				41				
4 BS	CMOS	5	48	4xN	User defined	16								
4 BS	CMOS	5	48	4xN	User defined	16								
4 BS	CMOS	5	40	4		60				43	.023			x
4BS	TTL	5	40	9	User defined	16				10	115		x	
4BS	TTL/ECL	5		9	User defined	512				10			x	
4BS	TTL	5	48	4xN	User defined	16				8	174		x	
4BS	TTL	5	48	4xN	User defined	16				8	174		x	

Cross Assembler	High Level Language	Software Support			Alternate Sources	Comments	Device	Source	Line
		Debug	Diag-nostic	Edit					
x		x	x	x		A 64-pin version, TMS1098/SE-2 permits use of external PROM/ RAM/ROM for program development. -9 volt VDD version available.	TMS1100	TI	5
x		x	x	x		Fluorescent drive capability otherwise same as TMS1100. -9V VDD version available.	TMS1170	TI	
x		x	x	x		3.5 V output drive capability. -9 volt VDD version available.	TMS1270	TI	
x		x	x	x		27 I/O lines, fluorescent drive capability. -9V VDD version available.	TMS1370	TI	
x		x	x	x		Expanded memory version of TMS1000. -9V VDD version available.	TMS1400	TI	
x		x	x	x		Vacuum fluorescent drive version of TMS1400. -9V VDD version available.	TMS1470	TI	
x		x	x	x		32 I/O lines. -9V VDD version available.	TMS1600	TI	
x		x	x	x		Vacuum fluorescent drive version of TMS1600. -9V VDD version available.	TMS1670	TI	
x		x	x	x		21 I/O lines, increased ROM version of TMS1000. -9V VDD version available.	TMS1700	TI	
x						Evaluator chip for TLCS-46A series microprocessors. Use with external 4K ROM, 34 I/O lines.	TCP4600AC	Toshiba	
x		x				Frequency Divider, Low Power	TLCS42-CMOS	Toshiba	10
x		x				Frequency Divider	TLCS42-NMOS	Toshiba	
x	x	x				LCD, VFT, DTMF, A/D, Watchdog, Low Power.	TLCS47-CMOS	Toshiba	
x	x	x				LED Driver	TLCS47-NMOS	Toshiba	
x	x	x				Upward Version of TLCS47	TLCS470	Toshiba	
x						Evaluator chip for TLCS-43 series microprocessors. Use with external 2K ROM, 35 I/O lines.	TMP4300C	Toshiba	15
x						Evaluator chip for TLCS-47 series microprocessors. Use with external 4K ROM, 35 I/O lines.	TMP4700C	Toshiba	
						Functional equivalent to AMD's 2901; ECL 100K compatible.	VS29G01C-1	Vitesse	
						Functional equivalent to AMD's 2901; ECL 100K compatible.	VS29G01M	Vitesse	
						Functional equivalent to AMD's 2902; ECL 100K compatible.	VS29G02C-1	Vitesse	
						Functional equivalent to AMD's 2902; ECL 100K compatible.	VS29G02M	Vitesse	20
					National	Microcontroller, serial I/O, counter/timer, 8-bit bidirectional port.	WD4200	Western	
					National	Same as WD4200, but no 4-bit IN port.	WD4210	Western	
					National	Extended temperature (-40 - 85°C) WD4200.	WD4320	Western	
					National	Extended temperature (-40 - 85°C) WD4210.	WD4321	Western	
							WD55	Western	25
							IDT39C01C	IDT	
							IDT39C01D	IDT	
							IDT39C03A	IDT	
							IDT39C203	IDT	
x	x	x	x	x		Bit Slice ALU	WS5901	Waferscale	30
x							AM2901B	AMD	
x						Eight function ALU. Four status flags. Microprogrammable. Interrupt requires AM2914 chip. 25% faster than AM2901B.	AM2901C	AMD	
x						Expandable register file. Built-in normalization and division logic. Built-in parity generation.	AM2903	AMD	
x						Automatic BCD add, subtract and conversion between binary and BCD. Improved byte handling.	AM29203	AMD	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture							Hardware Support			
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
4BS	CMOS	5	40	9	User defined	512				32				
4BS	CMOS	5	40	9	User defined	512				31				
4BS	CMOS	5	40	9	User defined	512				16				
4BS	CMOS	5	40	9	User defined	512				16				
4BS	CMOS	5	40	9	User defined	512				15				
4BS	CMOS	5	40	9	User defined	512				50				
4BS	CMOS	5	48	4xN	User defined	16								
4BS	CMOS	5	48	4xN	User defined	16								
4BS	ECL	-2,-5.2		4		16							x	
4BS	ECL	-2,-5.2		8		16				10				
4BS	TTL	5	40	9	User defined					10			x	
4BS	TTL	5		3						14			x	
4BS	CMOS	3-15		4						4.9				
4BS	TTL	5	48	4xN	User defined	16				8	174		x	
4BS	TTL	5	40	9	User defined	16				10	115		x	
4BS	TTL/ECL	5		9	User defined	512				10			x	
8	TTL	5		16	8K					8	0.2		x	x
8	NMOS	5	40	8,16,24	65K	80				3	0.8/1.3	4	x	x
8	CMOS	5	40	8,16,24	64K	246				8	1.28/8	5		
8	CMOS	5	40	8, 16, 24	64K	246				10	1.02/6.4	5		
8	CMOS	5	40	8	65K	64				4	0.5/3.5	1		
8	CMOS	5	28	8	4K	64				4	0.5/3.5	1		
8	CMOS	5	28	8	8K	64				4		1		
8	CMOS	5	28	8	4K	64				4		1		
8	CMOS	5	28	8	4K	64				4		1		
8	CMOS	5	28	8	8K	64				4		1		
8	CMOS	5	40	8	65K	64			x	4		1		
8	CMOS	5		8	4K					4		1		
8	CMOS	5	28	8	8K	64			x	4		1		
8	CMOS	5	28	8	4K	64			x	4		1		
8	CMOS	5	28	8	4K	64			x	4		1		
8	CMOS	5	28	8	8K	64			x	4		1		
8	CMOS	5	40	8	65K	64				4		1		
8	CMOS	5	28	8	4K	64				4		1		

MASTER SELECTION GUIDE

Cross Assembler	High Level Language	Software Support			Alternate Sources	Comments	Device	Source	Line
		Debug	Diagnostic	Edit					
							CY2901B	Cypress	5
							CY2901C	Cypress	
							CY7C901-32M	Cypress (2590)	
						Equivalent to "B" Spec lcc = 70mA	CY7C901-69C	Cypress (2590)	
						Equivalent to "B" Spec lcc = 90mA	CY7C901-88M	Cypress (2590)	
							IDT39C01E	IDT	10
							IDT39C03B	IDT	
							IDT39C203A	IDT	
							MC10800	Motorola	
							MC10902	Motorola	
						Interrupt capability requires peripheral chip.	IDM2901A-2	National	15
						Hardware stack with 9406, 10-Bit sequencer with 9408.	Macrologic Bipolar	National	
							Macrologic CMOS	National	
x						Expandable register file. Built-in normalization and division logic. Built-in parity generation.	SFC-2903	SGS-Thomson	
x							SFC2901B	SGS-Thomson	
x						Eight function ALU. Four status flags. Microprogrammable. Interrupt requires AM2914 chip. 25% faster than AM2901B.	SFC2901C	SGS-Thomson	20
x			x			Bipolar with fixed instructions	AM29X305A	AMD	
x	x	x	x	x	Intel, NEC, Mitsubishi	8085A-2 runs at 5 MHz.	8085A	AMD	
					OKI, Harris	Compatible with NMOS 8085; supports extended instruction set	CA80C85B	Calmos	
					OKI, Harris	Static operation; compatible with NMOS 8085; supports extended instructions	CA80C85S	Calmos	
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800. On-board clock oscillator.	G65SC02	CMD Micro (2572)	25
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800.	G65SC03	CMD Micro (2572)	
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800.	G65SC04	CMD Micro (2572)	
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800.	G65SC05	CMD Micro (2572)	
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800.	G65SC06	CMD Micro (2572)	
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800.	G65SC07	CMD Micro (2572)	30
					Rockwell	Bus compatible with MC6800. On board clock oscillator.	G65SC102	CMD Micro (2572)	
						Bus compatible with MC6800.	G65SC103	CMD Micro (2572)	
						Bus compatible with MC6800.	G65SC104	CMD Micro (2572)	
						Bus compatible with MC6800.	G65SC105	CMD Micro (2572)	
						Bus compatible with MC6800.	G65SC106	CMD Micro (2572)	
						Bus compatible with MC6800.	G65SC107	CMD Micro (2572)	
					Rockwell	Bus compatible with MC6800. On board clock oscillator.	G65SC112	CMD Micro (2572)	
						Bus compatible with MC6800.	G65SC115	CMD Micro (2572)	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture										Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-tying System	In-Circuit Emulator	
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability						
8	CMOS	5	40	8	65K	64				4		4			
8	CMOS	5	28	8	4K	64				4		4			
8	CMOS	5	28	8	8K	64				4		1			
8	CMOS	5	28	8	4K	64				4		1			
8	CMOS	5	60	8	64K		64x8	2Kx8		2		1	x	x	
8	CMOS	5	40	8-24	64K	68				4	0.5/3.5	2	x	x	
8	CMOS	5	40	8,16	4K	98	128x8	2Kx8		6	2.5	yes	1		
8	NMOS	5	68	8-48	1M	150			x	8		1	x	x	
8	NMOS	5	40	8,16,24	64K	111	128x8			12	1/4	2	x	x	
8	NMOS	5		8,16	4K		64x8			6	2.5/4.17	yes	1		
8	NMOS	5		8,16	4K		128x8			6	2.5/4.17	yes	1		
8	NMOS	5		8,16	4K		64x8	1Kx8		6	1.36/2.5	yes	1		
8	NMOS	5	40	8,16,24	65K	111	128x8	4Kx8		12	1/4	2	x	x	
8	CMOS	5	64	8	128Kx8	135	516x8			8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	516x8			8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	260x8	8Kx8		8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	516x8	16Kx8		8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	260x8			8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	516x8			8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	516x8			8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	516x8	16Kx8		8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	260x8	8Kx8		8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	516x8	16Kx8		8	0.5/6	11	x	x	
8	CMOS	5	64	8	128Kx8	135	516x8	16Kx8		8	0.5/6	11	x	x	
8	CMOS	4-10.5	40	8,16,24	64K	91			x	6.4	5/7.5	1	x	x	
8	CMOS	4-6.5	40	8,16,24	64K	91			x	3.2	5/7.5	1	x	x	
8	CMOS	4-6.5	40	8,16,24	64K	91			x	5	3.2/4.8	1	x	x	
8	CMOS	4-6.5	40	8,16,24	64K	123	64x8	2Kx8	x	5	3.2/16	1	x	x	
8	CMOS	4-6.5	40	8,16,24	64K	123	64x8		x	5	3.2/16	1	x	x	
8	CMOS	4-6.5	40	8,16,24	64K	123	64x8		x	5	3.2/16	1	x	x	
8	CMOS	3-6	40	8	8K		112			5	2/10	1	x	x	
8	CMOS	5	40	8	64K	61				5	2	4			
8	CMOS	3-6	28	8	1089		64	1089		5	2/10	1	x	x	
8	CMOS	3-6	40	8	2106		112	2106		5	2/10	1	x	x	
8	NMOS	5	40	8,16,24	64K	82	64x8	2Kx8		2	1/6	8	x	x	
8	NMOS	5	40	8,16,24	64K	82	192x8			2	1.6/9.6	8	x	x	
8	NMOS	5	28	8-24	2K	59	64x8	1100x8		2	1/5.5	3	x		
8	CMOS	5	64	8-24				128x8	4Kx8		0.67	6	x	x	

Software Support					Alternate Sources	Comments	Device	Source	Line
Cross Assembler	High Level Language	Programs							
		Debug	Diagnostic	Edit					
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800.	G65SC12	CMD Micro	5
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800.	G65SC13	CMD Micro (2572)	
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800.	G65SC14	CMD Micro (2572)	
					Rockwell	Pin compatible with NMOS 6500 processors, bus compatible with MC6800.	G65SC15	CMD Micro (2572)	
x	x	x	x	x		Uses 65SC00 CPU, on board sine wave generator, 16 bit timer, bus compatible with 6800.	G65SC150	CMD Micro (2568)	
					GTE, NCR	CMOS 6502	65C02	Commodore	10
					Intel		MBL80C39	Fujitsu (2635)	
	x	x	x	x	Intel	High integration 16-bit microprocessor with 8-bit bus, 2 independent DMA channels, 3 programmable 16 bit timers, programmable memory and chip-select logic, clock generator, object code compatible with MBL8086/8088 software.	MBL80188	Fujitsu (2635)	
x	x	x	x	x	Intel	Two 16-bit timer/counters, serial I/O port Boolean processor.	MBL8031	Fujitsu (2635)	
					Intel		MBL8035	Fujitsu (2635)	
					Intel		MBL8039	Fujitsu (2635)	15
					Intel		MBL8048	Fujitsu (2635)	
x	x	x	x	x	Intel	Two 16-bit timer/counters, serial I/O port Boolean processor, 4 K EPROM.	MBL8051	Fujitsu (2635)	
x	x	x	x	x		Piggyback Emulation Device for MB89713/89715	MB89PV718	Fujitsu	
x	x	x	x	x		Piggyback Emulation Device for MB89765	MB89PV765	Fujitsu	
x	x	x	x	x		A/D, UART, Serial I/O, PWM, Real-Time I/O, OTP	MB89P713	Fujitsu (2636)	20
x	x	x	x	x		A/D, UART, Serial I/O, PWM, Real-Time I/O, OTP	MB89P715	Fujitsu (2636)	
x	x	x	x	x		A/D, UART, Serial I/O, PWM, Real-Time I/O, ROM-less	MB89T713	Fujitsu (2636)	
x	x	x	x	x		A/D, UART, Serial I/O, PWM, Real-Time I/O, ROM-less	MB89T715	Fujitsu (2636)	
x	x	x	x	x		A/D, UART, Serial I/O, PWM, U/D Counter, ROM-less	MB89T765	Fujitsu	
x	x	x	x	x		A/D, UART, Serial I/O, PWM, Real-Time I/O, Windowed EPROM	MB89W715	Fujitsu (2636)	25
x	x	x	x	x		A/D, UART, Serial I/O, PWM, Real-Time I/O and Masked ROM	MB89713	Fujitsu (2636)	
x	x	x	x	x		A/D, UART, Serial I/O, PWM, Real-Time I/O and Masked ROM	MB89715	Fujitsu (2636)	
x	x	x	x	x		A/D, UART, Serial I/O, PWM, U/D Counter and Masked ROM	MB89765	Fujitsu	
x	x	x	x	x	Hughes		CDP1802A	GE/RCA (2644, 2653)	
x	x	x	x	x	Hughes		CDP1802AC	GE/RCA (2644, 2653)	30
	x	x	x		Hughes		CDP1802BC	GE/RCA (2644, 2653)	
x	x				Hughes	8-bit counter on board.	CDP1804AC	GE/RCA (2644, 2653)	
x	x				Hughes	8-bit counter on board.	CDP1805AC	GE/RCA (2644, 2653)	
x	x	x	x	x	Hughes	8-bit counter on board.	CDP1806AC	GE/RCA (2644)	
x	x				Motorola	Single chip CMOS CPU, 16 programmable bi-directional I/O lines.	CDP6805E2	GE/RCA (2653)	35
x				M	MotorolaE	Enhanced 6805E22	CDP6805E3	GE/RCA (2653)	
x	x				Motorola	Single chip CMOS CPU, 20 programmable bi-directional I/O lines, self check mode.	CDP6805F2	GE/RCA (2653)	
x	x				Motorola	Single chip CMOS CPU, 32 prog	CDP6805G2	GE/RCA (2653)	
					Thomson-CSF, Motorola, Hitachi	DMA thru HALT and three state control, software compatible with S6800.	S6801	Gould/AMI	
					Thomson-CSF, Motorola, Hitachi	ROMless version of S6801.	S6803	Gould/AMI	
					Thomson-CSF, Hitachi, Motorola, Signetics	20 programmable bidirectional I/O lines, self check ROM.	S6805	Gould/AMI	
x	x		x	x			HD64A05X0	Hitachi	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
8	NMOS	5	40	8,16,24	64K	72	128x8	4K/8Kx8	x	1.25	0.8/10	7	x	x
8	NMOS	5	40	8,16,24	65K	78	128x8		x	1.25	0.8/10	7	x	x
8	NMOS	5	40	8,16,24	4K	62	96x8	4K/8Kx8	x	4	1.0/10	9	x	x
8	CMOS	5	40	8-24			128x8	2Kx8			0.8	2	x	x
8	CMOS	5	40	8-24			128x8	4Kx8			1	2	x	x
8	CMOS	5	40	8-24			128x8	4Kx8			0.8	2	x	x
8	CMOS	5	40	8-24			128x8	2Kx8			1	2	x	x
8	CMOS	5	40	8-24			128x8				1	2	x	x
8	CMOS	5	40	8-24			128x8				0.8	2	x	x
8	CMOS	5	28	8-16			64x8	1100x8			1	2	x	x
8	CMOS	5	28	8-16			64x8	1804x8			1	2	x	x
8	CMOS	5	28	8-16			64x8	2508x8			1	2	x	x
8	CMOS	5	40	8-24			96x8	2056x8			1	2	x	x
8	CMOS	5	40	8-24			96x8	3848x8			1	2	x	x
8	CMOS	5	40	8-24			96x8				1	2	x	x
8	CMOS	5	40	8-24			86x8	3848x8			1	2	x	x
8	CMOS	5	28	8-16			64x8	1100x8			1	2	x	x
8	NMOS	5	40	8-32	64K	59			x	2	1/7.5	6		
8	NMOS	5	40	8-24	64K	59			x	2	1/1	3		
8	CHMOS	5	40	8,16,24	64K	111	128x8			12	1/4	2	x	x
8	CHMOS	5	40	8,16	4K	97	128x8			11	1.4/2.8		x	x
8	CHMOS	5	40	8,16	4K	96	128x8	2x8		11	1.4/2.8	1	x	x
8	CHMOS	5	40	8,16,24	64K	111	128x8	4Kx8		12	1/4	2	x	x
8	H MOS	5	40	8,16	4K	96	64x8			8	1.9	2	x	x
8	H MOS	5	40	8,16	4K	96	128x8			8	1.9	2	x	x
8	H MOS	5	40	8,16,24	4K		128x8	2Kx8		11		2	x	x
8	CHMOS	5	40	8,16,24	65K	111	128x8			12	1/4	5	x	x
8	CHMOS	5	40	8	4K	97	128x8			11	1.4/2.8	2	x	x
8	CHMOS	5	40	8	4K	97	128x8	2K		11	1.4/2.8	2	x	x
8	CHMOS	5	40	8,16,24	65K	111	128x8	4Kx8		12	1/4	5	x	x
8	CMOS	5	40	8-48	1MB					5		1	x	x
8	CMOS	5	40	8-48	1MB					8		1	x	x
8	H MOS	5	28	8,16	1K	70	64x8	1Kx8		3.58	8.38/16.8		x	x
8	H MOS	5	40	8,16,24	64K	111	128x8			12	1/4	2	x	x
8	H MOS	5	40	8,16,24	65K	111	256x8			12	1/4	2	x	x
8	H MOS	5	40	8,16	4K	96	64x8			11	1	1	x	x
8	H MOS	5	40	8,16	4K	96	128x8			11	1.4/2.8	2	x	x
8	H MOS	5	40	8	4K		256x8			11	1.4/2.8	1	x	x
8	H MOS	5	40	8,16	4K	96	64x8	1Kx8		8	1.4/2.8	1	x	x
8	H MOS	5	40	8,16	4K	96	128x8	2Kx8		11	1.4/2.8	1	x	x

Cross Assem- bler	Software Support				Alternate Sources	Comments	Device Source		Line
	High Level Lan- guage	Programs							
		Debug	Diag- nostic	Edit					
X		X	X	X	Motorola	HD6801 with piggyback socket for EPROM 2732.	HD68P01M0	Hitachi	5
X		X	X	X		64 Bytes RAM retainable on powerdown.	HD68P01V07	Hitachi	
X		X	X	X			HD68P05V07	Hitachi	
X		X	X	X		29 parallel I/O lines, two handshade control lines	HD6801S5	Hitachi	
X		X	X	X		29 parallel I/O lines, two handshade control lines	HD6801V0	Hitachi	
X		X	X	X		29 parallel I/O lines, two handshake control lines	HD6801V5	Hitachi	10
X		X	X	X		29 parallel I/O lines, two handshake control lines	HD680190	Hitachi	
X	X	X	X			13 parallel I/O lines, serial communications interface	HD6803	Hitachi	
X	X	X	X			13 parallel I/O lines, serial communications interface	HD6803-1	Hitachi	
X		X	X	X		20 TTL/CMOS compatible I/O lines	HD6805S1	Hitachi	
X		X	X	X		20 TTL/CMOS compatible I/O lines	HD6805S6	Hitachi	15
X		X	X	X		19 TTL/CMOS compatible I/O lines, PLL logic	HD6805T2	Hitachi	
X		X	X	X		24 I/O lines	HD6805U1	Hitachi	
X		X	X	X		24 I/O lines	HD6805V1	Hitachi	
X		X	X	X		23 I/O lines, internal 8-Bit timer	HD6805W0	Hitachi	
X		X	X	X		23 TTL/CMOS compatible I/O lines	HD6805W1	Hitachi	20
X		X	X	X		20 TTL/CMOS compatible I/O lines	HD680581	Hitachi	
						Various options available on HD6809X family member chips.	HD6809	Hitachi	
						Same as HD6809, but with external clock, various options available on HD6809EX family member chips.	HD6809E	Hitachi	
X		X	X	X		Two 16-bit timer/counters, serial port, Boolean processor, MIL temp.	M80C31	Intel	
X		X	X	X		27 I/O lines, 8-bit counter/timer. Can use external RAM or ROM, MIL temp.	M80C39	Intel	25
X		X	X	X		27 I/O lines, programmable ROM, 8-bit counter/timer. Can use external RAM or ROM, MIL temp.	M80C49	Intel	
X		X	X	X		M80C31 with mask programmable ROM, MIL temp.	M80C51	Intel	
						CPU with power down mode. Can be used with external RAM or ROM.	M8035HL	Intel	
						CPU with power down mode. Can be used with external RAM or ROM.	M8039HL	Intel	
						27 I/O lines, programmable ROM, 8-bit counter/timer. Can be used with external RAM or ROM.	M8749H	Intel	30
X	X	X	X	X	Intersil	Two 16 bit timer/counters, serial I/O port. Boolean processor. Can be used with external ROM or RAM.	80C31	Intel	
X		X	X	X	NEC, National, Toshiba	Low power operation. 27 I/O lines. Can be used with external RAM and ROM.	80C39	Intel	
		X	X	X		Low power operation. 27 I/O lines. Can be used with external RAM and ROM.	80C49	Intel	
X	X	X	X	X	Intersil	Two 16 bit timer/counters, serial I/O port. Boolean processor. Can be used with external ROM or RAM.	80C51	Intel	
X	X	X	X	X			80C88	Intel	35
X	X	X	X	X			80C88-2	Intel	
X		X	X	X	Signetics, NEC	Software subset of 8048, 21 I/O lines.	8021H	Intel	
X	X	X	X	X	AMD	Two 16 bit counters, serial I/O port Boolean processor.	8031AH	Intel	
X	X	X	X	X		Three 16-bit timer/counters. Serial I/O port.	8032	Intel	
X		X	X	X		Can be used with external ROM and RAM. 27 I/O lines, 8-bit timer/counter.	8035AHL	Intel	40
X		X	X	X	AMD	Can be used with external ROM and RAM.	8039AHL	Intel	
		X	X	X		27 I/O lines. Can be used with external RAM and ROM.	8040AHL	Intel	
X		X	X	X	AMD	1K ROM. 27 I/O lines. 8048H-1 has 11 MHz clock. Can be used with external RAM and ROM.	8048AH	Intel	
X		X	X	X	AMD, NEC, Fujitsu, Signetics, Mitsubishi	Can be used with external ROM and RAM.	8049AH	Intel	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
8	HMOS	5	40	8	4K	96	256x8	4Kx8		11	1.4/2.8	1	x	x
8	HMOS	5	40	8,16,24	64K	111	128x8	4Kx8		12	4	2	x	x
8	HMOS	5	40	8,16,24	65K	111	256x8	8Kx8		12	1.4/2.8	2	x	x
8	NMOS	± 5,12	40	8,16,24	65K	78				2	1.5/3.75	1	x	x
8	HMOS	5	40	8,16,24	65K	102				3,5,6	0.67/1.3	4	x	x
8	HMOS	5	40	8,16	4K	111	64x8	1Kx8		11	1.3	1	x	x
8	HMOS	5	40	8,16,24	65K	111	128x8	4Kx8		12	4	2	x	x
8	NMOS	5	40	8—32	64K	158			x	2.5		3	x	x
8	NMOS	5,12	40	8,16,24	65K	78	256x8			2	1.5/3.75	1	x	x
8	NMOS	5	40	8,16,24	65K	80				3	0.8/1.3	4	x	x
8	NMOS	5	40	8,16,24	65K	102				3	0.67/1.3	4	x	x
8	NMOS	5,12	40	8,16,24	65K	78				2	1.5/3.75	1	x	x
8	CMOS	5	40	8	64	150	128x8			16	0.62/8.3	5		
8	CMOS	5	40	8	64Kb	150	256x8			16	0.62/8.3	6		
8	CMOS	5	40	8	64	150	128x8	4Kx8		16	0.62/8.3	5		
8	CMOS	5	40	8	64	150	128x8			16	0.62/8.3	6		
8	NMOS	5	40	8	64	150	128x8			15	0.66/8.3	5		
8	NMOS	5	40	8	64	150	256x8			12	1/8.4	6		
8	NMOS	5	40	8	64	150	128x8	4Kx8		15	0.66/8.3	5		
8	NMOS	5	40	8	64	150	256x8	8Kx8		12	1/8.3	6		
8	CMOS	5	40	8	64Kb	160	256x8	16Kx8		12	1.0/8.3	6		x
8	CMOS	5	28	12		31	32	512x12		3	3.3/6.6		x	x
8	NMOS	5	18	12		29	32	256x12		4	2/10		x	x
8	NMOS	5	18	12	512x12	30	32x8	512x12		4	2/4		x	x
8	NMOS	5	28	12	512x12	30	32x8	512x12		1	4/8		x	x
8	NMOS	5	28	12	512	29	32x8	512x12		4	2/10		x	x
8	NMOS	5	40	13	1024x13	57	64x8	1024x13		8	1/2	1	x	x
8	NMOS	5	40	13	2048x13	57	64x8	2048x13		8	1/2	1	x	x
8	NMOS	5	40	8	64K	61	128			5	2.4/19.2	3	x	x
8	NMOS	5	40	8	64K	61	128	2048x8		5	2.4/19.2	3	x	x
8	NMOS	5	40	8	64K	61	128x8	4Kx8		5	2.4/19.2	3	x	x
8	NMOS	5	40	8	64K	61	128x8	4Kx8		5	2.4/19.2	3	x	x
8	NMOS	5	28	8	64K	17	120	64K		3.12	1.56	0		
8	NMOS	5	28	8	64K	17	120	64K		3.12	1.56	0		
8	CMOS	5	80	8	16K	69	192x8	6Kx8		8	1/3.5	9	x	x
8	CMOS	5	80	8	16K	69	256x8	8Kx8		8	1/3.5	9	x	x
8	CMOS	5	80	8	64K	71	128x8	4Kx8		10	0.8/3.6	16	x	x
8	CMOS	5	64	8	64K	71	256	8K		10	0.8/2.8	15	x	x
8	CMOS	5	64	8	64K	71	384	16K		10	0.8/2.8	15	x	x
8	NMOS	5	40	8	4K	96	128			6	25/5	1		
8	CMOS	5	40	8	4K	98	64	1K		6	25/5	1		
8	CMOS	5	40	8	4K	97	128	2K		6	2.5/5	1		
8	CMOS	5	42	8	4K	97	128	2K		11	1.36/2.72	1		

Cross Assem- bler	Software Support				Alternate Sources	Comments	Device Source		Line
	High Level Lang- uage	Programs							
		Debug	Diag- nostic	Edit					
		x	x	x		27 I/O lines. Can be used with external RAM and ROM.	8050AH	Intel	
x	x	x	x	x	AMD	Two 16 bit counters, serial I/O port Boolean processor.	8051AH	Intel	
x	x	x	x	x		Three 16-bit timer/counters. Serial I/O port.	8052	Intel	
x	x	x	x	x	AMD, NEC, TI, National, Mitsubishi	8080A-1 runs at 3.125 MHz max, -2 runs at 2.63 MHz max.	8080A	Intel	
x	x	x	x	x	AMD	8085AH-1 runs 6 MHz, AH-2 runs 5 MHz. M8085AH Mil version.	8085AH	Intel	5
x		x	x	x	AMD	1K EPROM. Can be used with external ROM and RAM.	8748H	Intel	
x	x	x	x	x		Two 16 bit counters, serial I/O port Boolean processor, 4K EPROM.	8751H	Intel	
x	x	x	x	x		Faster Versions also Available, Refurbished	Z80CPU	Krueger (2877)	
x	x	x	x	x		Faster Versions also Available, Refurbished	8080A	Krueger (2877)	
x	x	x	x	x		Faster Versions also Available, Refurbished	8085A	Krueger (2877)	10
x	x	x	x	x		Faster Versions also Available, Refurbished	8085AH	Krueger (2877)	
x	x	x	x	x		Faster Versions also Available	8088A	Krueger (2877)	
x					Intel		80C31	Matra-Harris	
	x						80C32	Matra-Harris	
	x				Intel		80C51	Matra-Harris	15
	x						80C52	Matra-Harris	
x					Intel		8031	Matra-Harris	
x					Intel		8032	Matra-Harris	
	x				Intel		8051	Matra-Harris	
	x				Intel		8052	Matra-Harris	20
	x	x	x	x	OKI	32-bit timer/counter, watchdog capability	83C154	Matra-Harris	
x		x	x			Mask programmable prescaler for RTCC. Very low power consumption in standby mode. 50µA max, power supply range (3.2V to 5.5V)	PIC16C58	Microchip	
x		x	x			Pin for pin compatible with the PIC 1654. Available in 3 temperature ranges including -40°C to + 110°C.	PIC1652	Microchip (2901, 2903)	
x		x	x		Plessey	12 I/O lines, crystal oscillator. Available in three temperature ranges including -40°C to 110°C.	PIC1654	Microchip (2901, 2903)	
x		x	x		Plessey	All the features of the PIC1650A but with 20 I/O lines.	PIC1655A	Microchip (2901, 2903)	25
x		x	x			20 Bidirectional I/O lines. 2 µs instruction cycle time and mask programmable prescaler for RTCC.	PIC1657	Microchip (2901, 2903)	
x		x	x		Plessey	Expanded PIC1650 instruction set. 1024x13 bit program ROM. 64 8-bit registers, 6 level stack, 2 external interrupts. 32 I/O lines.	PIC1670	Microchip (2901, 2903)	
x		x	x		Plessey	Expanded PIC1650 instruction set. 2Kx13 bit program ROM. 64 8-bit registers, 6 level stack, 2 external interrupts. 32 I/O lines.	PIC1672	Microchip (2901, 2903)	
x		x	x		TI		PIC7000	Microchip (2902)	
x		x	x		TI	External memory expansion capability.	PIC7020	Microchip (2902)	30
x		x	x			External memory expansion capability.	PIC7040	Microchip (2902)	
x		x	x			External memory expansion capability.	PIC7041	Microchip (2902)	
							SPO216	Microchip	
							SPO264	Microchip	
x		x	x	x			M37410M3	Mitsubishi	35
x		x	x	x			M37410M4	Mitsubishi	
x		x		x			M37450M2	Mitsubishi	
x		x	x	x			M37450M4	Mitsubishi	
x		x	x	x			M37450M8	Mitsubishi	
						Single-Chip 8-bit Microcomputer.	M5L8039-6	Mitsubishi	40
						Slave Microcomputer.	M5L8041A	Mitsubishi	
						Single-Chip 8-bit Microcomputer.	M5MC49A	Mitsubishi	
						Single-Chip 8-bit Microcomputer.	M5MC49H	Mitsubishi	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture										Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto- typing System	In- Circuit Emulator	
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability						
8	CMOS	5	40	8	4K	97	128			11	1.36/2.72	1			
8	CMOS	5	40	8	4K	97	128			11	1.36/2.72	1			
8	CMOS	5	40	8	4K	97	128	2K		11	136/2.72	1			
8	CMOS	5	40	8	4K	97	128	2K		11	1.36/2.72	1			
8	CMOS	5	40	8	4K	97	128	2K		11	1.36/2.72	1			
8	CMOS	5	40	8	4K	97	128	2K		11	1.36/2.72	1			
8	CMOS	5	40	8	64K	113			x	5	0.8/4.0	4			
8	CMOS	5	40	8	64K	114			x	5	0.8/1.8	4			
8	CMOS	5	40	8	4K	96	256			6	2.5/5	1			
8	CMOS	5	42	8	4K	97	128	2K		11	1.36/2.72	1			
8	CMOS	5	40	8	4K	96	256	4K		6	2.5/5	1			
8	CMOS	5	64	8	128K	69				8	1/4.5	11	x	x	
8	CMOS	5	64	8	128K	69				10	0.8/3.6	6	x	x	
8	CMOS	5	52	8	8K	69	96x8	3Kx8		4	2/9	5	x	x	
8	CMOS	5	52	8	8K	69	96x8	3Kx8		4	2/9	5	x	x	
8	CMOS	5	52	8	8K	69	96x8	4Kx8		4	2/9	5	x	x	
8	CMOS	5	64	8	64K	69	128x8	4Kx8		4	2/9	5	x	x	
8	CMOS	5	64	8	64K	69	128x8	4Kbx8		8	1/4.5	5	x	x	
8	CMOS	5	72	8	64K	69	144x8	4Kx8		4	2/9	6	x	x	
8	CMOS	5	64	8	64K	69	144x8	4Kx8		4	2/9	6	x	x	
8	CMOS	5	72	8	64K	69	144x8	4Kx8		4	2/9	6	x	x	
8	CMOS	5	64	8	64K	69	192x8	6Kx8		4	2/9	5	x	x	
8	CMOS	5	72	8	64K	69	144x8	6Kx8		4	2/9	6	x	x	
8	CMOS	5	64	8	64K	69	144x8	6Kbx8		4	2/9	5	x	x	
8	CMOS	5	64	8	64K	69	144x8	6Kbx8		4	2/9	5	x	x	
8	CMOS	5	64	8	64K	69	256x8	8Kbx8		8	1/4.5	5	x	x	
8	CMOS	5	64	8	64K	69	256x8	8Kbx8		8	1/4.5	5	x	x	
8	CMOS	5	64	8	64K	69	256x8	8K		8	1/4.5	6	x	x	
8	CMOS	5	64	8	64K	69	256x8	8Kbx8		12	0.6/2.7	5	x	x	
8	CMOS	5	72	8	64K	69	256x8	8K		8	1/4.5	6	x	x	
8	CMOS	5	52	8	8K	69	128x8	4Kx8		4	2/9	5	x	x	
8	CMOS	5	60	8	64K	69	192x8	6Kbx8		4	2/9	5	x	x	
8	CMOS	5	60	8	64K	69	192x8	6K		4	2/9	6	x	x	
8	CMOS	5	64	8	64K	69	160x8	6Kx8		8	1/4.5	5	x	x	
8	CMOS	5	52	8	8K	69	96x8	3Kx8		4	2/9	5	x	x	
8	CMOS	5	64	8	64K	69	128x8	6Kx8		4	2/9	6	x	x	
8	CMOS	5	40	8	4K	98	64	1K		12	1.25/2.5	1			
8	CMOS	3–5	80	8	16K	69	128x8	4Kbx8		4	2/9	5	x	x	
8	CMOS	5	80	8	16K	69	128x8	4K		4	2/9	6	x	x	
8	CMOS	3–5	80	8	16K	69	512x8	4Kbx8		4	2/9	5	x	x	
8	CMOS	5	80	8	16K	69	512x8	12Kx8		4	2/9	6	x	x	
8	CMOS	5	64	8	64K	69	128x8	4Kbx8		4	2/9	5	x	x	
8	CMOS	5	64	8	64K	69	192x8	8Kbx8		11	2/9	5	x	x	
8	CMOS	5	64	8	64K	69	192x8	16Kx8		4	2/9	6	x	x	

MASTER SELECTION GUIDE

Cross Assembler	High Level Language	Software Support			Alternate Sources	Comments	Device		Source	Line
		Debug	Diagnostic	Edit						
						Single-Chip 8-bit Microcomputer.	M5M80C39A	Mitsubishi		
						Single-Chip 8-bit Microcomputer	M5M80C39H	Mitsubishi		
						Single-Chip 8-bit Microcomputer.	M5M80C49A	Mitsubishi		
						Single-Chip 8-bit Microcomputer.	M5M80C49AT	Mitsubishi		
						Single-Chip 8-bit Microcomputer.	M5M80C49H	Mitsubishi		5
						Single-Chip 8-bit Microcomputer.	M5M80C49HT	Mitsubishi		
						Eight-bit parallel processor	M5M80C55A	Mitsubishi		
						8-Bit Parallel Processor	M5M80C85A-2	Mitsubishi		
						Single-Chip 8-bit Microcomputer.	M5M8040L	Mitsubishi		
						Single-Chip 8-bit Microcomputer.	M5M8050H	Mitsubishi		10
						Single-Chip 8-bit Microcomputer.	M5M8050L	Mitsubishi		
x		x		x	Rockwell	Serial I/O, A/D Converter, UART, step motors, PWM	M50734	Mitsubishi		
x		x		x			M50734-10	Mitsubishi		
x		x		x	Rockwell		M50740	Mitsubishi		
x		x		x	Rockwell	Mask ROM version of M50740	M50740A	Mitsubishi		15
x		x		x	Rockwell	4 Kb version of M50740	M50741	Mitsubishi		
x		x		x	Rockwell	56 I/O lines, serial I/O	M50742	Mitsubishi		
x		x		x	Rockwell	56 serial I/Os	M50743	Mitsubishi		
x		x		x			M50744	Mitsubishi		
x		x		x			M50744-PGYS	Mitsubishi		20
x		x		x			M50744T	Mitsubishi		
x		x		x	Rockwell	Serial I/O	M50745	Mitsubishi		
x		x		x			M50746	Mitsubishi		
x		x		x	Rockwell	One-time programmable (OTP) version of M50746S	M50746E	Mitsubishi		
x		x		x	Rockwell	EPROM version of M50746S	M50746ES	Mitsubishi		25
x		x		x	Rockwell	A/D, D/A, PWM	M50746S	Mitsubishi		
x		x		x	Rockwell	Serial I/O, UART	M50747	Mitsubishi		
x		x		x	Rockwell	EPROM version of M50747	M50747E	Mitsubishi		
x		x		x			M50747ES	Mitsubishi		
x		x		x	Rockwell	12-MHz version of M50747	M50747H	Mitsubishi		30
x		x		x			M50747T	Mitsubishi		
x		x		x	Rockwell	4 Kb version of M50757	M50752	Mitsubishi		
x		x		x	Rockwell	Serial I/O, A/D, PWM	M50753	Mitsubishi		
x		x		x			M50753T	Mitsubishi		
x		x		x	Rockwell	High-voltage I/Os, VFD, PWMs	M50754	Mitsubishi		35
x		x		x	Rockwell	High-voltage (-35V) I/O	M50757	Mitsubishi		
x		x		x			M5078	Mitsubishi		
						Slave Microcomputer.	M508041AH	Mitsubishi		
x		x		x	Rockwell	LCD controller, serial I/O	M50930	Mitsubishi		
x		x		x			M50930T	Mitsubishi		40
x		x		x	Rockwell	512 byte RAM version of M50930	M50931	Mitsubishi		
x		x		x			M50931-PGYS	Mitsubishi		
x		x		x	Rockwell	A/D converter, VFD	M50940	Mitsubishi		
x		x		x	Rockwell		M50941	Mitsubishi		
x		x		x			M50941-PGYS	Mitsubishi		45

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-tying System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
8	CMOS	5	60	8	64K	69	192x8	8Kx8		8	1/4.5	6	x	x
8	CMOS	5	52	8	16K	69	144x8	6Kx8		5	1.6/7.2	6	x	x
8	CMOS	5	52	8	16K	69	144x8	8Kx8		5	1.6/7.2	6	x	x
8	CMOS	5	52	8	16K	69	144x8	4Kx8		5	1.6/7.2	6	x	x
8	CMOS	5	72	8	64K	69	192x8	8Kx8		4	2/9	6	x	x
8	CMOS	5	64	8	64K	69	192x8	10Kx8		4	2/9	6	x	x
8	CMOS	5	64	8	64K	69	160x8	16Kx8		4	2/9	6	x	x
8	CMOS	5	64	8	64K	69	192x8	10Kx8		4	2/9	6		x
8	CMOS	5	64	8	64K	69	192x8	10Kx8		4	2/9	6		x
8	CMOS	5	64	8	64K	69	256x8	16Kx8		4	2/9	6		x
8	CMOS	5	64	8	64K	69	160x8	10Kx8		4	2/9	6	x	x
8	CMOS	5	72	8	64K	69	160x8	6Kx8		4	2/9	6	x	x
8	CMOS	5	64	8	64K	69	160x8	16Kx8		4	2/9	6	x	x
8	CMOS	3-6	40	8,16,24	8K	51	112			1	2/10	4	x	x
8	CMOS	3-6	28	8,16,24	2K	51	64x8	1089x8		1	2/10	4	x	x
8	CMOS	3-6	40	8,16,24	8K	51	112x8	2.1Kx8		1	2/10	4	x	x
8	CMOS	3-6	40	8,16,24	8K	51	112x8	2106x8		1	2/10	4	x	x
8	CMOS	3-6	28	8,16,24	2K	51	64x8	1.1x8		1	2/10	4	x	x
8	CMOS	3-6	40	8,16,24	8K	51	112x8	2.1Kx8		1	2/10	4	x	x
8	NMOS	5	40	8,16,24	4K		128x8	4Kx8		4		1	x	x
8	HMOS	5	40	8,16,24	64K	82	128x8			1.5			x	x
8	HMOS	5	40	8,16,24	64K	82	128x8			2			x	x
8	CMOS	3-6	40	8,16,24	4K	60	176	4Kx8		2.1	2/11	3	x	x
8	CMOS	3-5	40	8,16,24	4K	59	176x8	7.7Kx8		2.1				
8	HCMOS	5	68	8-24		62	176x8	6208x8	x	4	0.25/1.0	4		
8	CMOS	3-6	48 or 52	8,16,24,32	64K	145	256x8	8Kx8		2.1	1/10	21	x	x
8	CMOS	5	48/52	8, 16, 24, 32	64K	145	256x8	2Kx8		1/10	21		x	x
8	NMOS	5	40	8,16,24	64K	72			x	2	1/6	3	x	x
8	HMOS	5			1M	56								
8	HMOS	5	40	8,16,24	64K	82	128x8	2Kx8		1	2/12	2	x	x
8	HMOS	5	40	8,16,24	64K	89	192x8	4Kx8		1.25	1.6/9.6	8	x	x
8	HMOS	5	40	8,16,24	64K	82	192x8	4Kx8		1.25	1	1	x	x
8	NMOS	5	40	8,16,24	64K	72	128x8			2	1/6	3	x	x
8	HMOS	5	40	8,16,24	64K	82	128x8			1	1.6/9.6	8	x	x
8	HMOS	5	40	8,16,24	64K	89	128x8			1	1.6/9.6	8	x	x
8	HMOS	5	40	8,16,24	64K	89	192x8			1.25	1.6/9.6	8	x	x
8	HMOS	5	20	8,16,24	4K	42	32x8	0.5x8		0.9	0.6/14	3	x	x
8	HMOS	5	20	8,16,24	4K	42	32x8	1Kx8		0.9	0.6/14	3	x	x

Software Support					Alternate Sources	Comments	Device Source		Line
Cross Assembler	High Level Language	Programs							
		Debug	Diagnostic	Edit					
x		x		x			M50943	Mitsubishi	5
x		x		x			M50950	Mitsubishi	
x		x		x			M50950-PGYS	Mitsubishi	
x		x		x			M50951	Mitsubishi	
x		x		x			M50954	Mitsubishi	
x		x		x			M50955	Mitsubishi	10
x		x		x			M50955-PGYS	Mitsubishi	
x		x		x			M50957	Mitsubishi	
x		x		x			M50957ES	Mitsubishi	
x		x		x			M50959	Mitsubishi	
x		x		x			M50963	Mitsubishi	15
x		x		x			M50964	Mitsubishi	
x		x		x			M50964-PGYS	Mitsubishi	
x		x	x	x	RCA	Single chip CPU and I/O, up to 8K external address space, 16 programmable bidirectional I/O lines, multiplexed bus.	MC146805E2	Motorola	
x		x	x	x	RCA	20 I/O (16 programmable bidirectional) self check mode, EPROM version available.	MC146805F2	Motorola	
x		x	x	x	RCA	32 programmable bidirectional I/O lines. Self check mode, EPROM version available.	MC146805G2	Motorola	20
x		x	x	x		Self check, frequency synthesis, audio tone output, dead man timer.	MC146805H2	Motorola	
x		x	x	x		EPROM version of 146805F2	MC1468705F2	Motorola	
x		x	x	x		32 programmable bidirectional I/O lines, bootstrap, EPROM version of 146805F2.	MC1468705G2	Motorola	
x			x			Recommended replacement MC6805XX.	MC3870	Motorola	
x	x	x	x	x		1.5 MHz version of MC6803	MC68A03	Motorola	25
x	x	x	x	x		Serial I/O, timer, expansion bus.	MC68B03	Motorola	
x		x	x	x		Single chip CPU, SCI SPI, 16-bit timer	MC68HC05C4	Motorola (2930)	
						68HC054C4 with 8K bytes of ROM	MC68HC05C8	Motorola	
x	x	x	x	x		8-bit Microcomputer with Liquid Crystal Driver Circuitry	MC68HC05L6	Motorola	
x	x	x	x	x		512 bytes EEPROM, 2 serial ports, 16-bit timer, pulse accumulator, 8-channel A/D	MC68HC11	Motorola (4859)	30
x	x	x	x	x		2 Kbytes of EEPROM, enhanced 16-bit timer system, eight-channel 8-bit A/D converter	MC68HC81A2	Motorola	
x	x		x			DMA through HALT and three state control, addressing modes.	MC6800	Motorola (2931)	
						MC68008 completely code compatible with MC68000. 32 bit internal architecture, general purpose machine.	MC68008	Motorola (4859, 2924)	
x	x	x	x	x	AMI, Hitachi, Fujitsu	On-chip clock, 16-bit timer 31 I/O lines, serial I/O, four selectable baud rates.	MC6801	Motorola (4859)	
x	x	x	x	x		Same as 6801 with 4K ROM and selectable baud rates.	MC6801U4	Motorola	35
x	x	x	x	x		Same as 6801-U4 with 1.25 MHz internal speed.	MC6801U4-1	Motorola	
x	x	x	x	x		6800 CPU plus clock and RAM, 32 bytes standby RAM.	MC6802	Motorola (2931)	
x	x	x	x	x		Expansion bus, ROMless 6801.	MC6803	Motorola (4859)	
x	x	x	x	x		Serial I/O, timer, external clock, standby RAM.	MC6803E	Motorola (4859)	
x	x	x	x	x		ROMless 6801u4, external bus.	MC6803U4	Motorola	
x		x	x	x		20-pin version of MC6804P2, 12 I/O, 512 byte ROM.	MC6804J1	Motorola	
x		x	x	x		20-pin version of 6804P2, 12 I/O, 1K byte ROM.	MC6804J2	Motorola	

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MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
8	HMOS	5	28	8,16,24	4K	42	32x8	1Kx8		0.9	0.6/14	3	x	x
8	HMOS	5	40	8,16,24	4K	59	96x8	2Kx8		1	2/11	3	x	x
8	HMOS	5	40	8,16,24	4K	59	96x8	3.7Kx8		1	2/11	3	x	x
8	HMOS	5	28	8,16,24	2K	59	64x8	1.1Kx8		2	1/5.5	3	x	x
8	HMOS	5	28	8,16,24	2K	59	64x8	1.8Kx8		2	2/11	3	x	x
8	HMOS	5	40	8,16,24	4K	59	64x8	2Kx8		1	2/11	3	x	x
8	HMOS	5	40	8,16,24	4K	59	64x8	3.8Kx8		1	2/11	3	x	x
8	HMOS	5	28	8,16,24	4K	59	64x8	1480x8		1	2/11	3	x	x
8	HMOS	5	28	8,16,24	4K	59	104x8	3.7Kx8		1	2/11	3	x	x
8	HMOS	5	28	8,16,24	4K	59	64x8	2.5Kx8		1.05	2/11	3		x
8	HMOS	5	40	8,16,24	4K	59	64x8	2Kx8		1	2/11	3	x	x
8	HMOS	5	40	8,16,24	4K	59	112x8	3.8Kx8		1	2/11	3	x	x
8	NMOS	5	40	8,16,24	64K	72			x	2	1/6	3	x	x
8	HMOS	5	40	8-32	64K	59			x	2	1/7.5	6	x	x
8	HMOS	5	40	8-32	64K	59			x	2	1/7.5	6	x	x
8	HMOS	5	48	8,16,24	64K	82	128x8	2Kx8		1.25	1.6/9.6	8		x
8	HMOS	5	48	8,16,24	64K	82	128x8			1.25	1.6/9.6	8		x
8	HMOS	5	40	8,16,24	64K	89	192x8	4Kx8		1.25	1.6/9.6	8	x	x
8	HMOS	5	28	8,16,24	2K	59	112x8	1.8Kx8		1	2/11	3	x	x
8	HMOS	5	28	8,16,24	2K	59	112x8	1804x8		1	2/11	3	x	x
8	HMOS	5	40	8,16,24	4K	59	112x8	3.8K		1	2/11	3	x	x
8	HMOS	5	40	8,16,24	4K	59	112x8	3776x8		1	2/11	3	x	x
8	HMOS	5	28	8,16,24	4K	59	104x8	3.7Kx8		1	2/11	3	x	x
8	HMOS	5	40	8,16,24	4K	59	112x8	3.8Kx8		1	2/11	3	x	x
8	HMOS	5	40	8,16,24	4K	59	112x8	3776x8		1	2/11	3	x	x
8	CMOS		28	8	32K	44	64x8	1Kx8		20	1	3	x	x
8	CMOS		24	8	32K	44	64x8	1Kx8		20	1	3	x	x
8	CMOS		28	8	32K	44	128x8	2Kx8		20	1	3	x	x
8	CMOS		28	8	32K	44	64x8	1Kx8		20	1	3	x	x
8	CMOS		24	8	32K	44	64x8	1Kx8		20	1	3	x	x
8	CMOS		20	8	32K	44	64x8	1Kx8		20	1	3	x	x
8	XMOS	5	40	8,16	4K	96	64x8			11	1.36	1		
8	NMOS	5	40	8,16	4K	96	64x8			11	1.36	1	x	x
8	XMOS	5	40	8,16	4K	97	128x8			11	1.36	1	x	x
8	XMOS	5	40	8,16	4K	97	128x8			11	1.36	1	x	x
8	XMOS	5	40	8,16	4K		256x8			11	1.36	1		
8	NMOS	5		8,16	4K		256x8			11	1.36	1	x	x
8	NMOS	5	40	8,16	4K		256x8			11	1.36	1	x	x
8	XMOS	5	40	8,16	4K		64x8	1Kx8		11	1.36	1		
8	NMOS	5		8,16	4K		64x8	1Kx8		11	1.36	1	x	x
8	XMOS	5	40	8,16	4K		128x8	2Kx8		11	1.36	1		
8	XMOS	5	40	8,16	4K		128x8	2Kx8		11	1.36	1		
8	XMOS	5	40	8,16	4K		256x8	4Kx8		11	1.36	1		

Software Support									Line
Cross Assembler	High Level Language	Programs							
		Debug	Diagnostic	Edit					
Alternate Sources					Comments			Device	Source
x	x	x	x	x	Signetics	20 bidirectional I/O lines, 64 byte data ROM, self check.	MC6804P2	Motorola	5
x		x	x	x		128 bytes EEPROM, two 8-bit timers, 32 I/O, 16 bytes standby RAM, serial communication port	MC6805K2	Motorola	
x		x	x	x		256 bytes EEPROM, two 8-bit timers, 32 I/O, 16 bytes standby RAM, serial communication port	MC6805K3	Motorola	
x		x	x	x	AMI, Thomson-CSF, Hitachi, Signetics	20 programmable bidirectional I/O lines, timer/counter.	MC6805P2	Motorola	
x		x	x	x	Signetics	20 programmable bidirectional I/O lines, self check, EPROM version available.	MC6805P6	Motorola	
x		x	x	x	Thomson-CSF, Signetics	A/D on chip, 31 I/O lines.	MC6805R2	Motorola	10
x		x	x	x	Signetics	4 channel 8-bit A/D converter, self check.	MC6805R3	Motorola	
x		x	x	x	Signetics	4-channel 8-bit A/D converter, SPI, watchdog timer, self check.	MC6805S2	Motorola	
x		x	x	x		Four timers, A/D converter, serial communication port	MC6805S3	Motorola	
x		x	x	x	Signetics	19 I/O, on chip PLL, self check.	MC6805T2	Motorola	
x		x	x	x	Signetics	32 I/O lines, self check.	MC6805U2	Motorola	15
x		x	x	x	Signetics	24 bidirectional I/O, self check	MC6805U3	Motorola	
x	x	x	x	x		Same as 6802 with RAM.	MC6808	Motorola	
x	x	x	x	x		On chip oscillator enhanced 6800 command set.	MC6809	Motorola (4859, 2931)	
x	x	x	x	x		External clocking for synchronization of multiprocessor systems.	MC6809E	Motorola (4859, 2931)	
x	x	x	x	x	Signetics	128 bytes of dual port RAM, Intelligent peripheral controller, SCI.	MC68120	Motorola	20
x	x	x	x	x	Signetics	ROMless version of 68020.	MC68121	Motorola	
x	x	x	x	x		EPROM version of 680144.	MC68701U4	Motorola	
x		x	x	x		20 programmable bidirectional I/O lines. Self programming bootstrap, EPROM version for 6805P2, P4, P6.	MC68705P3	Motorola	
x		x	x	x		Same as 68705P3 except PS has software security.	MC68705P5	Motorola	
x		x	x	x		4 channel A/D, 31 I/O lines (24 programmable), EPROM.	MC68705R3	Motorola	25
x		x	x	x		Same as 68705R3 except includes software security.	MC68705R5	Motorola	
x		x	x	x		EPROM version of the MC6805S3	MC68705S3	Motorola	
x		x	x	x		EPROM version of MC6805U3.	MC68705U3	Motorola	
x		x	x	x		Same as 68705U3 except includes software security.	MC68705U5	Motorola	
x		x	x	x	Sierra	Software Selectable I/O Options	COP820C	National	30
x		x	x	x	Sierra	Software Selectable I/O Options	COP821C	National	
x		x	x	x	Sierra	Software Selectable I/O Options	COP840C	National	
x		x	x	x	Sierra	EEPROM Version of COP820C	COP8720C	National	
x		x	x	x	Sierra	EEPROM Version of COP821C	COP8721C	National	
x		x	x	x	Sierra	EEPROM Version of COP822C	COP8722C	National	35
x		x	x	x	Intel, NEC, AMD, Fujitsu, Signetics	ROMless version of INS8048.	INS8035	National	
x		x	x	x	Intel	Lowpower version of INS8035.	INS8035L	National	
x		x	x	x	Intel, NEC, AMD	ROMless version of INS8049.	INS8039	National	
x		x	x	x		Low power version of INS8039.	INS8039L	National	
x		x	x	x	Intel	ROMless version of INS8050.	INS8040	National	40
x		x	x	x	Intel	ROMless version of INS8050L.	INS8040L	National	
x		x	x	x		ROMless INS8050UL	INS8040UL	National	
x		x	x	x	Intel, NEC, AMD		INS8048	National	
x		x	x	x	Intel	Lowpower version of INS8048.	INS8048L	National	
x		x	x	x	Intel, NEC, AMD	Lowpower standby mode, on-chip battery charging.	INS8049	National	
x		x	x	x		Low power version of INS8049.	INS8049L	National	
x		x	x	x	Intel		INS8050	National	

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MICROPROCESSORS (Cont'd)

General				Architecture										Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-tying System	In-Circuit Emulator	
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capa-bility						
8	NMOS	5		8,16	4K		256x8	4Kx8		11	1.36	1			
8	NMOS	5	40	8,16	4K		256x8	4Kx8		11	1.36	1	x	x	
8	NMOS	5	40	8,16	4K		256x8	4Kx8		11	1.36	1	x	x	
8	CMOS	5	40	8–32	64K	158				2.5	1.6/9.2	5	x	x	
8	CMOS	5	40	8–32	64K	158				1	4/23	5	x	x	
8	CMOS	5	40	8–32	64K	158				4	1/5.75	5	x	x	
8	XMOS	5	48	8, 16, 24, 32	16 M	108				10	0.4/12	3			
8	XMOS	5		8,16	4K		256	See comments		11				x	
8	CMOS	5	40	8,16,24		60	64x8	2Kx8		2	1/3.5	4	x	x	
8	CMOS	5	40	8,16,24	64K	56				3	0.67/2.3	2	x	x	
8	NMOS	5	40	8,16,24		56	64x8	2Kx8		2	1/3.5	4	x	x	
8	NMOS	5	40	8,16,24	16K	60	192x8	3Kx8		2	1/3.5	10	x	x	
8	CMOS	5	40	16	1M	101			x	8		3		x	
8	CMOS	5	64	8–32	64K	101	128x8								
8	CMOS	5	64	8–32	64K	101	128x8	4Kx8							
8	NMOS	5	64	8–32	56K	165	256x8	1Kx8	x	12	1 *				
8	NMOS	5	40	8–32	64K	158	26x8			4	2	3			
8	NMOS	5	64	8–32	65K	165	256x8		x	12					
8	NMOS	5	64	8–32	56K	165	256x8	1Kx8	x	12	1 *				
8	NMOS	5	64	8–32	65K	153	256x8		x	12	1 *				
8	NMOS	5	64	8–32	60K	153	256X8	4096X8	x	12	1 *				
8	CMOS	2.5–6	40	8–16	4K	97	64x8			6	2.5/5	1	x		
8	CMOS	2.5–6	40	8–16	4K	97	64x8	1Kx8		6	2.5/5	1	x		
8	NMOS	5	40	8–16	4K	96	64x8			6	2.5/5	1			
8	NMOS	5	40	8–16	4K	96	128x8			11	1.4/2.8	1	x	x	
8	NMOS	5	40	8–16	4K	96	64x8	1Kx8		6	2.5/5	1			
8	NMOS	5	40	8–16	4K	96	128x8	2Kx8		11	1.4/2.8	1	x	x	
8	NMOS	5	40	8,16,24	64K	80				5	1.4/2.8	4			
8	NMOS	5	40	8–16	4K		64x8	1Kx8		6	2.5/5	1			
8	CMOS	2.5–6	64	8–32	64K	258	256x8	4096x8		15	0.8	15	x	x	
8	CMOS	2.5–6	64	8–32	64K	258	256x8	16Kx8		15	0.8	15	x	x	
8	CMOS	2.5–6	40	8–24	4K	98	256x8	4Kx8		12	1.2	1.0		x	
8	CMOS	3–6	40	8–16	4K	97	64x8	1Kx8		6	2.5/5	1	x	x	
8	CMOS	3–6	40	8–16	4K	97	128x8			11	1.4/2.8	1	x	x	
8	CMOS	3–6	40	8–16	4K	97	64x8	1Kx8		6	2.5/5	1	x	x	
8	CMOS	3–6	40	8,16,24	64K					3		1			
8	CMOS	5	40	8–24	64K	68				4	0.5/3.5	2	x	x	
8	CMOS	5	40	8	Int.	71	512	16384		4	0.5	3	x	x	
8	CMOS	5	40	8–24	64K	68				4	0.5/3.5	2			
8	CMOS	5	40	8–24	64K	68				4	0.5/3.5	2			
8	NMOS	5	28	8,16,24	64K	56				2	1/7	2	x	x	
8	NMOS	5	40	8,16,24	8K	56	64x8	2Kx8		2	1/7	4	x	x	
8	NMOS	5	40	8,16,24	16K	60	192x8	3072x8		2	1/7	10	x	x	
8	NMOS	5	64	8,16,24	16K	60	192x8	3072x8		2	1/7	10	x	x	

Software Support					Alternate Sources	Comments	Device		Source	Line
Cross Assembler	High Level Language	Programs								
		Debug	Diagnostic	Edit						
X		X	X	X	Intel		INS8050L	National	5	
X		X	X	X		Microwire/Plus Serial Port	INS8050U	National		
X		X	X	X		Microwire/Plus Serial Port Low Power	INS8050UL	National		
X	X	X	X	X	SMC	Fully compatible with Z80 instruction set, power-save mode, system clock generator, NSC888 evaluation board available.	NSC800	National		
X	X	X	X	X	SMC	Fully compatible with Z80 instruction set, power-save mode, system clock generator, NSC888 evaluation board available.	NSC800-1	National		
X	X	X	X	X	SMC	Fully compatible with Z80 instruction set, power-save mode, system clock generator, NSC888 evaluation board available.	NSC800-4	National	10	
X	X	X				32-bit internal architecture, 8-bit external data bus	NS32008	National		
X		X	X	X		Piggy-back microcomputer, emulates 8048/49/50, socket for program module and EPROM.	NS87P50	National		
X	X	X	X	X	Rockwell	CMOS version of NCR6500/1 with bit manipulation instructions	NCR65C00/1	NCR		
X	X	X	X	X	GTE, Rockwell	CMOS NCR6502	NCR65C02	NCR		
X	X	X	X	X	Rockwell	Software compatible with NCR6502, 32 I/O lines. 16-bit counter	NCR6500/1	NCR	15	
X	X	X	X	X	Rockwell	On-board UART, two 16-bit counters, 32 I/O lines.	NCR6500/11	NCR		
X	X	X	X	X	Zilog	High speed, CMOS 8088	μPD70108-8	NEC		
						ROM-less μPD78C06.	μPD78C05	NEC		
						46 I/O Lines, 8-bit timer.	μPD78C06	NEC		
						16-Bit Multiply/Divide, EPROM, USART	μPD78P09	NEC	20	
X	X			X		Z80 compatible, 158 instructions, 8080A software compatible, 26 bytes R/W memory, on chip dynamic RAM refresh circuitry.	μPD780	NEC		
						16-Bit Multiple/Divide, ROM bus, USART	μPD7807	NEC		
						16-Bit Multiple/Divide, ROM bus, USART	μPD7809	NEC		
						16-Bit ALU, A/D Converter, USART	μPD7810	NEC		
						16-Bit ALU, A/D Converter, USART	μPD7811	NEC	25	
X		X	X	X	Intersil	CMOS version of PD8035L.	μPD80C35	NEC		
X			X		Intersil, Intel	CMOS version of PD8048.	μPD80C48	NEC		
X				X	AMD, Intel, Signetics, Siemens	Can be used with external RAM and ROM, 27 I/O lines, 8 bit interval timer/counter.	μPD8035L	NEC		
		X	X	X	Fujitsu, Intel, Signetics	Can be used with external RAM and ROM, 27 I/O lines, programmable, interval timer. Pin compatible with 8039.	μPD8039L	NEC		
X				X	AMD, Intel, Signetics, Siemens	27 I/O lines, 8 bit interval timer/events counter.	μPD8048	NEC	30	
		X	X	X	Fujitsu, Intel, Signetics	Same as PD8039L but with 2K ROM.	μPD8049	NEC		
X	X		X		AMD, Mitsubishi, Intel	8080A compatible.	μPD8085A-2	NEC		
X				X	AMD, Intel, Signetics, Siemens	Same as PD8048 but with 1K EPROM.	μPD8748	NEC		
X	X			X		16-Bit ALU, A/D, USART	78C11	NEC		
X	X			X		16-Bit ALU, A/D, USART	78C14	NEC	35	
X				X	Toshiba, OKI, Fujitsu, Mitsubishi	8-Bit, 4K ROM Version of 80C48	80C50	NEC		
X		X	X	X	NEC, National	CMOS version of MSM8035, low stand by power mode.	MSM80C35	OKI		
X		X	X	X	NEC, National	CMOS version of MSM8039, low standby power mode.	MSM80C39	OKI		
X		X	X	X	NEC, National	CMOS version of MSM8048, low stand by power mode.	MSM80C48	OKI		
						CMOS version of MSM8085A.	MSM80C85A	OKI	40	
					GTE, NCR	CMOS R6502	R65C02	Rockwell (3028)		
X	X	X	X	X	NCR	Available in DIP and PLCC.	R65C10	Rockwell (3027)		
					GTE	On-chip oscillator, bus three-state capability, quadrature clock, R6500 software compatibility.	R65C102	Rockwell (3028)		
						Slave processor, bus three-state capability	R65C112	Rockwell (3028)		
X	X	X	X	X		Bus compatible with 6800.	R6500	Rockwell (3027)	40	
X	X	X	X	X	NCR	Software compatible with R6502, 32 I/O lines, 16-bit counter.	R6500/1	Rockwell (3027)		
X	X	X	X	X	NCR	On board USART, two 16 bit counters, 32 I/O lines.	R6500/11	Rockwell (3027)		
X	X	X	X	X	NCR	On board USART, two 16 bit counters, 56 I/O lines.	R6500/12	Rockwell (3027)		

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
8	NMOS	5	64	8,16,24	64K	60	192x8	256x8		2	1/7	10	x	x
8	NMOS	5	40	8, 16, 24	16K	60	192x8	4096x8		2	1/7	10	x	x
8	NMOS	5	40	8,16,24	4K	60	64x8	1.5Kx8		2	1/7	7	x	x
8	NMOS	5	64	8,16,24	4K	60	64x8	1.5Kx8		2	1/7	7	x	x
8	NMOS	5	40	8,16,24	64K					2	0.5/3.5	2	x	x
8	NMOS	5	64	8,16,24	64K	60	192			2	1/7	10	x	x
8	NMOS	5	40	8	16K	71	1536	Ext.		2	1.0	10	x	x
8	CMOS	5	60	8	4K	104	128x8	4Kx8		4	1	5	x	x
8	CMOS	5.0	60	8	4K	104	1K	32K	x	4	1	2	x	x
8	CMOS	5.0	80	8	4K	104	1K	32K	x	4	1	2	x	x
8	CMOS	5.0	100	8	4K	104	1K	32K	x	4	1	2	x	x
8	CMOS	5	28	8,16,24	4K	42	128x8	1.7Kx8		11	0.15/14	2	x	x
8	HMOS	5			1M	56								
8	HMOS	5			1M	56								
8	HMOS	5	20	8,16,24	4K	42	32x8	1Kx8		11	0.6/14	3	x	x
8	HMOS	5	28	8,16,24	4K		32x8	1Kx8		11	0.6/14	3	x	x
8	HMOS	5	40	8,16,24	4K	59	64x8	2Kx8		1	2/11	3	x	x
8	NMOS	5	28	8,16,32	4K	56			x	2	0.25/40	1		
8	NMOS	5	40	8,16,24	4K	70	128x8	4Kx8		4	1/6.5	1	x	x
8	NMOS	5	40	8,16,24	2112	70	128x8	2Kx8		4	1/6.5	1	x	x
8	NMOS	5	40	8-36	65K	70				4	1/6.5	1	x	x
8	NMOS	5		8-32	64K					2.5				
8	NMOS	5	40	8	64K	158	x	x	x	2.5	1.6	2		x
8	NMOS	5	40	8	64K	158	x	x	x	4	1	2		x
8	NMOS	5	40	8	64K	158	x	x	x	6	0.67	2		x
8	NMOS	5	40	8-32	64K	158				8	0.5/2.875	3		x
8	NMOS	5	40	8	126K	43	128x8	16K	x	8	1.5	6	x	x
8	NMOS	5	40	8-24	124K	129	128Kx8	2Kx8	x	12	1	6	x	x
8	NMOS	5	64	8	126K	43	128x8	16K	x	8	1.5	6	x	x
8	NMOS	5	40	8	126K	43	128x8	16K	x	8	1.5	6	x	x
8	NMOS	5	40	8	124K	43	128x8	32K	x	8	1.5	6	x	x
8	NMOS	5	64	8	124K	43	128x8	32K	x	8	1.5	6	x	x
8	NMOS	5	40	8	124K	43	128x8	32K	x	8	1.5	6	x	x
8	NMOS	5	40	8	128K	43	128x8		x	8	1.5	6	x	x
8	NMOS	5	40	8-24	124K	129	128Kx8		x	12	1	6	x	x
8	CMOS	5	40	8-32	64K	158				2.5	1.6	3	x	x
8	CMOS	5	40	8-32	64K	158				4	1	3	x	x
8	CMOS	5	40	8-32	64K	158				4	1	3	x	x
8	CMOS	5	40	8-32	64K	158				2.5	1.6	3	x	x
8	CMOS	5	44	8-24	124K	129				6	1	6	x	x
8	CMOS	5	44	8-24	124K	129				4	1	6	x	x
8	CMOS	5	40	8	124K	45	144x8	32K	x	8	1.5	6	x	x
8	CMOS	5	64	8	64K	51	128x8	16K	x	4	1	5	x	x
8	CMOS	5	64	8	64K	51	192x8	32K	x	4	1	5	x	x
8	CMOS	2.7 to 5.5	64	8		81	256x8	6144x8		4	1	5	x	
8	CMOS	5	64	8		64	256x8	10240x8		4	1	10	x	x
8	CMOS	5	40	8,16,24	64K	111	128x8			16	0.7/24	2	x	x

Software Support					Alternate Sources	Comments	Device	Source	Line
Cross Assembler	High Level Language	Programs							
		Debug	Diagnostic	Edit					
x	x	x	x	x		On board USART, two 16 bit counters, 32 I/O lines.	R6500/13	Rockwell (3027)	5
x	x	x	x	x		R6500/11 with 4K ROM	R6500/15	Rockwell (3027)	
x	x	x	x	x		Asynchronous host interface port, 16 bit counter, 23 I/O lines.	R6500/41	Rockwell (3027)	
x	x	x	x	x		Asynchronous host interface port, 16 bit counter, 47 I/O lines.	R6500/42	Rockwell (3027)	
x	x	x	x	x		Bus compatible with 6800, 68000.	R6502	Rockwell (3028)	
x	x	x	x	x		On board USART, 16 bit counter, 32 I/O lines without pullups.	R6511Q	Rockwell	10
x	x	x	x	x		Available in DIP and PLCC.	R6518	Rockwell (3027)	
x		x	x	x		Contains zoo gate array for increased flexibility.	SMC8340F	S-MOS	
x		x	x	x		400 Gates of on-board gate array	SMC8360F	S-MOS	
x		x	x	x		800 Gates of on-board gate array	SMC8362F	S-MOS	
x		x	x	x		1200 Gates of on-board gate array	SMC8364F	S-MOS	15
x	x	x	x	x		Larger ROM Version of 68HC04P2	EF68HC04P3	SGS-Thomson	
						MC68008 completely code compatible with MC68000. 32 bit internal architecture, general purpose machine.	EF68008-10	SGS-Thomson	
						MC68008 completely code compatible with MC68000. 32 bit internal architecture, general purpose machine.	EF68008-8	SGS-Thomson	
x		x	x	x		20-pin version of 6804P2, extensive self check.	EF6804J2	SGS-Thomson	
x	x	x	x	x	Signetics	20 bidirectional I/O lines, 64 byte data ROM, self check.	EF6804P2	SGS-Thomson	20
x		x	x	x	Signetics	4 channel 8-bit A/D converter, self check.	EF6805R3	SGS-Thomson	
					GTE, Rockwell	On chip clock, IRQ, RYD bus compatible with MC6800.	L6505	SGS-Thomson	
x		x	x	x		One chip microcomputer. Programmable hardware, timer on-chip: 3K, 2K, 1K PROM versions available.	MK3870	SGS-Thomson	
x		x	x	x		Programmable hardware timer, baud rate generator.	MK3873	SGS-Thomson	
x	x		x		NEC, Zilog	8080A software compatible, 25 MHz optional frequency.	MK3880	SGS-Thomson	25
x	x	x	x	x		4 MHz optional.	Z80/A	SGS-Thomson	
x		x		x	Zilog		LH0080	Sharp	
x		x		x	Zilog		LH0080A	Sharp	
x		x		x	Zilog		LH0080B	Sharp	
x	x	x	x		Zilog		LH0080E	Sharp	30
x		x			Zilog	8 bit 1 chip microcomputer	LH0801	Sharp	
x		x	x	x	Zilog		LH0801A	Sharp	
x		x			Zilog	Development Device	LH0802	Sharp	
x		x			Zilog	Protopack Emulator	LH0803	Sharp	
x		x			Zilog	8 bit 1 chip microcomputer	LH0811	Sharp	35
x		x			Zilog	Development Device	LH0812	Sharp	
x		x			Zilog	Protopack Emulator	LH0813	Sharp	
x		x			Zilog	ROMless Microcomputer	LH0881	Sharp	
x		x	x	x	Zilog		LH0881A	Sharp	
x	x	x	x	x	Zilog		LH5080	Sharp	40
x	x	x	x	x	Zilog		LH5080A	Sharp	
x	x	x	x	x	Zilog		LH5080AL	Sharp	
x	x	x	x	x	Zilog		LH5080L	Sharp	
x		x	x	x			LU800AV1	Sharp	
x		x	x	x			LU800V1	Sharp	45
x		x			—		SM803	Sharp	
x		x			—		SM812	Sharp	
x		x			—		SM813	Sharp	
x		x		x			SM814	Sharp	
x		x		x		VCR Servo Control Circuit	SM8201	Sharp	45
x	x	x	x	x	AMD	Two 16-bit counters, serial I/O	SAB80C31	Siemens	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture										Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-tying System	In-Circuit Emulator	
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capa-bility						
8	CMOS	5	40	8,16,24	64K	111	256x8			16	0.7/24	2	x	x	
8	CMOS	5	40	8,16,24	64K	111	128x8	4K		16	0.7/24	2	x	x	
8	CMOS	5	68	8,16,24	64K	111	256x8	8K		16	0.7/24	4	x	x	
8	CMOS	5	84	8,16,24	64K	111	256x8	8K		12	1/24	4	x	x	
8	CMOS	5	40	8,16,24	64K	111	256x8	8K		16	0.7/24	2	x	x	
8	CMOS	5	68	8,16,24	64K	111	256x8			16	0.7/24	4	x	x	
8	CMOS	5	84	8,16,24	64K	111	256x8			12	1/24	4	x	x	
8	NMOS	5	40	8,16,24	64K	111	128x8			20	0.6/10	2	x	x	
8	NMOS	5	40	8,16,24	64K	111	256x8			18	0.7/10	2	x	x	
8	NMOS	5	40	8,16,24	64K	111	128x8	4K		20	0.6/10	2	x	x	
8	NMOS	5	68	8,16,24	64K	111	128x8	4K		16	0.7/10	2	x	x	
8	NMOS	5	40	8,16,24	64K	111	256x8	16K		16	0.7/10	2	x	x	
8	NMOS	5	68	8,16,24	64K	111	256x8	8K		15	0.8/10	4	x	x	
8	NMOS	5	40	8,16,24	64K	111	256x8	8K		18	0.7/10	2	x	x	
8	NMOS	5	68	8,16,24	64K	111	128x8			16	0.7/10	2	x	x	
8	NMOS	5	68	8,16,24	64K	111	256x8			15	0.8/10	4	x	x	
8	CMOS	2.5–6.0	28	8	32K	44	64x8	1Kx8		20.0	1.0/00	3			
8	CMOS	2.5–6.0	24	8	32K	44	64x8	1Kx8		20.0	1.0/00	3			
8	CMOS	2.5–6.0	20	8	32K	44	64x8	1Kx8		20.0	1.0/00	3			
8	CMOS	2.5–6.0	28	8	32K	44	128x8	2Kx8		20.0	1.0/00	3			
8	CMOS	2.5–6.0	24	8	32K	44	128x8	2Kx8		20.0	1.0/00	3			
8	CMOS	2.5–6.0	28	8	32K	44	64x8	1Kx8		20.0	1.0/00	3			
8	CMOS	2.5–6.0	24	8	32K	44	64x8	1Kx8		20.0	1.0/00	3			
8	CMOS	2.5–6.0	20	8	32K	44	64x8	1Kx8		20.0	1.0/00	3			
8	CMOS	2.5–6.0	28	8	32K	44	64x8			20.0	1.0/00	3			
8	CMOS	2.5–6.0	24	8	32K	44	64x8			20.0	1.0/00	3			
8	CMOS	2.5–6.0	20	8	32K	44	64x8			20.0	1.0/00	3			
8	CMOS	5	28	8–16		90	256x8	0		12					
8	CMOS	5	28	8–16		90	256x8	4Kx8		12					
8	CMOS	5	28	8–16		90	256x8	4Kx8		12					
8	NMOS	5		8,16,24	32K					2			x	x	
8	TTL	5		16	8K					8	0.2		x	x	
8	TTL	5		16	8K					10			x	x	
8	ECL	5	64	20		32				10			x	x	
8	NMOS	5		8–16	1K		64x8	1Kx8		3	8.38/16.8		x	x	
8	NMOS	5		8–16	4K	96	64x8			6	1.4/2.8	1			
8	NMOS	5		8–16	4K	96	128x8			11	1.4/2.8	1			
8	NMOS	5		8–16	4K	96	256x8			11	1.4/2.8	1			
8	NMOS	5		8–16	4K	90	64x8	1Kx8		6	1.4/2.8	1			
8	NMOS	5		8–16	4K	90	128x8	2Kx8		11	1.4/2.8	1			
8	NMOS	5		8–16	4K		256x8	4Kx8		11	1.4/2.8	1			
8	CMOS	2.4–6	40	8–30	64K	150				2.5		5	yes		

Cross Assem- bler	High Level Lan- guage	Software Support			Alternate Sources	Comments	Device Source		Line
		Programs							
		Debug	Diag- nostic	Edit					
x	x	x	x	x	AMD	Three 16-bit counters, serial I/O	SAB80C32	Siemens	5
x	x	x	x	x	AMD	Two 16-bit counters, serial I/O	SAB80C51	Siemens	
x	x	x	x	x		8-Input A/D, three 16-bit counters, serial I/O	SAB80C515	Siemens	
x	x	x	x	x		12-Input A/D, three 16-bit counters, 21 PWM outputs and two serial I/O	SAB80C517	Siemens	
x	x	x	x	x	AMD	Three 16-bit counters, serial I/O	SAB80C52	Siemens	
x	x	x	x	x		8-Input A/D, three 16-bit counters, serial I/O	SAB80C535	Siemens	10
x	x	x	x	x		12-Input A/D, three 16-bit counters, 21 PWM outputs and two serial I/O	SAB80C537	Siemens	
x	x	x	x	x	AMD	Two 16-bit counters, serial I/O	SAB8031A	Siemens	
x	x	x	x	x	AMD	Three 16-bit counters, serial I/O	SAB8032B	Siemens	
x	x	x	x	x	AMD	Two 16-bit counters, serial I/O	SAB8051A	Siemens	
x	x	x	x	x		8-Input A/D, two 16-bit counters, serial I/O	SAB80512	Siemens	15
x	x	x	x	x		Three 16-bit counters, serial I/O	SAB80513	Siemens	
x	x	x	x	x	AMD	8-Input A/D, three 16-bit counters, serial I/O	SAB80515	Siemens	
x	x	x	x	x	AMD	Three 16-bit counters, serial I/O	SAB8052B	Siemens	
x	x	x	x	x		8-Input A/D, two 16-bit counters, serial I/O	SAB80532	Siemens	
x	x	x	x	x	AMD	8-Input A/D, three 16-bit counters, serial I/O	SAB80535	Siemens	20
x		x	x	x	National COP820C		SC44820	Sierra	
x		x	x	x	National COP821C		SC44821	Sierra	
x		x	x	x	National COP822C		SC44822	Sierra	
x		x	x	x	National COP840C		SC44840	Sierra	
x		x	x	x	National COP841C		SC44841	Sierra	25
x		x	x	x	National COP8620C	Additional 64x8 EERAM.	SC48620	Sierra	
x		x	x	x	National COP8621C	Additional 64x8 EERAM.	SC48621	Sierra	
x		x	x	x	National COP8622C	Additional 64x8 EERAM.	SC48622	Sierra	
x		x	x	x	National COP8720C	1Kx8 EEROM & Additionaladditional 64x8 EERAM.	SC48720	Sierra	
x		x	x	x	National COP8721C	1Kx8 EEROM & additional 64x8 EERAM.	SC48721	Sierra	30
x		x	x	x	National COP8722C	1Kx8 EEROM & additional 64x8 EERAM.	SC48722	Sierra	
						1 ² C and NBAP Protocols	SCC84C00	Signetics (3124)	
						1 ² C and NBAP Protocols	SCC84C20	Signetics (3124)	
						1 ² C and NBAP Protocols	SCC84C40	Signetics (3124)	
x		x	x	x		Any of the general purpose registers can be used as an index register.	2650A-1	Signetics	35
x			x			Bipolar with fixed instructions.	8X300	Signetics	
x		x	x	x	AMD		8X305	Signetics	
x		x	x	x		35% faster than 8x305	8X401	Signetics (3132)	
		x	x	x	Intel		8021	Signetics	
					AMD, Fujitsu, Intel, National, NEC		8035	Signetics	40
					AMD, Fujitsu, Intel, National, NEC		8039	Signetics	
					AMD, Fujitsu, Intel, National, NEC		8040	Signetics	
					AMD, Fujitsu, Intel, National, NEC		8048	Signetics	
					AMD, Fujitsu, Intel, National, NEC		8049	Signetics	
							8050	Signetics	
					National	Fully Compatible with Z80 instruction set, on chip bus controller and clock generator	MPU800	SMC	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (µs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
8	CMOS	2.4-6	40	8-30	64K	150				1	1.6	5	yes	
8	CMOS	2.4-6	40	8-30	64K	150				4	1.0	5	yes	
8	NMOS	5	40	8	64K	61	256x8			8	1/12.5	6	x	x
8	CMOS	2.5-5.5	68	8	64 K	64	2048	32768		20	1/11	10	x	x
8	CMOS	2.5-6.0	40	8	64 K	61	2048			6	1.3/15.9	6	x	x
8	CMOS	2-5.5	40	8	64K	61	256x8	4096x8		7.5	1.1/13.3	6	x	x
8	SMOS	5	40	8	64K	61	128x8			8	1.6/19.2	4	x	x
8	NMOS	5	40	8	64K	61	256x8			8	1/12.5	6	x	x
8	SMOS	5	40	8	64K	61	128x8	2K		2.5	1.6/19.2	4	x	x
8	SMOS	5	40	8	64K	61	128	4K		2.5	1.6/19.2	4	x	x
8	NMOS	5	40	8	64K	61	256x8	4096x8		8	1/12.5	6	x	x
8	CMOS	3-5	40	8						3.6		2		
8	NMOS	5	40	8						3.6		2		
8	NMOS	5	40	8	64K	61	256x8	4096x8		5	1.6/19.6	6	x	x
8	CMOS	5		8-16	4K		128			11			x	x
8	NMOS	5	40	8-16	4K		64			6			x	x
8	NMOS	5	40	8-16	4K		128			11			x	x
8	NMOS	5		8-16	4K		64	1K		6			x	x
8	NMOS	5		8-16	4K			2K		11			x	x
8	NMOS	5		8,16,24	64K					3			x	x
8	NMOS	5		8,16,24	64K					5			x	x
8	NMOS	5	40	81632	64K	56			x	4	0.25/40	1		
8	NMOS	5	40	81632	64K	56				4		1		
8	CMOS	5	40	8	64K	64				4	.5/3.5	1		
8	CMOS	5	40/56	8	64K	180	192x8	4Kx8	x	2,4,6,8	0.25/4.0	8	x	x
8	CMOS	5	68	8	64K	180	192x8	4096x8	x	4	0.25/4	22	x	x
8	CMOS	5	68	8-32	1M	101				4				
8	CMOS	5	68	8-32	1M	101				6				
8	CMOS	5	40	16	1M	101				5	0.25/4			
8	CMOS	5	40	16	1M	101				8	0.25/4			
8	CMOS	5		8	1 MB					8	0.25	7	x	
8	NMOS	5	40	8-32	64K	158			x	2.5		3	x	x
8	NMOS	5	40	8-32	64K	158			x	4		3	x	x
8	NMOS	5	40	8-32	64K	158			x	6	0.7/4.2	3	x	x
8	NMOS	5	40	8-32	64K	158			x	2.5		3	x	x
8	NMOS	5	40	8-32	500K				x	25		2		
8	NMOS	5	40	8,16,24	124K	129	128x8	2Kx8	x	4	2.2/4.25	6	x	x
8	NMOS	5												
8	NMOS	5	40	8,16,24	124K	129	128x8			4	2.2/4.25	6	x	x

Cross Assembler	Software Support				Alternate Sources	Comments	Device Source		Line
	High Level Language	Programs							
		Debug	Diagnostic	Edit					
					National	Fully Compatible with Z80 instruction set, on chip bus controller and clock generator	MPU800-1	SMC	5
					National	Fully Compatible with Z80 instruction set, on chip bus controller and clock generator	MPU800-4	SMC	
x							SE70P162	TI	
x		x				8-Bit Microcontroller with Program and Data EEPROM, UART, A/D Converter Watchdog, PWM Timer Outputs	TMS3700 SERIES	TI	
x		x				8-Bit CMOS Microprocessor with UART	TMS70C02	TI	
x							TMS70C42	TI	10
	x					8 bit timer/event counter, optional memory expansion modules available to complement on chip ROM.	TMS7000	TI	
x							TMS7002	TI	
	x					8 bit timer/event counter, optional memory expansion modules available to complement on chip ROM.	TMS7020	TI	
	x					8 bit timer/event counter, optional memory expansion modules available to complement on chip ROM.	TMS7040	TI	
x							TMS7042	TI	15
						Encryption, Federal Processing Standard	TMS75C00	TI	
						Encryption, Federal Processing Standard	TMS7500	TI	
x						On-board EPROM version.	TMS7742	TI	
x		x	x	x	NEC, National, OKI		TMP80C39A	Toshiba	
		x	x	x	AMD, Intel, National, NEC, Fujitsu, Signetics		TMP8035	Toshiba	20
		x	x	x	AMD, Intel, National, NEC, Fujitsu, Signetics		TMP8039	Toshiba	
		x	x	x	AMD, Intel, NEC, Fujitsu, Signetics	8748 has U.V. PROM.	TMP8048	Toshiba (3339)	
		x	x	x	NEC, Fujitsu, Signetics		TMP8049	Toshiba (3339)	
x	x	x	x	x	AMD, Mitsubishi, NEC	8080A compatible with multiplexed bus operation.	TMP8085A	Toshiba	
x	x	x	x	x	AMD, Mitsubishi, NEC		TMP8085A-2	Toshiba	25
					Rockwell	On-chip Clock, IRQ, NMI, RYD, BUS compatible with MC6800	UM6502	UMC	
					Rockwell	External clock, IRQ, NMI, RYD, BUS compatible with MC6800	UM6512	UMC	
							VL65NC02	VLSI Tech (3363)	
x	x	x	x	x		I/O or External Memory Mode, Six I/O ports, two timers, serial port, W65C02 core, Toolbox Emulation Interface.	W65C124	WDC	
x	x	x	x	x		I/O or external memory mode; 7 I/O ports, four timers; UART, LAN, Toolbox Emulation Interface	W65C134	WDC	30
x	x	x	x			Compatible with Z80 CPU software	Z64180-4	Zilog	
x	x	x	x			Compatible with Z80 CPU software	Z64180-6	Zilog	
x	x	x	x			Instruction set is a superset of 8086/88 instruction set.	Z70108-05(V20)	Zilog	
x	x	x	x			Instruction set is a superset of 8086/88 instruction set.	Z70108-08(V20)	Zilog	
			x			Instruction set is a superset of 8086/88 instruction set.	Z70208	Zilog	35
x	x	x	x	x		8080A software compatible.	Z80	Zilog	
x	x	x	x	x		8080A software compatible.	Z80A	Zilog	
x	x	x	x	x		8080A software compatible.	Z80B	Zilog	
x	x	x	x	x		Low power version of Z80, slower speeds available.	Z80L	Zilog	
						The first of a series of processors. The devices are binary code compatible with the Z80 CPU. 8 and 16 bit multiple and divide.	Z8108	Zilog	
x	x	x	x	x		On-chip UART, and 2 counter/timers. 4 external interrupts, 32 I/O lines.	Z8601-MCU	Zilog	
							Z8601-12	Zilog	
x	x	x	x	x		Program storage in separate 2716 EPROM, 4 external interrupts. Has piggyback 24-pin socket to program memory.	Z8603-MCU	Zilog	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto- typing System	In- Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
8	NMOS	5	40	8,16,24	124K	129	128x8	4Kx8	x	4	1/1.5	6	x	x
8	NMOS	5	40	8,16,24	124K	129	128x8	4Kx8	x	12	1/2.8	6	x	x
8	NMOS	5	64	8-24	124K	129	128x8		x	4	1/1.5	6	x	x
8	NMOS	5	64	8,16,24	124K	129	128x8		x	12	1/2.8	6	x	x
8	NMOS	5	40	8-24	124K	129	128x8		x	4	1/1.5	6	x	x
8	NMOS	5	40	8,16,24	124K	129	128x8		x	12	1/2.8	6	x	x
8	NMOS	5	40	8-24	124K	129	128x8			4			x	x
8	NMOS	5	40	8-24	128K		128x8			4			x	x
8	NMOS	5	40	8,16,24	124K	129	128x8		x	12	1/2.8	6	x	x
8/16	HMOS	5	40	8-48	1M					8		1	x	x
8/16	CMOS	5	40	8	64K	91				8	1	2	x	x
8/16	CMOS	5	40	8-16	16M	91				8	1	2		
8/16	CMOS	5	40	8-32	1M					8		256	x	x
8/16	CMOS	5	40	8-32	1M					8		256	x	x
8/16	CMOS	5	40	8-32	1M					8		256	x	x
8/16	CMOS	5	40	8-32	1M					5		256	x	x
8/16	CMOS	5	40	8-32	1M					5		256	x	x
8/16	HMOS	5	40	8-48	1M	46				5	0.4/4		x	
8/16	NMOS	5	40	8-48	1M					5		1	x	x
8/16	CMOS	5	68	8-48	1M	101			x	8		8	x	x
8/16	NMOS	5	40	8-48	1M		64x8			5				
8/16	I ² L	5	64	16,32,48	128K	73				4.4	1.37/13.6	17	x	
12	CMOS	5		12	32K					4				
12	PMOS	5		12,24	4K					1.2			x	
12	GaAs E/D Mode	-2	52	4		16				80				
16	CMOS	5	52	8,16						10	0.1		x	
16	CMOS	5	52	8,16						11.1	0.09		x	
16	CMOS	5	52	8,16						12.5	0.08		x	
16	CMOS	5	68	8,16						8	0.125		x	
16	TTL	5	52	8,16						10	0.1		x	
16	TTL/ECL	5	52	8,16	User defined		32Kx16			10	0.1		x	
16	TTL	5	52	8,16						10	0.1		x	
16	TTL	5	68	8,16						10	0.1		x	
16	HMOS	5	68	8-80	16 MB					10		256	x	x
16	HMOS	5		8-48	1M					10				
16	CMOS	5	100	24	16K		32K		x		0.125	4	x	x
16	CMOS	5	64	9	User Defined	512				41	0.024/0.037	x	x	x
16	CMOS	5	64	9	User Defined	512				35	0.024/0.037			

Cross Assem- bler	Software Support				Alternate Sources	Comments	Device Source		Line
	High Level Lan- guage	Programs							
		Debug	Diag- nostic	Edit					
x	x	x	x	x	SGS, Sharp, GTE	On-Chip UART and 2 counter/timers, 32 I/O lines. 4 external interrupts.	Z8611-MCU	Zilog	5
x	x	x	x	x		On-chip UART, 2 counter/timers, 32 I/O lines, 4 external interrupts.	Z8611-12	Zilog	
x	x	x	x	x	SGS, Sharp, GTE	64 pin development version. 4 external interrupts. ROMless Z8601.	Z8612-MCU	Zilog	
x	x	x	x	x		Development version, 4 external interrupts, ROMless Z8601-11.	Z8612-12	Zilog	
x	x	x	x	x	SGS, Sharp, GTE	ROMless Z8. Has piggyback 24-pin socket for direct interface to program memory. Permits program storage in separate EPROMs.	Z8613-MCU	Zilog	
x	x	x	x	x		ROMless Z8. Has piggyback 24-pin socket for direct interface to program memory.	Z8613-12	Zilog	10
x	x	x	x	x		Single chip basic interpreter with Tiny Basic in ROM.	Z8671-MCU	Zilog	
x	x	x	x	x		ROMless Z8.	Z8681-MCU	Zilog	
x	x	x	x	x		ROMless Z8.	Z8681-12	Zilog	
x	x	x	x	x	Intel	Same part as iAPX88/10.	8088	AMD	
x		x	x	x		Runs G65SC02 code.	G65SC802	CMD Micro (2569)	15
x				x		Runs G65SC02 code.	G65SC816	CMD Micro (2569)	
x	x	x	x	x			80C88	Harris (2735)	
x	x	x	x	x			80C88-2/B	Harris (2735)	
x	x	x	x	x			80C88-2/883	Harris (2735)	
x	x	x	x	x			80C88/B	Harris (2735)	20
x	x	x	x	x			80C88/883	Harris (2735)	
		x	x	x	AMD	I/O processor concentrator and intelligent DMA controller. 4 special purpose input interrupts, 2 DMA request interrupts, 2 general purpose interrupt outputs.	8089	Intel	
x	x	x	x	x		Faster Versions also Available, Refurbished	8088	Krueger (2877)	
x	x	x	x	x	Zilog	High integration with several peripherals on chip. Upwards compatible with μPD70108, μPD70116.	μPD70208	NEC	
					AMD, Intel		μPD8088	NEC	25
	x	x	x	x		Mil temperature range.	SBP9989	TI	
					Intersil	PDP-8 instruction set compatible Fortrar, Basic, Focal, Pascal, available from outside vendors.	HM6100	Harris	
x	x		x				TLCS12A	Toshiba	
						Functional equivalent to AMD's 2910A; ECL 100K compatible.	VS29G10AM	Vitesse	
x							AM29C116	AMD	30
x							AM29C116-1	AMD	
x							AM29C116-2	AMD	
x							AM29C117	AMD	
x							AM29L116A	AMD	
x						Three-operand ALU, 16-bit barrel shifter, instruction set optimized for high-performance intelligent controllers.	AM29116	AMD	35
x							AM29116A	AMD	
x							AM29117	AMD	
x	x	x	x	x		On-chip MMU	80286-10	AMD	
					Intel, Fujitsu, NEC	Same part as iAPX86/10.	8086	AMD	
x	x	x	x	x		Digital Signal Processor with high speed numeric processing applications.	ADSP-2100	AD (2461)	
x	x	x	x		AM29101	Replaces four 2901s and carry look-ahead logic	CY7C9101-24C	Cypress (2590)	
					AM29101	Replaces four 2901s and carry look-ahead logic Mil temp.	CY7C9101-28M	Cypress (2590)	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture										Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-tying System	In-Circuit Emulator	
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability						
16	CMOS	5	64	9	User Defined	512				32	0.024/0.037				
16	CMOS	5	64	9	User Defined	512				27	0.024/0.037				
16	CMOS	5	52	8, 16	User Defined		32x16			10	0.100		x		
16	CMOS	5	52	8,16	User Defined		32x16			22.2					
16	CMOS	5	52	8, 16	User Defined		32x16			19	0.03		x		
16	CMOS	5	52	8,16	User Defined		32x16			15.4					
16	CMOS	5	52	8,16	User Defined		32x16			15.4					
16	CMOS	5	52	8, 16	User Defined		32x16			12.6	0.079		x		
16	CMOS	5	52	8, 16	User Defined		32x16			12.6	0.079		x		
16	CMOS	5	52	8,16	User Defined		32x16			22.2					
16	CMOS	5	52	8,16	User Defined		32x16			18.9					
16	CMOS	%	52	8,16	User Defined		32x16			15.4					
16	CMOS	5	52	8,16	User Defined		32x16			15.4					
16	CMOS	5	52	8,16	User Defined		32x16			12.7					
16	CMOS	5	52	8,16	User Defined		32x16			12.7					
16	CMOS	5	52	8,16	User Defined		32x16			10.1					
16	NMOS	5	68	8–48	1M	150			x	8		1	x	x	
16	NMOS	5	68	8–48	16M	150				8			x	x	
16	NMOS	5	40	8–48	1M	133				5			x	x	
16	NMOS	5	40	8–48	1M	133				10			x	x	
16	NMOS	5	40	8–48	1M	133				8			x	x	
16	CMOS	5	40	8–48	1M					8			x	x	
16	CMOS	5	40	8–48	1M					8			x	x	
16	CMOS	5	68	8–80	16M	150				10		256	x	x	
16	CMOS	5	68	8–80	16M	150				12.5		256	x	x	
16	CMOS	5	68	8–80	16M	150				16		256	x	x	
16	CMOS	5	68	8–80	16M	150				20		256	x	x	
16	CMOS	5	40	8–48	1M					8			x	x	
16	CMOS	5	40	8—32	1M					8		256	x	x	
16	CMOS	5	40	8—32	1M					8		256	x	x	
16	CMOS	5	40	8—32	1M					5		256	x	x	
16	CMOS	5	40	8—32	1M					5		256	x	x	
16	CMOS	5	68	8	64K		0		x	20	0.05/2	1	x		

Cross Assem- bler	High Level Lan- guage	Software Support			Alternate Sources	Comments	Device	Source	Line
		Debug	Diag- nostic	Edit					
					AM29101	Replaces four 2901s and carry look-ahead logic.	CY7C9101-31C	Cypress (2590)	5
					AM29101	Replaces four 2901s and carry look-ahead logic Mil temp.	CY7C9101-36M	Cypress (2590)	
x						Three Operand ALU, 16-Bit Barrel Shifter, instruction set optimized for high performance intelligent controllers	CY7C9116-100M	Cypress (2592)	
					AMD, SGS-Thomson	Three-operand ALU, 16-bit	CY7C9116-45C	Cypress (2592)	
x						Three Operand ALU, 16-Bit Barrel Shifter, instruction set optimized for high performance intelligent controllers	CY7C9116-53C	Cypress (2592)	
					AMD, SGS-Thomson		CY7C9116-65C	Cypress (2592)	
					AMD, SGS-Thomson		CY7C9116-65M	Cypress (2592)	
x						Three Operand ALU, 16-Bit Barrel Shifter, instruction set optimized for high performance intelligent controllers	CY7C9116-79C	Cypress (2592)	
x						Three Operand ALU, 16-Bit Barrel Shifter, instruction set optimized for high performance intelligent controllers	CY7C9116-79M	Cypress (2592)	
					AMD, SGS-Thomson		CY7C9117-45C	Cypress (2592)	10
					AMD, SGS-Thomson		CY7C9117-53C	Cypress (2592)	
					AMD, SGS-Thomson		CY7C9117-65C	Cypress (2592)	
					AMD, SGS-Thomson		CY7C9117-65M	Cypress (2592)	
					AMD, SGS-Thomson		CY7C9117-79C	Cypress (2592)	
					AMD, SGS-Thomson		CY7C9117-79M	Cypress (2592)	
					AMD, SGS-Thomson		CY7C9117-99M	Cypress (2592)	
	x	x	x	x	Intel	High integration 16-bit microprocessor, 2 independent DMA channels, 3 programmable 16-bit timers, object code compatible with all MBL8086/88 software.	MBL80186	Fujitsu (2635)	
	x	x	x	x		High performance 16-bit microprocessor with on-chip memory management and protection, upward compatible with MBL8086/8088 software.	MBL80286-8	Fujitsu (2635)	
	x	x	x	x	Mostek, Intel, Siemens, NEC	Assembly language compatible with 8080/8085.	MBL8086	Fujitsu (2635)	20
	x	x	x	x	Mostek, Intel, Siemens, NEC	Assembly language compatible with 8080/8085.	MBL8086-1	Fujitsu (2635)	
	x	x	x	x	Mostek, Intel, Siemens, NEC	Assembly language compatible with 8080/8085.	MBL8086-2	Fujitsu (2635)	
x	x	x	x	x	Intel	Multiply and divide multibus system compatible, available in military temperature ranges.	HS80C86RH	Harris (2723)	
x	x	x	x	x	Intel	Multiply and divide, multibus system compatible, 8 MHz version available.	MD80C86	Harris	
x	x	x	x	x	Intel	High performance 16-bit microprocessor with on-chip memory management and protection.	80C286-10	Harris (2735)	
x	x	x	x	x	Intel	High performance 16-bit microprocessor with on-chip memory management and protection.	80C286-12	Harris (2735)	
x	x	x	x	x	Intel	High performance 16-bit microprocessor with on-chip memory management and protection.	80C286-16	Harris (2735)	
x	x	x	x	x			80C286-20	Harris (2735)	
x	x	x	x	x	Intel	Multiply and divide, multibus system compatible, 8 MHz version available, available in industrial or military temperature ranges.	80C86	Harris (2735)	30
x	x	x	x	x			80C86-2/B	Harris (2735)	
x	x	x	x	x			80C86-2/883	Harris (2735)	
x	x	x	x	x			80C86/B	Harris (2735)	
x	x	x	x	x			80C86/883	Harris (2735)	
x	x	x	x	x		16-bit Transputer	IMST202	Inmos	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
16	CMOS	5	68	16	64K		2K		x	20	0.05/2	1	x	
16	CMOS	5	64	9	User defined					21				
16	CMOS	5	64	9	User defined					21				
16	CMOS	5	64	9	User defined	16				21				
16	HMOS	5		8-48	16M					8	0.8			x
16	CMOS	5	40	8-48	1MB	133				5	0.4/0.8		x	x
16	CMOS	5	40	8-48	1MB	133				8	0.4/0.8		x	x
16	HMOS	5	68	8-48	1M	150			x	10		1	x	x
16	HMOS	5	68	8-48	1M	150			x	8	0.25/8.6	256		x
16	HMOS	5		8-48	16M					8	0.8			x
16	HMOS	5	40	8-48	1M	133				10	0.4/0.8		x	x
16	HMOS	5	40	1-4	500K	69				8	1.25/100	1	x	
16	CMOS	5	64	9	User-defined					4		opt.		
16	CMOS	5	64	9	User-defined					4		opt.		
16	nmos	5		8-48	1M	150			x			1	x	x
16	NMOS	5		8-48	16M						0.8/—			x
16	NMOS	5	40	8-48	1M	133				5	0.4/0.8		x	x
16	NMOS	5	144	16	64	200 +		128	x	40		16	x	x
16	SOS	5	64	16	64K					25		9		
16	CMOS	5	40	16	4K	60	2304	24K		20.5	—/0.195	1		
16	CMOS	5	40	16	4K	60	2304	24K		25	—/0.16	1		
16	CMOS	5	40	16	4K	60	2304	24K		32	—/0.125	1		
16	CMOS	5	40	16	4K	60	4096	40K		20.5	—/0.195	1		
16	CMOS/2 metal	5	100	16	64K	200 +			x	40	0.1/7.85	16	x	
16	i ³ L	5		16	32K					10			x	
16	i ³ L	5	40		64K					10				x
16	i ³ L	5	64	16	2M					20		16		x
16	i ³ L	5	64	16	2M					20		16		x
16	CMOS	5	48	8, 16, 24, 32	16 M	108				15	0.267/8	3	x	x
16	CMOS	5	48	8-32	16M	108			x	10			x	x
16	CMOS	5	48	8-32	16M	108			x	15			x	x
16	CMOS	5	48	8-32	16M	108			x	6			x	x
16	XMOS	5	48	8, 16, 24, 32	16 M	108				10	0.4/12	3	x	x
16	XMOS	5	48	8-32	16M	128				10	0.3/—	3		
16	XMOS	5	48	8-32	16M	128				6	0.3/—	3		
16	XMOS	5	24							15	4/12		x	x
16	XMOS	5	48		16 M					10			x	x

Cross Assem- bler	Software Support				Alternate Sources	Comments	Device Source		Line
	High Level Lan- guage	Programs							
		Debug	Diag- nostic	Edit					
x	x	x	x	x		16-bit Transputer	IMST212	Inmos	5
						Four 2901, 2902 Look-ahead carry, 64 addressable registers	IDT49C401	IDT	
						Four 2901, 2902 Look-ahead carry, 64 addressable registers	IDT49C401A	IDT	
						Four 2901, 2902 Look-ahead carry, 64 addressable registers, additional instructions	IDT49C402	IDT (2832)	
	x	x	x		AMD	High performance 80286 processor with memory management. Upward compatible with iAPX86, 88 software.	iAPX268/10	Intel	
	x	x	x	x			80C86	Intel	10
	x	x	x	x			80C86-2	Intel	
	x	x	x	x		High integration 16-bit microprocessor, 2 independent DMA channels, 3 programmable 16-bit timers, clock generator, object code compatible with all iAPX8086/8088 software.	80186	Intel	
x	x	x	x	x	Fujitsu, AMD, Siemens		80188	Intel	
	x	x	x		AMD	High performance 80286 processor with memory management. Upward compatible with iAPX86, 88 software.	80286	Intel	
	x	x	x	x		8086 runs 5 MHz, -1 runs 10 MHz, -2 runs 8 MHz.	8086	Intel	15
x	x	x	x	x		Numeric coprocessor for 8086, 8088, 80186, 80188	8087-2	Intel	
						Four 2901's and a 2902 Look-ahead Carry in one.	2901X4	IMI	
						Four 2901's and a 2902 Look-ahead Carry in one.	4x2901B	IMI	
	x	x	x	x		Faster Versions also Available, Refurbished	80186	Krueger (2877)	
	x	x	x			Faster Versions also Available, Refurbished	80286	Krueger (2877)	20
	x	x	x	x		Faster Versions also Available, Refurbished	8086	Krueger (2877)	
x	x	x	x	x		Implements MIL-STD-1750A Instruction Set. MMU Support Chip Available (L64550).	L64500	LSI Logic (2886)	
						MIL-STD-1750A Qualified	MAS281	Marconi	
					TI		DSP320C10	Microchip (2892, 2895)	
					TI	25 MHz version of DSP320C10	DSP320C10-25	Microchip (2892, 2895)	25
					TI		DSP320C10-32	Microchip (2892, 2895)	
						EEPROM-based DSP320C10	DSP320EE12	Microchip (2893)	
x	x	x	x			Two MIPS DAIS mix at 40 MHz.	MKS2750	Mikros	
x	x	x	x	x		Microcomputer performance. Multifunction instructions process several steps e.g. add/shift/check and skip.	F9440	National	
x	x	x	x	x			F9445	National	30
x		x	x				F9450C	National	
x		x	x				F9450M	National	
x	x	x	x	x		CMOS, 32-bit internal architecture, 16-bit external data bus	NS32C016	National	
x	x	x	x	x		32-bit Internal Architecture, 16-bit External Data Bus.	NS32C016RT-10	National	
x	x	x	x	x		32-bit Internal Architecture, 16-bit External Data Bus.	NS32C016RT-15	National	35
x	x	x	x	x		32-bit Internal Architecture, 16-bit External Data Bus.	NS32C016RT-6	National	
x	x	x	x	x	TI	32-bit internal architecture, 16-bit external data bus	NS32016	National	
	x	x	x	x		Real-Time Processor, 32-bit Internal Architecture. 16-bit External Data Bus.	NS32016RT-10	National	
	x	x	x	x		Real-Time Processor, 32-bit Internal Architecture. 16-bit External Data Bus.	NS32016RT-6	National	
x	x	x	x	x	TI	Slave processor for floating point arithmetic	NS32081	National	
x	x	x	x	x	TI	Slave processor for virtual memory control	NS32082	National	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture									Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
16	CMOS	5	40	16	1M	101			x	10		3		x
16	CMOS	5	68	8-48	1M	101			x	8		8	x	x
16	CMOS	5	28	23		20	128x16	510x13 and 512x23	x	8.3	0.24	1.0	x	x
16	NMOS	5	40	8-48	1M					5			x	x
16	CMOS	5	80	8-40	1M	105	256x8		x	10	0.4	17		x
16	CMOS	5	80	8-40	1M	105	256x8	16Kx8	x	10	0.4	17		x
16	HCMOS	5	120	16-64	2 MB	130				7.5		4		
16	HCMOS	5	120	16-64	48 MB	130				10				
16	CMOS	5	64	16	64K	103				40	0.10	9	x	x
16	CMOS	5	64/68	16	64K					40		16		
16	CMOS	5	64	16	2 MB					20		16		
16	CMOS	5	64	16	2 MB					30		16		
16	CMOS	5	64	16	2 MB					40		16		
16	CMOS	5	64/68	16	64K					40				
16	CMOS	5	144	16	2 MB					40				
16	NMOS	5	48	16	64M	110	x	x	x	4	1	3		x
16	NMOS	5	48	16	64M	110	x	x	x	6	0.67	3		x
16	NMOS	5	68	16	64K	110			x	10	0.3/74.9	3		
16	NMOS	5	40	16	64K	110	x	x	x	4	1	3		x
16	NMOS	5	40	16	64K	110	x	x	x	6	0.67	3		x
16	NMOS	5	44	16	64K	110			x	10	0.3/74.9	3		
16	NMOS	5	48	16-64	8M	110			x	4	1	5		
16	NMOS	5	48	16-64	8M	110				6	0.67	5		
16	NMOS	5	40	16-64	384K	110				4	1	5		
16	NMOS	5	40	16-64	384K	110				6	0.67	5		
16	NMOS	5	40	8-48	1M	133				5				
16	NMOS	5	40	8-48	1M	133				10	0.4/0.8		x	
16	NMOS	5	40	8-48	1M	133				8				
16	NMOS	5	40	8-48	1M	133				4				
16	HMOS	5		16-80	16M	56				10				
16	CMOS	5	40	16	4k	60	144x16	1.5k	x	20.48	0.6/0.196	1	x	x
16	NMOS	5	48	8-200	16 M	133			x	10	0.3	256		
16	NMOS	5	24			16				10				
16	NMOS	5	48			4				10				
16	NMOS	5	40							10		16		
16	CMOS	5	40	16	4 K	60	144x16	1.5 K	x	20.48	0.6/0.196	1	x	x
16	CMOS	5	40	16	4 K	60	144x16	1.5 K	x	25	0.6/0.16	1	x	x
16	CMOS	5	40	16	4 K	60	256x16	4 K	x	20.48	0.6/0.196	1	x	x

MASTER SELECTION GUIDE

Cross Assem- bler	Software Support				Alternate Sources	Comments	Device		Source	Line
	High Level Lan- guage	Programs								
		Debug	Diag- nostic	Edit						
x	x	x	x	x	Zilog	High speed, CMOS 8086	μPD70116-10	NEC	5	
x	x	x	x	x	Zilog	High integration with several peripherals on chip. Upwards compatible with μPD70108, μPD70116.	μPD70216	NEC		
x					OKI	CMOS Version of 7720	μPD77C20	NEC		
	x	x	x	x	Intel, Mostek, Siemens		μPD8086-2	NEC		
x	x					ROMless Version of 70322	70320 (V25)	NEC		
x	x					V20/8088 Software Compatible	70322 (V25)	NEC	10	
	x	x	x	x			NC4016	Novix		
	x	x	x	x			NC6016	Novix		
x	x	x	x	x		32- and 48-Bit Floating Point Multiplier on chip. Military Temperature Range Floating point multiplier is 1.4 μs at 30 MHz. Also, Double Precision Fixed Point.	PACE1750A	Performance		
						SEAFAC certified to MIL-STD-1750A	P1750A	Performance		
						SEAFAC Certified to MIL-STD-1750A	P1750A-20CM	Performance	15	
						SEAFAC Certified to MIL-STD-1750A	P1750A-30CM	Performance		
						SEAFAC Certified to MIL-STD-1750A	P1750A-40CM	Performance		
						Enhanced MIL-STD-1750A CPU, available in 20/30/40 MHz versions	P1750AE	Performance		
						P1750A, P1753, and P1754 in Hybrid Chip Carrier, 20/30/40 MHz versions available	P1757M	Performance		
x	x	x		x	Zilog		LH8001	Sharp	20	
x	x	x		x	Zilog		LH8001A	Sharp		
x	x	x	x	x	Zilog		LH8001B	Sharp		
x	x	x		x	Zilog		LH8002	Sharp		
x	x	x		x	Zilog		LH8002A	Sharp		
x	x	x	x	x	Zilog		LH8002B	Sharp	25	
x	x	x	x	x	Zilog		LH8003	Sharp		
x	x	x	x	x	Zilog		LH8003A	Sharp		
x	x	x	x	x	Zilog		LH8004	Sharp		
x	x	x	x	x	Zilog		LH8004A	Sharp		
					Intel, Mostek, NEC		SAB8086	Siemens	30	
					Intel, Mostek, NEC		SAB8086-1	Siemens		
					Intel, Mostek, NEC		SAB8086-2	Siemens		
					Intel, Mostek, NEC		SAB8086-4	Siemens		
					Motorola, Hitachi, Rockwell, Phillips	General purpose register machine, supports memory to memory operations.	SCN68000	Signetics		
x	x	x	x		GI	Harvard Architecture, Hardware Multiplier, Low Power, 8 I/O Ports	SMJ320C10	TI	35	
					National	Full 32-bit internal architecture, 16-bit external data paths	TI32016	TI		
					National	Coprocessor, Floating Point Unit, 32-bit and 64-bit operations, supports proposed IEEE standard.	TI32081	TI		
					National	Coprocessor, Demand Paged Virtual Memory Management, 32-entry associative cache, debugging features.	TI32082	TI		
					National	System Support, Interrupt Controller, cascadable to 256 sources, fixed or rotating priorities, 2 counters.	TI32202	TI		
x	x	x	x			Harvard Architecture, Hardware Multiplier, Low Power, 8 I/O Ports	TMS320C10	TI	(3288)	
x	x	x	x			Harvard Architecture, Hardware Multiplier, Low Power, 8 I/O Ports	TMS320C10-25	TI	(3288)	
x	x	x	x			Expanded RAM/ROM	TMS320C15	TI		

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture							Hardware Support			
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-typing System	In-Circuit Emulator
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability					
16	CMOS	5	40	16	4 K	60	256x16	4 K	x	25.6	0.039/0.15	1	x	x
16	CMOS	5	40	16	4 K	60	256x16	4 K	x	20.48	0.6/0.196	4	x	x
16	CMOS	5	40	16	4 K	60	256x16	4 K	x	25.6	0.39/0.15	4	x	x
16	CMOS	5	68	16	64 K	133	544x16	4 K	x	40	0.6/0.1	6	x	x
16	CMOS	5	40	16	4 K	60	256x16	4 K	x	20.48	0.6/0.196	1	x	x
16	CMOS	5	40	16	4 K	60	256x16	4 K	x	20.48	0.6/0.196	4	x	x
16	NMOS	5	40	16	4 K	60	144x16	1.5 K		20.48	0.6/0.196	1	x	x
16	NMOS	5	40	16	4 K	60	144x16	1.5 K		14	0.6/0.286	1	x	x
16	NMOS	5	40	16	4 K	60	144x16	1.5 K		25	0.6/0.16	1	x	x
16	NMOS	5	40	16	1.5 K	60	144x16	1.5 K		20.48	0.6/0.196	4	x	x
16	NMOS	5	68	16	64 K	109	544x16	0	x	20.48	0.6/0.16	6	x	x
16	NMOS	5	24	24		16				10/15	2.4/23	64		
16	CMOS	5	40	8-24	64K	256				10		4		x
16	CMOS	5	40	8-24	16M	256				10		5		x
16	NMOS	± 5,12		16	64K					3		std.		x
16	NMOS	± 5,12		16	65K					3.3		std.		x
16	CMOS	68	8,16	16M	256				5					x
16	CMOS	5	40	16,32	1M	101				5	0.25/4			
16	CMOS	5	40	16,32	1M	101				8	0.25/4			
16	CMOS	5		16	1 MB					8	0.25	7	x	
16	NMOS	5	48	16-64	8M	110				4		5	x	x
16	CMOS	5	48	8-32	8M	110				6	0.25/4	3		
16	CMOS	5	48	8-32	8M	110				10				
16	NMOS	5	48	16-64	8M	110				6		5	x	x
16	NMOS	5	48	16-64	8M	110				10		5	x	x
16	NMOS	5	40	16-64	384K	110				4		5	x	x
16	CMOS	5	40	8-32	8M	110				6				
16	CMOS	5	40	8-32	8M	110				10				
16	NMOS	5	40	16-64	384K	110				6		5	x	x
16	NMOS	5	40	16-64	64K	110				10		5	x	x
16	NMOS	5	48	16-64	384K	110				10		5	x	x
16	NMOS	5	40	16-64	384K	110				10		5	x	x
16	CMOS	5	44	8-32	8M	110				6				
16	CMOS	5	44	8-32	8M	110				10				
16 BS	CMOS	5	64	9			16x16						x	
16 BS	CMOS	5	64/68	16		60				32	0.31			x
16 CMOS	5	64/68	16	2 MB						40				

MASTER SELECTION GUIDE

Cross Assem- bler	Software Support				Alternate Sources	Comments	Device	Source	Line
	High Level Lan- guage	Programs							
		Debug	Diag- nostic	Edit					
x	x	x	x			Expanded RAM/ROM	TMS320C15-25 TI		
x	x	x	x			Expanded RAM/ROM, Serial Port, Timer, Compounding Hardware	TMS320C17 TI		
x	x	x	x			Expanded RAM/ROM, Serial Port, Timer, Compounding Hardware	TMS320C17-25 TI		
x	x	x	x			Repeat Instruction, Single Cycle Multiplier/accumulator, 16 I/O Ports, Carry Bit, Power Down	TMS320C25 TI (3288)		
x	x	x	x			Expanded RAM/EPROM, Program Memory	TMS320E15 TI		5
x	x	x	x			Expanded RAM/EPROM Program Memory, Serial Port, Timer, Compounding Hardware	TMS320E17 TI		
x	x	x	x			Harvard Architecture, Hardware Multiplier, 8 I/O Ports	TMS32010 TI (3288)		
x	x	x	x			Low-cost DSP	TMS32010-14 TI (3288)		
x	x	x	x			Harvard Architecture, 8 I/O Ports, Hardware Multiplier	TMS32010-25 TI (3288)		
x	x	x	x			Serial Port, Timer, CM Compounding Hardware	TMS32011 TI		10
x	x	x	x			Repeat Instruction, Single Cycle Multiplier/accumulator, 16 I/O Ports	TMS32020 TI (3288)		
					National	Floating Point Coprocessor	T132081 TI		
x	x	x	x	x		Pin Compatible with the 6502	W65C802 WDC		
x	x	x	x	x		Software compatible with the 6500	W65C816 WDC		
		x		x			CP9008 Western		15
				x			MP1600 Western		
x	x	x				Enhanced Z80 CPU instruction set.	Z280-MPU Zilog		
x	x	x	x			Instruction set is a superset of 8086/88 instruction set	Z70116- 05(V30) Zilog		
x	x	x	x			Instruction Set is a superset of 8086/88 instruction set	Z70116- 08(V30) Zilog		
			x				Z70216 Zilog		20
x	x	x	x	x	AMD, SGS, Sharp	Segmented. 16 8-bit, 8 32-bit, 4 64-bit or 16 16-bit registers.	Z8001-CPU Zilog		
x	x	x	x			Z-BUS compatible	Z8001-06CPU Zilog		
x	x	x	x			Z-BUS compatible	Z8001-10CPU Zilog		
x	x	x	x	x	AMD, SGS, Sharp	Segmented. 16 8-bit, 8 32-bit, 4 64-bit or 16 16-bit registers.	Z8001A Zilog		
x	x	x	x	x	AMD, SGS, Sharp	Segmented. 16 8-bit, 8 32-bit, 4 64-bit or 16 16-bit registers.	Z8001B Zilog		25
x	x	x	x	x	AMD, SGS, Sharp	Non-segmented. 16 8-bit, 8 32-bit, 4 64-bit or 16 16-bit registers.	Z8002 Zilog		
x	x	x	x			Z-BUS compatible	Z8002-06CPU Zilog		
x	x	x	x			Z-BUS compatible	Z8002-10CPU Zilog		
x	x	x	x	x	AMD, SGS, Sharp	Non-segmented. 16 8-bit, 8 32-bit, 4 64-bit or 16 16-bit registers.	Z8002A Zilog		
x	x	x	x	x	AMD, SGS, Sharp	Non-segmented. 16 8-bit, 8 32-bit, 4 64-bit or 16 16-bit registers.	Z8002B Zilog		30
x	x	x	x	x	AMD, SGS, Sharp	Virtual memory, segmented addresses.	Z8003 Zilog		
x	x	x	x	x	AMD, SGS, Sharp	Virtual memory, binary compatible with Z8001/Z8002, non-segmented.	Z8004 Zilog		
x	x	x	x			Z-BUS compatible	Z8005-06CPU Zilog		
x	x	x	x			Z-BUS compatible	Z8005-10CPU Zilog		
x						Low Power Version of Am2901C	AM29C101 AMD		35
x	x	x	x			Contains 4 WS5901s and one 5902.	WS59016D Waferscale		
						MIL-STD-1750D Memory Management and Protection Unit with block protect unit and EDAC	P1753 Performance		

Bold face indicates additional data is provided on the page noted.

MICROPROCESSORS (Cont'd)

General				Architecture										Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto- typing System	In- Circuit Emulator	
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability						
16 CMOS	5	64/68	16							40					
16 CMOS	5	64/68	16							40					
16/32	NMOS	5	64	16—80	16M	56			x	6	0.4/—	7			
16/32	NMOS	5	48	16—80	1M	56				8	0.75/0.78	7	x	x	
16/32	NMOS	5	64	16—80	16M	56				8	0.75/0.78	7	x	x	
16/32	HMOS	5	64	24, 32	16 M	56				12.5	0.08/0.25		x		
16/32	HMOS	5	64	16—80	16M	56			x	10	0.4	7	x	x	
16/32	NMOS	5	48	8—200	16M	100				6	0.4	256	x	x	
16/32	—	5	64	16—80	16M	56			x	4	0.4	7			
16/32		5	64	16,32,48, 64,80	16M	56			x	4	0.4	7			
16/32	NMOS	5	48	16—80	1M	56				12	0.75/78	7	x	x	
16/32	NMOS	5	64	16—80	16M	56				12	0.75/78	7	x	x	
16BS	CMOS	5	108												
16BS	CMOS	5	108												
32	CMOS	5	132	32	4Gb		64x32			18		16	x	x	
32	CMOS	5	133	32	4Gb	32x32				24			x	x	
32	CMOS	5	207	32	4 GB	60	136x32			25		8			
32	CMOS	5	207	32	4 GB	60	136x32			25		8			
32	CMOS	5	207	32	4 GB	60	136x32			33		8			
32	CMOS	5	280	32	4 GB	16	16x64			25					
32	CMOS	5	280	32	4 GB	16	16x64			33					
32	CMOS	5	280	32	4 GB	16	16x64			33					
32	CMOS	5	84	8	4G		0		x	20	0.05/2	1	x		
32	CMOS	5	84	8	4G		16K		x	20	0.05/2	1	x		
32	CMOS	5	84	8	1 GB	160	32K		x	30	0.04/1	1			
32	CMOS	5	144	32						16.7					
32	CMOS	5	144	32	4 GB	74				16	0.062		x		
32	CMOS	5	144	32	4 GB	74				25	0.04		x		
32	CMOS	5	132	8–56	4G	180				24	0.08/1.9	256	x	x	
32	CMOS	5	96	16,32	4 GB	101				33	0.03/—	16	x		
32	CMOS	5	96	16,32	4 GB	101				50	0.02/—	16	x		
32	CMOS	5	114	16—32	4G	65			x	12		7	x	x	
32	CMOS	5	144	32	1 G	74				16.7	0.016/0.012	6	x		
32	CMOS	5	84	32	1 G	9				16.7	0.016/1.14		x		
32	CMOS	5	172	32	1 G	74				25	0.04/0.08	6	x		

Cross Assembler	Software Support				Alternate Sources	Comments	Device		Line
	High Level Language	Programs					Source		
		Debug	Diagnostic	Edit					
						Processor Interface Circuit with Built-In System Test	P1754	Performance	5
						Four channels, transfers from/to I/O, local and global memory supported, expandable up to eight channels	P1755	Performance	
						Faster Versions also Available, Refurbished	68000	Krueger (2877)	
X	X	X	X	X		Faster Versions also Available, Refurbished	68008	Krueger	
X	X	X	X	X		Faster Versions also Available, Refurbished	68010	Krueger (2877)	
	X	X	X	X		Low-Power HCMOS Microprocessor	MC68HC000	Motorola (2924)	10
X	X	X	X	X	Hitachi, Mostek, Rockwell, Signetics	Enhanced 68000 supporting true virtual memory with taster instruction set. Relocatable vector table to support multiple operating systems.	MC68010	Motorola (4859, 2924)	
X	X	X	X	X	National	32 bit interval architecture, software multiply and divide.	F16032	National	
						68000 screened to MIL-STD-883.	MKB68000	SGS-Thomson	
						MKB68000 available screened to MIL-STD883.	MK68000	SGS-Thomson	
X	X	X	X	X	Motorola	8 bit data bus version of 68000.	MK68008	SGS-Thomson	15
X	X	X	X	X	Motorola	Virtual memory 68000 processor	MK68010	SGS-Thomson	
							IDT49C403	IDT	
							IDT49C403A	IDT	
	X	X	X	X		High-performance 32-bit CPU. Performs all system address generation, control, memory, access and processing functions. CMOS technology. 32-bit address and data buses are also provided.	WE32100	AT&T	
	X	X	X	X		Improvements over WE32100 include: arbitrary byte alignment for data and instructions; new addressing modes to support more efficient array access; additional kernal and user registers; enhanced quick interrupt; enhanced loop control; BCD arithmetic instructions; enhanced semaphore support; dynamic bus sizing; byte replication	WE32200	AT&T	20
	X	X	X	X			CY7C601-25C	Cypress (2593)	
	X	X	X	X			CY7C601-25M	Cypress (2593)	
	X	X	X	X			CY7C601-33C	Cypress (2593)	
							CY7C608-25C	Cypress	
							CY7C608-25M	Cypress	25
							CY7C608-33C	Cypress	
X	X	X	X	X		32-bit Transputer	IMST404	Inmos	
X	X	X	X	X		32-bit Transputer	IMST414	Inmos	
X	X	X	X	X		On Chip 64-bit IEEE FPU	IMST800	Inmos (2784)	
	X	X	X	X	Micro Power Systems, LSI Logic, Performance Semiconductor		IDT79R2000	IDT	30
	X	X	X		Performance, LSI Logic		79R2000	IDT	
	X	X	X		Performance, LSI Logic		79R3000	IDT	
X	X	X	X	X		Binary compatible with 8088, 8086, 80188, 80286	80386	Intel	
X	X	X	X	X		Module with CPU/FPU chip, 2 cache, MMUs and clock	CLIPPER C100	Intergraph	
X	X	X	X	X		Module with CPU/FPU, 2 cache, MMUs and clock	CLIPPER C300	Intergraph	35
	X	X	X	X		Faster Versions also Available, Refurbished	68020	Krueger (2877)	
	X	X	X	X	IDT, Performance Semiconductor	CPU, MMU and Cache Controller on-chip	LR2000	LSI Logic (2885)	
	X	X	X	X	IDT, Performance Semiconductor	Floating Point Coprocessor	LR2010	LSI Logic (2885)	
	X	X	X	X	IDT, Performance Semiconductor	CPU, MMU and Cache Controller on-chip	LR3000	LSI Logic (2885)	

Bold face indicates additional data is provided on the page noted.

IC MASTER

MICROPROCESSORS (Cont'd)

General				Architecture										Hardware Support	
Data Word Size (bits)	Process Type	Supply Voltage (V)	No. of Pins	Instruction Word Size (bits)	Directly Addressable Memory (words)	No. of Basic Instructions	(For Microcomputers Only)			Maximum Clock Frequency (MHz)	Instruction Time Min/Max (μs)	No. of Interrupt Levels	Proto-tying System	In-Circuit Emulator	
							On-Chip RAM (bits)	On-Chip (P)ROM (bits)	DMA Capability						
32	CMOS	5	84	32	1 G	9				25	0.04/0.076		x		
32	CMOS	5	179	32	4 GB	70				25		64	x	x	
32	SOS	5	120	32	1 MB					12		0			
32	CMOS	5	114	16–32	4 G	65			x	25		7	x	x	
32	CMOS	–0.3 to +7		32	4 GB	128			x	20		7	x		
32	HCMOS	5	80	32		51							x	x	
32	CMOS	5	96	16	4 Gbytes	101				33	0.03	256	x		
32	CMOS	5	64	8, 16, 24, 32	16 M	108				15	0.267/8	3		x	
32	CMOS	5	68	8,16,32	4 GB	128				10		3			
32	CMOS	5	68	8,16,32	4 GB	128				15		3			
32	CMOS	5	68	8,16,32	4 GB	128				6		3			
32	XMOS	5	64	8, 16, 24, 32	16 M	108				1	0.4/12	3		x	
32	CMOS	5	120							15	0.8/15				
32	XMOS	5	84	8, 16, 24, 32	4 G	108				0.267/8	3			x	
32	XMOS	5	84	8,16,32	4 GB	128				10		3			
32	XMOS	5	84	8,16,32	4 GB	128				12		3			
32	XMOS	5	84	8,16,32	4 GB	128				15		3			
32	XMOS	5	120		4 G					15					
32	CMOS	5	175		4 GB					30					
32	NMOS	5	40	32		53	17K			10	0.2			x	
32	CMOS	5	172/	32	2 GB					25					
32	CMOS	5	84	32						25					
32	CMOS	5	68	16	64M	130				50	0.16/6	4	x	x	
32	NMOS	5	48	8,16,24	16 M	128				10/15	0.3/22	256		x	
32	NMOS	5	68	8–200	16 M	133			x	10	0.3	256			
32	NMOS	5	68	8,16,24	16 M	128				10/15	0.3/19	256		x	
32	CMOS	5	68	16	64 M	130				50	0.2	4	x	x	
32	CMOS	5	68	16	64 M	130				50	0.16	4	x	x	
32	CMOS	5		32	4 GB					18		15	x	x	
32	CMOS	5	84	32	4 GB					10		7	x	x	
32 BS	CMOS	5	101	32		60				33	0.042			x	
4	CMOS	3.5 to 6	64	10		99	512x4	8Kx10			1.78	5	x	x	

Cross Assembler	Software Support				Alternate Sources	Comments	Device Source		Line
	High Level Language	Programs							
		Debug	Diagnostic	Edit					
	x	x	x	x	IDT, Performance Semiconductor	Floating Point Coprocessor	LR3010	LSI Logic (2885)	
x	x	x	x	x	Fujitsu	SPARC (RISC)	L64801	LSI Logic (2884)	
							MAS1908	Marconi	
	x	x	x	x		MC68000, 68010 and 68008 are upward compatible with 68020. Separate 32-bit data and address bus. On-chip cache for speed enhancement and co-processor interface to extend CPU functions.	MC68020	Motorola (4859, 2924)	
						Second generation 32-bit enhanced microprocessor, object code compatible with MC68020 and MC68000 family	MC68030	Motorola (4859, 2923)	5
x	x	x	x	x		32-Bit third generation RISC Microprocessor	MC88100	Motorola	
x	x	x	x	x		Three-chip VLSI module, (plus clock chip).	CLIPPER	National	
x	x	x				32-bit internal architecture, 32-bit external data bus	NS32C032	National	
x	x	x	x			32-bit virtual memory processor	NS32C032-10	National	
x	x	x	x			32-bit virtual memory processor	NS32C032-15	National	10
x	x	x	x			32-bit virtual memory processor	NS32C032-6	National	
x	x	x			TI	32-bit internal architecture, 32-bit external data bus	NS32032	National	
x	x					Advanced slave processor for floating point arithmetic	NS32310	National	
x	x					32-bit advanced microprocessor with virtual memory	NS32332	National	
x	x	x	x			32-bit advanced processor with virtual memory	NS32332-10	National	15
x	x	x	x			32-bit advanced processor with virtual memory	NS32332-12	National	
x	x	x	x			32-bit advanced processor with virtual memory	NS32332-15	National	
x	x	x				Advanced slave processor for virtual memory control	NS32382	National	
x	x	x	x			Advanced CMOS 32-bit CPU	NS32532	National	
x	x	x	x	x		Image Pipeline Processor	μPD7281	NEC	20
						RISC processor available in 16, 20 and 25 MHz versions	PR3000	Performance	
						RISC processor available in 16, 20 and 25 MHz versions	PR3010	Performance	
x	x	x				Graphics System Processor	SMJ34010	TI (3287)	
x	x	x		x	National		TI32016T	TI	
					National	Full 32-bit internal architecture, 32-bit external data paths	TI32032	TI	25
x	x	x		x	National		TI32032T	TI	
x	x	x				Graphics System Processor	TMS34010-40	TI	
x	x	x				Graphics System Processor	TMS34010-50	TI	
x	x	x	x	x			Z32100-MPU	Zilog	
x	x	x	x	x			Z80000	Zilog	30
x	x	x	x			Contains 8 WS5901s and 3 WS5902s.	WS59032E	Waferscale	
x		x	x	x		58 I/O lines, 26 high voltage (40 V max)	HMCS408C	Hitachi	

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
This section presents the major microprocessor system devices organized into system groups, ie 6800, 8080, 68000, etc. It includes those RAM's, ROM's and PROM's which are unique to a system. It omits most general purpose memories as they are listed in the Memory section. Similarly, buffers, line drivers, transceivers, UART's, etc. are covered briefly here as they are presented in depth in the Digital and Interface sections.								Decoder/Demultiplexer AM2924C AMD				
Bit Slice								DMA Address Generator AM2940C AMD AM2940M † AMD				95
Macrologic Bipolar								DMA Address Generator/Programmable Timer/Counter AM2942C AMD AM2942M † AMD				
Buffer (16x4 First-in first-out memory. See also Memory-FIFO's)								Dynamic Memory Controller AM2964B AMD AM2964BC AMD AM2964BM † AMD AM2968 AMD MC54F2968 † Motorola MC74F2968 Motorola				100
9403AC National 9403AM † National N9403 Signetics								Error Correction and Detection Circuit, 16-Bit AM2960-1 AMD AM2960C AMD AM2960M † AMD IDT39C60 IDT (2831) IDT39C60-1 IDT (2831) MC54F2960 Motorola (2947) MC74F2960 Motorola (2947)				105
CRC Generator/Checker (See also Interface-Error Checking Circuits)								Error Correction and Detection Circuit, 32-bit IDT49C460 IDT (2834) IDT49C460A IDT (2834) IDT49C460B IDT (2834)				110
9401C National 9401M † National N9401 Signetics S9401 † Signetics								Error Correction Multiple Bus Buffer, 4-Bit (datapath interface between AM2960, data bus, and RAM) AM2904C AMD AM2904M † AMD AM2961C AMD AM2961M † AMD AM2962C AMD MC54F2961 † Motorola MC54F2962 † Motorola MC74F2961 Motorola MC74F2962 Motorola				115
Macrologic CMOS								I/O Ports, 8-Bit Bidirectional AM2950A AMD AM2951A AMD AM2952A AMD AM2953A AMD				120
Arithmetic Logic Register Stack F4705BC National F4705BM † National								Look-Ahead Carry Generator AM2902AC AMD AM2902AM † AMD IDT39C02A IDT IDM2902C National IDM2902M † National SFC2902A SGS-Thomson				125
Data Access Register (performs memory address arithmetic) F4707BC National F4707BM † National								Memory Timing Controller with EDAC AM2969 † AMD MC54F2969 † Motorola MC74F2969 Motorola				130
Data Path Switch (for closing data path loops around arithmetic/logic networks such as the F4705) F4704BC National F4704BM † National								Memory Timing Controller without EDAC AM2970 AMD MC54F2970 † Motorola MC74F2970 Motorola				135
Microprogram Sequencer GD4708B GoldStar (2710) F4708C National F4708M † National								Micro Sequencer (12-bit) H2910 Harris				140
Parallel/Serial First-In First-Out Memory (FIFO) (See also Memory-FIFO's) F4703BC National F4703BM † National								Microprogram Controller (20 MHz) AM29C10A AMD				
Program Stack (16x4 LIFO Memory) F4706BC National F4706BM † National								Microprogram Controller (25 MHz) AM29C10A-1 AMD				
Programmable Bit Rate Generator (See also Digital-CMOS-Miscellaneous-Bit Rate Generator) GD4702B GoldStar (2710) HD4702-Cell † Harris (2743) HD4702-2 † Harris (2743) F4702BC National F4702BM † National								Microprogram Sequencer, 4-Bit AM2909AC AMD AM2911A AMD CY2909AC Cypress CY2909AM † Cypress CY2911AC Cypress CY2911AM † Cypress CY7C909-30C † Cypress (2590) CY7C909-30M † Cypress (2590) CY7C909-40C † Cypress (2590) CY7C909-40M † Cypress (2590)				145
RAM (16x4, clocked) Write-While-Read (See also Digital-CMOS-Memories) GD4710B GoldStar (2710) F4710BC National F4710BM † National												150
RAM (16x4) (See also Memory-RAM's) F4725BC National F4725BM † National												
RAM (256x1) (See also Memory-RAM's) F4720C National F4720M † National												
RAM (256x4) (See also Memory-RAM's) GD4721B GoldStar (2710) F4726BC National F4726BM † National												
RAM (1024x1) (See also memory-RAM's) GD4736B GoldStar (2710)												
ROM (256x8) (See also Memory-ROMs) GD4735B GoldStar (2710) F4735BC National F4735BM † National												
				2 Bit Slice								
				888								
				Memory Address Generator SN74AS895 TI (3297)				40				
				Processor, 8-Bit Microcodeable SN74AS887 TI (3297)								
				3000								
				Central Processing Element N3002 Signetics S3002 † Signetics								
				Microprogram Control Unit N3001 Signetics S3001 † Signetics				45				
				4 Bit Slice								
				2900								
5				Microprocessor Slice MAS2901 † Marconi								
				Microprocessor Slice, 4-Bit AM29C01 AMD								
				Microprocessor, Four 2901's and a 2902 Look-Ahead Carry in one device 2901X4 IMI 4x2901B IMI								
10				Microprocessor, 4-Bit Slice, Cascadable AM2901BC AMD AM2901BM † AMD AM2903AC AMD AM2903AM † AMD AM2903C AMD AM2903M † AMD CY2901CC Cypress CY2901CM † Cypress CY7C901-32M † Cypress (2590) CY7C901-88M † Cypress (2590) CY7C901C † Cypress (2590) CY7C901M † Cypress (2590) IDT39C01C IDT IDT39C03A IDT IDT39C203 IDT IDT39C203A IDT 2901-Cell LSI Logic IDM2901A-2 National IDM2901AC National 2901 National 2901-Cell National NCR2901-Cell NCR (4288) SFC2901B SGS-Thomson SFC2901C SGS-Thomson SFC2903 SGS-Thomson 2901-Cell SGS-Thomson VSC2901-Cell VLSI Tech 2901-Cell Waferscale				50				
				ALU (4-bit slice) H2901 Harris								
				Bus Transceivers (See also Interface-Line Transceivers) AM2907C AMD AM2907M † AMD AM2917AC AMD AM2917AM † AMD AM2927C AMD AM2928C AMD AM2946C AMD AM2947C AMD AM2948C AMD AM2949C AMD SFC2915A SGS-Thomson SFC2917 SGS-Thomson				60				
								65				
								70				
								75				
								80				
								85				
								90				
				Clock Generator and Driver AM2925C AMD AM2925M † AMD IDT49C25 IDT								
												</

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

° Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
4 Bit Slice								EPIC			
2900 (Cont'd)											
Microprogram Sequencer, 4-Bit	(Cont'd)			Octal Memory Driver, Three-State	AM2965C	AMD		Microprocessor, CMOS	GP001AD	‡ GE/RCA (2663)	
CY7C911-30C	◊ Cypress	(2590)		AM2965M	† AMD			Address Select Unit (Double)	GP514AD	‡ GE/RCA (2663)	
CY7C911-30M	◊† Cypress	(2590)		AM2966C	◊ AMD			Bus Interface Unit	GP516	GE/RCA (2663)	
CY7C911-40C	◊ Cypress	(2590)		AM2966M	◊† AMD			Double Address Select Unit	GP514	GE/RCA (2663)	
CY7C911-40M	◊† Cypress	(2590)		Octal Register, Three-State	AM2954C	AMD	60	Double Register Select Unit	GP515	GE/RCA (2663)	100
IDT39C09A	◊ IDT		5	6-Bit Comparator with 1 of 4 Chip Select	AM29806	AMD		Emulating Controller	GP501AD	‡ GE/RCA (2663)	
IDT39C09B	◊ IDT			8-Bit Bidirectional I/O Port	AM2952C	AMD		Interrupt Control and Timing Unit	GP517	GE/RCA (2663)	
IDT39C11A	◊ IDT			AM2952M	† AMD			GP517AD	‡ GE/RCA (2663)		
IDT39C11B	◊ IDT			AM2953C	AMD			Level Shifter	GP511AD	‡ GE/RCA (2663)	
IDM2909AC	National			AM2953M	† AMD			Microprogram Sequencer (2910)	GP502	GE/RCA (2663)	105
IDM2911AC	National		10	29F52C	◊ National			Multiplier (8x8-bit)	GP503AD	‡ GE/RCA (2663)	
SFC2909	SGS-Thomson			29F52M	◊† National			Register Select Unit (Double)	GP515AD	‡ GE/RCA (2663)	
SFC2909A	SGS-Thomson			29F53C	◊ National			ROM (512x16)	GP305AD	‡ GE/RCA (2663)	
SFC2911	SGS-Thomson			29F53M	◊† National			ROM (4096 bit)	GP301AD	‡ GE/RCA (2663)	
SFC2911A	SGS-Thomson							GP302AD	‡ GE/RCA (2663)		110
Multiplexer, 8-Input (with control storage)	AM2922C	AMD		8-Bit Diagnostic Register with Serial Shadow Register	AM29818	AMD	15	16 Bit Slice			
AM2922M	AMD			8-Bit Parallel I/O Port	AM2950C	AMD		2900			
AM2923C	AMD			AM2950M	† AMD			Microprocessor, 16-Bit Slice, Cascadable	CY7C9101C	◊ Cypress (2590)	
Multiplier/Accumulator (16x16)	CY7C510C	◊ Cypress (2590)		AM2951C	AMD			CY7C9101M	◊† Cypress (2590)		
Multiplier Accumulator, 16x16 bit	AM291510	AMD		AM2951M	† AMD			1Bit			
AM29510	AMD		20	9-Bit Equal to Comparator	AM29809	AMD		14500			
CY7C510M	◊† Cypress (2590)			16-Way Branch Control Unit (use with 2909)	AM29803AC	AMD		Microprocessor, Industrial Control Unit	MC14500B	Motorola	
Multiplier, 16x16 bit	AM291516	AMD		AM29803AM	† AMD			Latch, 8-Bit	MC14597BA	† Motorola (2941)	
AM291517	AMD			IDM29803C	National			MC14597BC	Motorola (2941)		115
CY7C516C	◊ Cypress (2590)			IDM29803M	† National			MC14598BA	† Motorola (2941)		
CY7C516M	◊† Cypress (2590)		25	32-Bit Microprocessor Slice	IDT49C404	IDT (2833)		MC14598BC	Motorola (2941)		
CY7C517C	◊ Cypress (2590)			IDT49C404A	IDT (2833)			MC14599BA	† Motorola (2941)		
CY7C517M	◊† Cypress (2590)			64-Bit (16x4) Edge-Triggered Register, Three-State	IDM29903C	National	30	MC14599BC	Motorola (2941)		
Next Address Control Unit (use with 2911)	AM29811AC	AMD						4Bit			
AM29811AM	† AMD			10800				Microcomputer	μCOM-75	NEC	120
IDM29811C	National			Arithmetic Logic Unit	MC10800	Motorola		μPD7527	NEC		
IDM29811M	† National			Bidirectional Translator with Latch	MC10804	Motorola		Microcomputer, General Purpose Driver	μPD7506	◊ NEC	
Pipeline Register (Writable Control Store and SSR diagnostics)	AM29818-1	AMD		MC10805	Motorola			μPD7507	◊ NEC		
Priority Encoder	IDM29902C	National		ECL Transceiver with Latch	MC10807	Motorola		μPD7507S	◊ NEC		
IDM29902M	† National			Microprogram Control Function	MC10801	Motorola		μPD7508	◊ NEC		
Priority Interrupt Encoder, Vectored	AM2914C	AMD		Multibit Shifter (16-Bit programmable shifter)	MC10808	Motorola		μPD7508A	◊ NEC		
AM2914M	† AMD		35	Dual Address Register (32x9 stack)	MC10806	Motorola		μPD7508H	◊ NEC		
SFC2914	SGS-Thomson							μPD75106	NEC		
Programmable Event Generator	AM2971C	AMD		8 Bit Slice				μPD7517	NEC		
AM2971M	† AMD			888				μPD75206	NEC		
RAM, 16-Word by 4-Bit	AM29705A	AMD		Microprocessor, 8-Bit Slice	SN54AS888	† TI		μPD7528	NEC		
AM29705A	AMD		40	SN74AS888	TI	(3297)		μPD75308	NEC		
RAM (16x4) Two Outputs Ports	AM29705C	◊ AMD		Microsequencer	SN54AS890	† TI		μPD7538	NEC		
AM29705M	◊† AMD			SN74AS890	TI	(3297)		μPD7554	NEC		
AM29707	AMD			10900				μPD7556	NEC		
IDT39C705A	◊ IDT			ALU, 8-Bit Slice	MC10900	Motorola		Microcomputer, LCD Driver	μPD7501	◊ NEC	
IDT39C705B	◊ IDT							μPD7502	◊ NEC		
IDT39C707	◊ IDT							μPD7503	◊ NEC		
IDT39C707A	◊ IDT							μPD7514	◊ NEC		
IDM29705AC	National		45	Microcode Sequencer	MC10904	Motorola	95				
Quad D Flip-Flop with Two Output Ports	AM2919C	AMD									
AM2919M	† AMD										
SFC2919	SGS-Thomson		50								
Quad D Register with Both Standard and Three-State Outputs (See also Digital-TTL-Flip-Flops)	AM2918C	AMD									
AM2918M	† AMD										
SFC2918	SGS-Thomson										
Octal Latch, Three-State	AM2956C	AMD	55								

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line		
4Bit				2100				Microcontroller (with ROM) (Cont'd)					
(Cont'd)				Program Development Device				COP420L ♦ National 100					
Microcomputer, Vacuum Fluorescent Driver	μPD7508A	♦ NEC	5	SE2100P	TI	50	SE2400P	TI	COP421	♦ National	105		
	μPD7517	NEC			COP421L			♦ National					
	μPD7519	♦ NEC			COP422L			♦ National					
	μPD7528	NEC		COP440	National								
	μPD7537	NEC		COP441	National								
	μPD7538	NEC		COP442	National								
SMSeries				6000				COP444L ♦ National					
Microcomputer	SM100	Sharp	10	SAA6000	ITT	55	COP445L	♦ National	ETC9410	SGS-Thomson	110		
	SM111	♦ Sharp			ETC9411			SGS-Thomson					
	SM114	Sharp			ETC9420			SGS-Thomson					
	SM590	Sharp		ETC9421	SGS-Thomson								
	SM591	Sharp		ETC9422	SGS-Thomson								
	ETC9444	SGS-Thomson		ETC9445	SGS-Thomson								
Microcomputer, Expandable for External RAM/ROM				6400				ETL9410 SGS-Thomson 115					
SM520 Sharp				Microcomputer	LM6402	Sanyo	60	ETL9411	SGS-Thomson	120			
Microcomputer, Multi-LCD Display, On-Chip LCD Driver	SM510	♦ Sharp	LM6405								Sanyo	ETL9421	SGS-Thomson
	Microcomputer, On-Chip A/D Converter	SM110											
	Microcomputer, On-Chip LCD Driver	SM5A			Sharp	ETL9444		SGS-Thomson					
		SM500	♦ Sharp		ETL9445				SGS-Thomson				
		SM531	♦ Sharp								ET9413	SGS-Thomson	
		SM540	Sharp	ET9420		SGS-Thomson							
SM563		Sharp	ET9421		SGS-Thomson								
Microcomputer, On-Chip LCD Driver, Expandable for External RAM		SM4A					Sharp	ET9422	SGS-Thomson	Microcontroller (512x8 ROM, 32x4 RAM)	COP214L	National	130
	Microcomputer, On-Chip Melody Generator and LCD Driver	SM511		♦ Sharp		COP314L	National						
		SM530	♦ Sharp	Converter (8-bit A/D)	COP431								
		Microcomputer, Serial Input/Output	SM550					♦ Sharp	COP432		National		
			SM551			♦ Sharp	COP434	National					
			SM552	♦ Sharp	COP438	National						Frequency Generator/Counter Peripheral	
Microcomputer			MN1400	Panasonic					Liquid Crystal Display Controller	COP472	National		
	MN1402		Panasonic	RAM (4x64) and Timer			COP398	National					
	MN1403		Panasonic		COP498	National							
	MN1404	Panasonic	RAM (4x64) Serial						COP399	National	140		
	MN1405	Panasonic		COP499			National						
	MN1430	Panasonic			Vacuum Fluorescent Display Driver	COP370		National					
MN1432	Panasonic	COP470	National										
MN1435	Panasonic			51000			Microcomputer, RAM, ROM, I/O		KS51000	Samsung		145	
MN1450	Panasonic				KS51200	Samsung							
MN1453	Panasonic	KS52000	Samsung										
MN1454	Panasonic							OLMS40	Microcomputer, I/O, Display Outputs, Timer	MSM58421	♦ OKI		150
MN1455	Panasonic				MSM58422	♦ OKI							
MN1498	Panasonic	Microcomputer, ROM, RAM, Timer/Counter, I/O	MSM5842										
Microcomputer, Evaluator	MN1499			Panasonic			MSM5845		OKI	Microprocessor, Real-Time Clock Calendar	MSM5832	OKI	
	MN1499A			Panasonic	MSM58321	OKI							
	Microcomputer	MN1541	Panasonic	L5832									
		MN1542	Panasonic				LCD Driver, 5-Digit	MSM58292	♦ OKI				
		MN1544	Panasonic		LED Driver, 4-Digit	MSM58282					OKI		
		MN1562	Panasonic	Microcontroller (with ROM)								COP210C	† National
MN1564		Panasonic	COP211C				† National						
Microcomputer, Evaluator		MN1599			Panasonic	COP310C		National					
	I/O Expander	MN1591		Panasonic	COP310L				National				
		Microcomputer	MN1541	Panasonic			COP311C			National			
			MN1542	Panasonic		COP311L		National					
			MN1544	Panasonic	COP320				National				
			MN1562	Panasonic			COP320L			National			
MN1564			Panasonic	COP321		National							
Microcomputer, Evaluator	MN1599		Panasonic		COP321L			National					
	I/O Expander	MN1591	Panasonic				COP322L		National				
		Microcomputer	MN1541	Panasonic		COP340				† National			
			MN1542	Panasonic	COP341			† National					
			MN1544	Panasonic			COP410C		♦ National				
			MN1562	Panasonic		COP410L				♦ National			
MN1564			Panasonic	COP411C	♦ National								
Microcomputer, Evaluator	MN1599		Panasonic				COP411L	♦ National					
	I/O Expander	MN1591	Panasonic			COP414L			♦ National				
		Microcomputer	MN1541	Panasonic	COP420					♦ National			
			MN1542	Panasonic			(Continued)						
			MN1544	Panasonic									
			MN1562	Panasonic									
MN1564			Panasonic										
Microcomputer, Evaluator	MN1599		Panasonic										
	I/O Expander	MN1591	Panasonic										
		Microcomputer	MN1541	Panasonic									
			MN1542	Panasonic									
			MN1544	Panasonic									
			MN1562	Panasonic									
MN1564			Panasonic										

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
4Bit								TMS2000			
OLMS40 (Cont'd)								ROMless TMS2000 Family Evaluator			
88200								SE2100P TI			
								SE2400P TI			
Microcomputer, Clock, RAM, ROM, I/O								8Bit			
MB88200 Fujitsu								Microcontroller, RAM, ROM, I/O			
MB88201 Fujitsu								COP820 National			
MB88202 Fujitsu								COP821 National			
MB88205 Fujitsu								COP822 National			
								COP840 National			
								COP841 National			
88500								Programmable Communication Interface (See also Interface Transmitters-Receivers)			
Microcomputer, Clock, RAM, ROM, I/O								INS8250 National			
MB88501 Fujitsu								COM8251A SMC			
MB88503 Fujitsu								VL82C50 VLSI Tech			
MB88535 Fujitsu								RAM(128x8) and I/O			
MB88536 Fujitsu								INS8154 National			
MB88541 Fujitsu								4-Bit Latch DM74LS175 National			
								8-Bit I/O Port DP8212 National			
								INS8212 National			
TLCS47								740			
Microcomputer (single-chip, 2K ROM)								Microprocessor, External ROM			
HMCS402AC Hitachi								M50734 Mitsubishi			
HMCS402C Hitachi								Microprocessor, Piggy-Back for M50740/M50741			
HMCS402CL Hitachi								M50740-PGYS Mitsubishi			
HMCS412AC Hitachi								Microprocessor, Piggy-Back for M50742			
HMCS412C Hitachi								M50742-PGYS Mitsubishi			
HMCS412CL Hitachi								Microprocessor, Piggy-Back for M50743			
HMCS44C Hitachi								M50743-PGYS Mitsubishi			
HMCS44CL Hitachi								Microprocessor, Piggy-Back for M50745			
HMCS45C Hitachi								M50745-PGYS Mitsubishi			
HMCS45CL Hitachi								Microprocessor, Piggy-Back for M50747			
Microcomputer (single-chip, 2K ROM, A/D converter)								M50747-PGYS Mitsubishi			
HMCS404302 Hitachi								Microprocessor, Piggy-Back for M50753			
Microcomputer (single-chip, 2K ROM, LCD driver)								M50753-PGYS Mitsubishi			
LCD-III Hitachi								Microprocessor, Piggy-Back for M50757/M50752			
Microcomputer (single-chip, 4K ROM)								M50752-PGYS Mitsubishi			
HMCS404AC Hitachi								Microprocessor, RAM, External ROM			
HMCS404C Hitachi								M50740ASP Mitsubishi			
HMCS404CL Hitachi								Microprocessor, RAM, ROM			
HMCS414AC Hitachi								M50740 Mitsubishi			
HMCS414C Hitachi								M50740A Mitsubishi			
HMCS414CL Hitachi								M50741 Mitsubishi			
HMCS46C Hitachi								M50742 Mitsubishi			
HMCS46CL Hitachi								M50743 Mitsubishi			
HMCS47C Hitachi								M50745 Mitsubishi			
HMCS47CL Hitachi								M50747 Mitsubishi			
Microcomputer (single-chip, 4K ROM, LCD driver)								M50752 Mitsubishi			
LCD-IV Hitachi								M50753 Mitsubishi			
Microcomputer (single-chip, 4K ROM, 256x4 RAM)								M50754 Mitsubishi			
HMCS424 Hitachi								M50757 Mitsubishi			
Microcomputer (single-chip, 8K OTP EPROM)								M50758 Mitsubishi			
HMCS4074008 Hitachi								Microcontroller, 8K ROM, RAM			
HMCS4074418 Hitachi								M50932 Mitsubishi			
Microcomputer (single-chip, 8K OTP EPROM, A/D converter)								M50943 Mitsubishi			
HMCS4074308 Hitachi								1650			
Microcomputer (single-chip, 8K OTP EPROM, LCD driver)								Microcomputer			
HMCS4074608 Hitachi								PIC1652 Microchip (2901, 2903)			
Microcomputer (single-chip, 8K ROM)								PIC1654 Microchip (2901, 2903)			
HMCS408AC Hitachi								PIC1655 Microchip (2901, 2903)			
HMCS408C Hitachi								PIC1657 Microchip (2901, 2903)			
HMC408CL Hitachi								(Continued)			
Microcomputer (single-chip, 8K ROM, LCD driver)											
HMCS404608 Hitachi											
Microcomputer, 1K ROM, Zero Cross Detector											
TMP42C66 Toshiba											
Microcomputer, 1K ROM, 11 I/O Lines											
TMP42C60 Toshiba											
TMP4260 Toshiba											
Microcomputer, 1K ROM, 23 I/O Lines											
TMP42C70 Toshiba											
TMP4270 Toshiba											

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8Bit											
1650											
(Cont'd)											
Microcomputer				RAM (128x8) (See also Memory-RAM's)				6-Bit Latch with 1 of 4 Decoder			
PIC1670	Microchip			CDP1823	† GE/RCA	(2644)		CDP1882	GE/RCA	(2644)	100
PIC1672	Microchip			CDP1823C	† GE/RCA	(2644)		CDP1882C	GE/RCA	(2644)	
								CDP1883	GE/RCA	(2644)	
1800				RAM (256x4) (See also Memory-RAM's)				7-Bit Latch with Decoder for 8Kx8 Memories			
Microcomputer, RAM, ROM, Counter/Timer				CDP1822	† GE/RCA	(2644)	45	CDP1883C	GE/RCA	(2644)	
CDP1804AC	† GE/RCA	(2644, 2653)		CDP1822C	† GE/RCA	(2644)					
Microcomputer with Pascal Kernel in 2K ROM				HB1822C	† Hughes			8-Bit Input/Output Port			
CDP1804PC	GE/RCA	(2644, 2653)		HC1822C	Hughes			CDP1852	† GE/RCA	(2644, 2653)	105
Microprocessor				Real-Time Clock (time and calendar information in BCD format from seconds to months)				CDP1872C	† GE/RCA	(2644)	
CDP1802A	† GE/RCA	(2644, 2653)	5	CDP1879	† GE/RCA	(2644)		CDP1874C	† GE/RCA	(2644)	
CDP1802AC	† GE/RCA	(2644, 2653)		CDP1879C-1	† GE/RCA	(2644)		CDP1875C	† GE/RCA	(2644)	
CDP1802B	GE/RCA	(2644, 2653)		ROM (512x8) (See also Memory-ROM's)			50	HB1852	† Hughes		110
CDP1802BC	† GE/RCA	(2644, 2653)		CDP1832	† GE/RCA	(2644)		HB1852C	† Hughes		
CDP1804A	GE/RCA	(2644, 2653)	10	CDP1832C	† GE/RCA	(2644)		HC1852	† Hughes		
CDP1805A	GE/RCA	(2644, 2653)		HB1831	† Hughes			HC1852C	† Hughes		
CDP1806A	GE/RCA	(2644)		HB1831C	† Hughes			2650			
HB1802A	† Hughes			HB1832	† Hughes		55	Microprocessor			
HB1802AC	† Hughes			HB1832C	† Hughes			SCN2650A	Signetics		
HC1802A	† Hughes			HC1831	† Hughes			Advanced Video Display Controller			
HC1802AC	† Hughes			HC1832	† Hughes			MC2674	Motorola		
HC1802AC	† Hughes			HC1832C	† Hughes			SCN2674	† Signetics	(3100)	
Microprocessor, Counter/Timer				ROM (1024x8) (See also Memory-ROM's)				Asynchronous Communications Interface			
CDP1806AC	† GE/RCA	(2644)		CDP1833	† GE/RCA	(2644)		SCN2641	† Signetics		115
Microprocessor, RAM, Counter/Timer				CDP1833C	† GE/RCA	(2644)		Display Character and Graphics Generator			
CDP1805AC	† GE/RCA	(2644, 2653)		CDP1834	† GE/RCA	(2644)		SC2670AC3	Signetics		
Keyboard Encoder				CDP1834C	† GE/RCA	(2644)		SC2670BC3	Signetics		
CDP1871A	GE/RCA	(2644)		HB1833	† Hughes		65	Multi-Protocol Communications Circuit (includes SDLC, BiSync)			
CDP1871AC	GE/RCA	(2644)		HB1833C	† Hughes			SCN2652A	† Signetics		
Latch/Decoder Memory Interface				HB1834	† Hughes			Polynomial Generator/Checker			
CDP1881	GE/RCA	(2644)	20	HB1834C	† Hughes			SCN2653A	† Signetics		
CDP1881C	GE/RCA	(2644)		HC1833	† Hughes			Programmable Communication Interface			
CDP1882	GE/RCA	(2644)		HC1833C	† Hughes			SCN2651C	Signetics		120
CDP1882C	GE/RCA	(2644)		HC1834	† Hughes			SCN2661A	† Signetics		
CDP1883	GE/RCA	(2644)		HC1834C	† Hughes			SCN2661B	† Signetics		
Multiply-Divide Circuit				ROM (2048x8) (See also memory-ROM's)				COM2651	SMC		
CDP1855	† GE/RCA	(2644, 2653)	25	CDP1835C	† GE/RCA	(2644)		COM2661	SMC		
N-Bit Decoder (for I/O interface)				CDP1837C	† GE/RCA	(2644)		Programmable Video Timing Controller			
CDP1853	† GE/RCA	(2644)		HB1835	† Hughes			SCN2672A	† Signetics		125
CDP1853C	† GE/RCA	(2644)		HB1835C	† Hughes			Video Attributes Controller			
HB1853	† Hughes			HC1835	† Hughes			SCB2673A	Signetics		
HB1853C	† Hughes			HC1835C	† Hughes			SCB2673B	Signetics		
HC1853	† Hughes			UART			80	Dual Universal Asynchronous Receiver/Transmitter			
HC1853C	† Hughes			CDP1854A	† GE/RCA	(2644)		SCN2681	† Signetics	(3106)	
Programmable I/O Interface				CDP1854AC	† GE/RCA	(2644)		Quad Transceivers (See also Interface-Line Transceivers)			
CDP1851	† GE/RCA	(2644, 2653)		CDP65C51-1	GE/RCA	(2644)		MC8T26A	Motorola	(2981)	130
CDP1851C	† GE/RCA	(2644, 2653)		CDP6853	GE/RCA	(2644, 2653)		MC8T28	Motorola	(2981)	
Programmable Interrupt Controller				Video Interface System (1869 is an address and sound generator)				DS8T26A	National		
CDP1877	GE/RCA	(2644)		CDP1869C	† GE/RCA			DS8T28	National		
CDP1877C	GE/RCA	(2644)		Dual Counter/Timer (two 16-bit programmable down counters independently controlled by separate control registers)				Hex Buffers/Inverters (See also Digital-TTL-Buffers/Inverters 8T95, 8T96, 8T97, 8T98)			
RAM (32x8) (See also Memory-RAM's)				4-Bit Buffer/Separator (for memory interface)				MC8T95	Motorola	(2981)	135
CDP1824	† GE/RCA	(2644)		HB1856	† Hughes			MC8T96	Motorola	(2981)	
CDP1824C	† GE/RCA	(2644)		HB1856C	† Hughes			MC8T97	Motorola	(2981)	
HB1824	† Hughes			HC1856	Hughes			MC8T98	Motorola	(2981)	
HC1824	† Hughes			4-Bit Bus Buffer/Separator (for I/O interface)				N8T95	Signetics	(3076)	140
HC1824C	† Hughes			HB1857	† Hughes			N8T96	Signetics	(3076)	
RAM (64x8) (See also Memory-RAM's)				HB1857C	† Hughes			N8T97	Signetics	(3076)	
CDP1826C	GE/RCA	(2644)	40	HC1857	Hughes			N8T98	Signetics	(3076)	
				HC1857C	Hughes			S8T95	† Signetics		
				4-Bit Latch with Dual 1 of 4 Decoders				S8T97	† Signetics		
				HB1858	† Hughes			S8T98	† Signetics		
				HB1858C	† Hughes			3870			
				HC1858	Hughes			Microcomputer, Piggyback EPROM, Emulates all MK3870 Devices			
				HC1858C	Hughes			MK38P70/02	SGS-Thomson		
				4-Bit Latch with 1 of 4 Decoder				Microcomputer, ROM, PLL, Shadow RAM, I/O, A/D			
				HB1859	† Hughes			M8910	SGS-Thomson		145
				HB1859C	† Hughes						
				HC1859	Hughes						
				HC1859C	Hughes						

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8Bit											
3870 (Cont'd)											
Microcomputer, ROM, 64-Byte Executable RAM, 64-Byte Scratchpad RAM, Timer, I/O				Microcomputer (4K EPROM, 1.5 MHz)				Microcomputer (128 byte RAM, 13 I/O, 1.5 MHz)			
MC3870 Motorola				HD63PA05Y0 Hitachi				HD63A03R Hitachi			
F38L72 National				HD63PA05Y1 Hitachi				Microcomputer (128 byte RAM, 13 I/O, 2 MHz)			
F3872 National								HD63B03R Hitachi			
MK2870 SGS-Thomson								Microcomputer (128 byte RAM, 31 I/O, 16K memory expansion, 1.5 MHz)			
MK38P70 SGS-Thomson								HD63A05X2 Hitachi			
MK3870/10 SGS-Thomson								HD63B05X2 Hitachi			
MK3870/12 SGS-Thomson								HD6305X2 Hitachi			
MK3870/20 SGS-Thomson								Microcomputer (192 byte RAM, 24 I/O, 1 MHz)			
MK3870/22 SGS-Thomson								HD6303X Hitachi			
MK3870/30 SGS-Thomson								Microcomputer (192 byte RAM, 24 I/O, 1.5 MHz)			
MK3870/32 SGS-Thomson								HD63A03X Hitachi			
MK3870/40 SGS-Thomson								Microcomputer (192 byte RAM, 24 I/O, 2 MHz)			
MK3870/42 SGS-Thomson								HD63B03X Hitachi			
M2870 SGS-Thomson								Microcomputer (256 byte RAM, 24 I/O, 1 MHz)			
M2872 SGS-Thomson								HD6303Y Hitachi			
M2876 SGS-Thomson								Microcomputer (256 byte RAM, 24 I/O, 1.5 MHz)			
M38ADP70 SGS-Thomson								HD63A03Y Hitachi			
M38P74 SGS-Thomson								Microcomputer (256 byte RAM, 24 I/O, 2 MHz)			
M38P78 SGS-Thomson								HD63B03Y Hitachi			
M38SB72 SGS-Thomson								Microcomputer (256 byte RAM, 24 I/O, 3 MHz)			
M38SH72 SGS-Thomson								HD63C03Y Hitachi			
M3870 SGS-Thomson								Microcomputer (256 byte RAM, 31 I/O, 16K memory expansion, 1.5 MHz)			
M3872 SGS-Thomson								HD63A05Y2 Hitachi			
M3875 SGS-Thomson								HD63B05Y2 Hitachi			
M3876 SGS-Thomson								HD6305Y2 Hitachi			
M3878 SGS-Thomson											
U2870 Telefunken											
U3870 Telefunken											
Programmable CRT Video Control Unit MK3807 SGS-Thomson											
6000											
Microcomputer, Piggyback EPROM, emulate S6010, S6011, S6012				Microcomputer (4K ROM, 128 byte RAM, 29 I/O, 1.5 MHz)				Microcomputer (128 byte RAM, 13 I/O, 1.5 MHz)			
S60P12 SGS-Thomson				HD63A05V0 Hitachi				HD63A03R Hitachi			
Microcomputer, ROM, 64 Byte RAM, A/D, I/O, Timer S6010 SGS-Thomson				Microcomputer (4K ROM, 192 byte RAM, 53 I/O, 1 MHz)				Microcomputer (128 byte RAM, 13 I/O, 2 MHz)			
S6011 SGS-Thomson				HD6301X0 Hitachi				HD63B03R Hitachi			
Microcomputer, ROM, 64 Byte RAM, A/D, I/O, Timer, Watchdog Timer				Microcomputer (4K ROM, 192 byte RAM, 53 I/O, 1.5 MHz)				Microcomputer (128 byte RAM, 31 I/O, 16K memory expansion, 1.5 MHz)			
S6012 SGS-Thomson				HD63A01X0 Hitachi				HD63A05Y2 Hitachi			
Microcomputer, ROM, 64 Byte RAM, A/D, LCD drivers, 2 Timer, I/O S6040 SGS-Thomson				Microcomputer (4K ROM, 192 byte RAM, 53 I/O, 2 MHz)				Microcomputer (128 byte RAM, 31 I/O, 2 MHz)			
S60R40 SGS-Thomson				HD63B01X0 Hitachi				Microcomputer (128 byte RAM, 31 I/O, 3 MHz)			
								HD63C03Y Hitachi			
								Microcomputer (256 byte RAM, 31 I/O, 16K memory expansion, 1.5 MHz)			
								HD63A05Y2 Hitachi			
								HD63B05Y2 Hitachi			
								HD6305Y2 Hitachi			

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8Bit								(Cont'd)			
6500				Asynchronous Communications Interface Adapter				Microcomputer			
				G65SC51	◊ CMD Micro			MC6801C	Motorola (4859)		
				6551	Commodore			MC6801U4	Motorola		95
								MC6801U4-1	Motorola		
				MD65SC51B	Mitel		50	MC6803U4-1	Motorola		
				R65C51	Rockwell (3028)			EF6801	SGS-Thomson		
				R6551	Rockwell (3028)			EF6805P2	SGS-Thomson		100
				UM6551	UMC			EF6805P4	SGS-Thomson		
				UM6551A	UMC			EF6805P6	SGS-Thomson		
								EF6805U2	SGS-Thomson		
				Communications, Dual Asynchronous Communications Interface Adapter (DACIA)				Microcomputer, A/D Converter, Serial Peripheral Interface, Three Timers			
				R65C52	Rockwell (3028)		55	MC6805S2	Motorola		
				CRT Controller 6545-1	Commodore			MC6805S3	Motorola		
								Microcomputer, Clock, ROM, EEPROM, RAM, I/O, Timers, Programmable Prescaler, Serial Interface			
				Dot-Matrix Printer Controller				MC6805K3	Motorola		105
				R6592	Rockwell			Microcomputer, Clock, Timer, RAM, ROM, I/O			
				Emulator Device				MC6804J1	Motorola		
				R6500/1E	Rockwell (3027)			MC6804J2	Motorola		
				Mini-Floppy Disk Controller				MC6804P2	Motorola		
				MB8876A	Fujitsu (2633)		60	EF68HC04P3	SGS-Thomson		
				MB8877A	Fujitsu (2633)			EF6804J2	SGS-Thomson		110
				Peripheral Interface Adapter				EF6804P2	SGS-Thomson		
				G65SC21	◊ CMD Micro			Microcomputer, Clock, Timer, RAM, ROM, PLL, I/O			
				G65SC22	CMD Micro			EF6805T2	SGS-Thomson		
								Microcomputer (EPROM)			
				6522	Commodore		65	MC1468705F2	Motorola		
								MC68701	Motorola		
				6526	Commodore			MC68701-1	Motorola		115
								MC68701C	Motorola		
				NCR65C21	NCR			MC68701C-1	Motorola		
				NCR65C22	NCR			MC68701U4	Motorola		
				R65C21	Rockwell (3028)			MC68701U5	Motorola		
				R65C22	Rockwell (3028)			MC68704P2	Motorola		120
				R6520	Rockwell (3028)		70	MC68705P3	Motorola		
				R6522	Rockwell (3028)			MC68705P5	Motorola		
				VL65C22	VLSI Tech			MC68705R3	Motorola		
								MC68705R5	Motorola		
				VL6522	VLSI Tech		75	MC68705U3	Motorola		125
								MC68705U5	Motorola		
				W65C22	◊ WDC			Microcomputer, EPROM, RAM, Timer, I/O			
				W65C29	WDC			MC1468705G2	Motorola		
				W65C90	WDC			Microcomputer, (EPROM), ROM, Clock, Timer, A/D, I/O			
				Peripheral Interface Adapter/Timer				MC68705R3	Motorola		
				R65C24	Rockwell (3028)			Microcomputer (external ROM)			
				RAM, ROM, I/O and Interval Timer				MC68A03	Motorola		130
				6530	Commodore			MC68B03	Motorola		
								MC6803	Motorola (4859)		
				R6530	Rockwell (3028)			MC6803-1	Motorola (4859)		
				RAM(128x8), I/O, and Timer				MC6803C	Motorola (4859)		
				G65SC32	CMD Micro			MC6803U4	Motorola		
				6532	Commodore		80	EF68A03	SGS-Thomson		135
								EF68B03	SGS-Thomson		
				R6532	Rockwell			EF68HC05E9	SGS-Thomson		
				UM6532	UMC			EF6803	SGS-Thomson		
				UM6532A	UMC			EF6803U4	SGS-Thomson		
				RAM(128x8), ROM, I/O, and Counter/Timer				Microcomputer, RAM, EEPROM, Timer, I/O			
				R6531	Rockwell			MC68HC11A1	Motorola (2928)		140
				Sound Interface Device				Microcomputer, RAM, ROM, Clock, Timer, A/D, I/O			
				6582	Commodore		85	MC6805R2	Motorola		
								Microcomputer, RAM, ROM, EEPROM, Timer, I/O			
				Tri-Port Interface				MC68HC11E9	Motorola (2928)		
				6525	Commodore			MC68HC11E2	Motorola		
								Microcomputer, RAM, ROM, I/O			
				Single Port Interface				MC6805P2	Motorola		145
				6529	Commodore			MC6805P6	Motorola		
								MC6805U2	Motorola		
				6800				MC6805U3	Motorola		
				Microcomputer				EF6805U3	SGS-Thomson		
				MC68A01	Motorola		90	Microcomputer, RAM, ROM, I/O, A/D			
				MC68B01	Motorola			MC6805R3	Motorola		
				MC68HC11F1	Motorola			(Continued)			
				MC68HC11P1	Motorola						
				MC6801	Motorola (4859)						
				MC6801-1	Motorola (4859)						

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8Bit				Microprocessor (external clock, 192 x 8 RAM)				Clock (real time) Plus RAM			
6800 (Cont'd)				HD63A03X ♦ Hitachi HD63B03X ♦ Hitachi HD6303X ♦ Hitachi				CDP6818 GE/RCA (2644, 2653) MC146818 ♦ Motorola (2932) MC146818A ♦ Motorola (2932)			
Microcomputer, RAM, ROM, I/O, Timer	MC68HC05C2	Motorola		Microprocessor (internal clock)				CRT Controller			
MC68HC05C3	Motorola			HD68A09 Hitachi HD68B09 Hitachi HD6809 Hitachi MC68A09 Motorola MC68B09 Motorola MC6809 ♦ Motorola (4859, 2931)				HD68A45 Hitachi HD68B45 Hitachi HD6845 Hitachi MC68A45 Motorola MC68B45 Motorola UM6845 UMC UM6845A UMC UM6845B UMC UM6845E UMC UM6845EA UMC UM6845EB UMC UM6845R UMC UM6845RA UMC UM6845RB UMC			
Microcomputer, RAM, ROM, I/O, 2 Serial Interfaces, Timer	CDP68HC05C4	GE/RCA (2644, 2653)		EF68A09 SGS-Thomson EF68B09 SGS-Thomson EF6809 SGS-Thomson							
	CDP68HC05D2	GE/RCA (2644, 2653)	5	Microprocessor (internal clock, 128x8 RAM)				CRT Controller, Character and Screen Programmable, Cursor, Light Pen Detection			
	MC68HC05C4	Motorola (2930)		MC68A02 Motorola MC68B02 Motorola MC6802 Motorola (2931) MC6802NS Motorola (2931) EF68A02 SGS-Thomson EF68B02 SGS-Thomson EF6802 SGS-Thomson				MB89321 Fujitsu (2636)			
Microcomputer, RAM, ROM, Timer, I/O	CDP6805F2	GE/RCA (2653)	10	Microprocessor (6800 plus internal clock)				D/A Converter			
	CDP6805G2	GE/RCA (2653)		HD6808 Hitachi				MC6890 Motorola MC6890A ↑ Motorola			
	MC68HC04J2	Motorola (2930)		Microcontroller, 8-Bit (15K ROM, 352 bytes RAM)				Data Security Device (data encryption standard)			
MC68HC04J3	Motorola			MC68HC05C9 Motorola				MC6859 Motorola (2932)			
MC68HC04P2	Motorola			Microcontroller, 8-Bit (2K ROM, 128 bytes RAM)				Digital Time/Space Crosspoint Switch			
MC68HC04P3	Motorola			MC68HC05P1 Motorola				MT8981D ♦ Mitel			
Microcomputer, RAM, Timer, I/O	CDP6805E2	GE/RCA (2653)	15	Microcontroller, 8-Bit (4K ROM, 128 bytes RAM)				DMA Controller			
HD63A03R ♦ Hitachi				MC68HC05M4 Motorola				HD68A44 Hitachi HD68B44 Hitachi HD6844 Hitachi MC68A44 Motorola MC68B44 Motorola MC6844 Motorola (2932) MC6844M ↑ Motorola (2932)			
HD63B03R ♦ Hitachi				Microcontroller, 8-Bit (4K ROM, 176 bytes RAM)				DMA Processor (serial)			
HD6303R ♦ Hitachi				MC68HC11D3 Motorola				MC6855 Motorola			
MC68HC811A0	Motorola			Microcontroller, 8-Bit (6K EEPROM, 176 bytes RAM)				Floating Point ROM (for MC6809)			
Microcomputer, ROM, EEPROM, RAM, 16-Bit Timer, 8-Bit Pulse Accumulator, Serial Interface	MC68HC11A8	Motorola (2928)	20	MC68HC805B6 Motorola				MC68A39 Motorola			
Microcomputer (w/LCD)	MC68HC11L6	Motorola		Microcontroller, 8-Bit (6K OTP ROM, 176 bytes RAM)				MC68B39 Motorola			
Microcomputer (w/vacuum fluorescent display driver)	MC68HC11M4	Motorola		MC68HC705B5 Motorola				Floppy Disk Controller			
Microcomputer, Single-Chip (for control of medium scale equipment)	H8/532 ♦ Hitachi			Microcontroller, 8-Bit (4K ROM, 192 bytes RAM)				HD68A43 Hitachi HD6843 Hitachi FDC1793 SMC FDC1793-02 ♦ SMC FDC1797 SMC FDC1797-02 ♦ SMC FD1793-02 Western FD1797-02 Western			
Microcomputer (2K EPROM)	MC68HC11A6	Motorola		Microcontroller, 8-Bit (6K ROM, 176 bytes RAM)				General Purpose Interface Adapter (IEEE 488 bus)			
Microcomputer (3.7K ROM, 156-byte RAM)	MC68HC04P4	Motorola		MC68HC05B6 Motorola				MC68A488 Motorola MC68B488 Motorola HEF4738 Signetics			
Microcomputer, 8-Bit (3.7K OTP ROM, 124 bytes RAM)	MC68HC704P4	Motorola	25	Advanced Data Link Controller				Industrial Interface Adaptor			
MC68HC705C4	Motorola			MC68A54 Motorola MC68B54 Motorola MC6854 Motorola (2932) EF68A54 SGS-Thomson EF68B54 SGS-Thomson EF6854 SGS-Thomson				MC6822 Motorola			
Microcomputer, 8-Bit (4K OTP ROM, 176 bytes RAM)	MC68HC705C4	Motorola		Asynchronous Communications Interface Adapter (ACIA)				Memory Controller for 4K to 64K Dynamic RAMs			
MC68HC711D3	Motorola			HD63A50 Hitachi HD63B50 Hitachi HD6350 Hitachi HD68A50 Hitachi HD6850 Hitachi MC68A50 Motorola MC68B50 Motorola MC6850 Motorola (2932) EF68A50 SGS-Thomson EF68B50 SGS-Thomson EF6850 SGS-Thomson				MC3480 Motorola			
Microcomputer, 8-Bit (7.6K OTP ROM, 304 bytes RAM)	MC68HC705C8	Motorola	30	Bus Transceiver, (The 6880 is also called 8T26 and the 6889 the 8T28, See Interface-Transceivers)				Memory Management Unit			
MC68HC711A8	Motorola			MC6880A Motorola (2981) MC6889 Motorola (2981)				C68A29 Motorola			
Microcomputer (512-byte RAM, 512-byte EEPROM)	MC68HC11E1	Motorola (2928)	35	Clock Buffer				Parallel Interface			
Microprocessor				MPQ6842 Motorola				CDP6823 GE/RCA (2644, 2653)			
HD68A00 Hitachi				Clock Generator				Peripheral Interface Adapter, (PIA)			
HD68B00 Hitachi				8701 Commodore				HD63A21 Hitachi HD63B21 Hitachi HD6321 Hitachi HD68A21 Hitachi HD68B21 Hitachi HD6821 Hitachi MC146823 ♦ Motorola (2932) MC68A21 Motorola MC68B21 Motorola MC6821 ♦ Motorola (2932)			
MC68A00 Motorola				Clock Generator, 2-Phase							
MC68B00 Motorola				MC6870 Motorola MC6871 Motorola MC6875 Motorola MC6875A Motorola							
MC6800 Motorola (2931)											
NCR68C05 ♦ NCR (4288)											
EF6805R2 SGS-Thomson											
Microprocessor (CMOS), RAM, Timer, I/O	CDP6805E3	GE/RCA (2653)	40								
Microprocessor (external clock)											
HD6309E Hitachi											
MC68A09E Motorola											
MC68B09E Motorola											
MC6809E ♦ Motorola (4859, 2931)											
EF68A09E SGS-Thomson											
EF68B09E SGS-Thomson											
EF6809E SGS-Thomson			45								

† Military Temperature Range (-55° to 125° C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8Bit (Cont'd)								Microcomputer (external ROM) (Cont'd)			
6800				Microcomputer, RAM, I/O (microlanguage processor)				TMP8035 Toshiba 115			
Peripheral Interface Adapter, (PIA) (Cont'd)				PIC7000 Microchip (2902)				TMP8039 Toshiba			
EF68A21 SGS-Thomson				TMS70C00 TI				TMP8039-6 Toshiba			
EF68B21 SGS-Thomson				TMS7000 TI							
EF6821 SGS-Thomson				Microcomputer, RAM, ROM, I/O (microlanguage processor)				Microcomputer (mask programmed ROM)			
UM6522 UMC				PIC7020 Microchip (2902)				MBL80C49 Fujitsu (2635)			
UM6522A UMC				PIC7040 Microchip (2902)				MBL8048 Fujitsu (2635)			
Port Replacement Unit for MC68HC11, PIA				TMS70C20 TI				M8048H Intel			
MC68HC24 Motorola (2932)				TMS70C40 TI				M8049H Intel			
Priority Interrupt Controller				TMS7040 TI				80A48L Intel			
MC8507 Motorola				Microcomputer, RAM, ROM, Serial I/O				80A49 Intel			
Programmable Timer				PIC7041 Microchip (2902)				80C48 Intel			
HD63A40 Hitachi				Microcomputer, ROM				80C49 Intel			
HD6340 Hitachi				PIC70100 Microchip				8048 Intel			
HD68A40 Hitachi				PIC70120 Microchip				8048AH Intel			
HD68B40 Hitachi				PIC7060 Microchip				8048H Intel			
HD6840 Hitachi				PIC7080 Microchip				8049AH Intel			
MC68A40 Motorola				Microcomputer with UART				8049H Intel			
MC68B40 Motorola				PIC7001 Microchip (2902)				8049HL Intel			
MC6840 Motorola (2932)				Encryption, Federal Processing Standard Pub. 46				8050AH Intel			
MC6840M Motorola (2932)				TMS75C00 TI				INS8048 National			
EF68A40 SGS-Thomson				TMS7500 TI				INS8048L National			
EF68B40 SGS-Thomson				8048				INS8049 National			
EF6840 SGS-Thomson				Microcomputer (erasable PROM)				INS8049L National			
RAM, Dual Port				MBL8749 Fujitsu (2635)				INS8050 National			
MC68HC34 Motorola (2932)				M8748 Intel				INS8050L National			
ROM, I/O, Timer				8748-8 Intel				NS8050U National			
MC68A46 Motorola				8748H Intel				NS8050UL National			
EF6846 SGS-Thomson				8749H Intel				μPD80C48 NEC			
TMS70C40 TI				8749H-8 Intel				μPD80C49 NEC			
TMS7040 TI				μPD8748 NEC				μPD80C50 NEC			
Synchronous Address Multiplexer				μPD8749 NEC				μPD8048 NEC			
MC6883 Motorola				Microcomputer (external ROM)				μPD8049 NEC			
SN74LS783 Motorola (2944)				MBL80C39 Fujitsu (2635)				MSM80C48 OKI			
Synchronous Serial Data Adapter (SSDA)				MBL8035 Fujitsu (2635)				MSM80C49 OKI			
HD68A52 Hitachi				MBL8039 Fujitsu (2635)				SCC80C48 Signetics			
HD6852 Hitachi				M8035L Intel				SCC80C49 Signetics			
MC68A52 Motorola				80A35 Intel				SCC80C50 Signetics			
MC68B52 Motorola				80A39 Intel				SCN8048A Signetics			
MC6852 Motorola (2932)				80C35 Intel				SCN8049A Signetics (3130)			
Video Converter				80C39 Intel				SCN8050A Signetics			
TS8306 SGS-Thomson				8035AHL Intel				TMP80C48A Toshiba (3339)			
TS8307 SGS-Thomson				8039AHL Intel				TMP80C49A Toshiba (3339)			
TS8308 SGS-Thomson				8039HL Intel				TMP80C49A-6 Toshiba (3339)			
TS8328 SGS-Thomson				8040AHL Intel				TMP80C50A Toshiba (3339)			
TS8408 SGS-Thomson				INS8035 National				TMP80C50A-6 Toshiba (3339)			
TS8428 SGS-Thomson				INS8035L National				TMP8048 Toshiba (3339)			
UA1005 SGS-Thomson				INS8039 National				TMP8049 Toshiba (3339)			
Video Display Generator				INS8039L National				TMP8049-6 Toshiba (3339)			
MC6847 Motorola (2932)				INS8040 National							
Single Chip Color Palette				INS8040L National				Microcomputer, Piggyback EPROM			
EF9369 SGS-Thomson				NS8040U National				NS87P50 National			
Triple Bidirectional Bus Switch (also MC3449)				NS8040UL National				Microcomputer, RAM, ROM, I/O			
MC6881 Motorola				μPD80C35 NEC				M5L8035 Mitsubishi			
Hex Buffers/Inverters (See also				μPD80C39 NEC				M5L8035-6 Mitsubishi			
Digital-TTL-Buffers/Inverters 8T95, 8T96, 8T97, 8T98)				μPD8035L NEC				M5L8039-11 Mitsubishi			
MC6885 Motorola (2981)				μPD8039L NEC				M5L8039HL-14 Mitsubishi			
MC6886 Motorola (2981)				MSM80C35 OKI				M5L8040H Mitsubishi			
MC6887 Motorola (2981)				MSM80C39 OKI				M5L8042 Mitsubishi			
MC6888 Motorola (2981)				MSM80C40 OKI				M5L8044 Mitsubishi			
Octal Buffer/Latch, Three-State				SCC80C35 Signetics				M5L8048 Mitsubishi			
MC3482A Motorola				SCC80C39 Signetics				M5L8049 Mitsubishi			
MC3482B Motorola				SCC80C40 Signetics				M5M80C39-6 Mitsubishi			
MC6882A Motorola				SCN8035A Signetics				M5M80C39A Mitsubishi			
MC6882B Motorola				SCN8039A Signetics				M5M80C39H Mitsubishi			
7000				SCN8040 Signetics				M5M80C49 Mitsubishi			
Microcomputer, RAM, E ² PROM				TMP80C35A Toshiba				M5M80C49A Mitsubishi			
72720 SEEQ				TMP80C39A Toshiba				M5M80C49H Mitsubishi			
				TMP80C39A-6 Toshiba				M5M8040L Mitsubishi			
				TMP80C40A Toshiba				M5M8050H Mitsubishi			
				TMP80C40A-6 Toshiba				M5M8050L Mitsubishi			
				(Continued)				Microcomputer, RAM, ROM, I/O (11 MHz)			
								TMP8048A Toshiba (3339)			
								TMP8049A Toshiba (3339)			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
8Bit												
8048 (Cont'd)												
Microcomputer, ROM, RAM, I/O				Programmable Interrupt Controller. See 8259, etc. under 8080.		(Cont'd)		Microcomputer (external ROM)		(Cont'd)		
8020H	Intel			TMP8259A	Toshiba	(3339)		MBL8031	Fujitsu	(2635)		
8021H	Intel			UM8259	UMC			80C31	Intel			
Microcomputer (ROM, RAM, I/O, on-board A/D)				Programmable Interval Timer				8031AH	Intel		120	
8022	Intel			82C54	*† SMC			SAB80C31	Siemens			
Bidirectional Bus Driver. See 8216, 8226, etc. under 8080				Programmable Interval Timer. See 8253, etc. under 8080.				SAB80C32	Siemens			
8216	Intel			μPD8253-2	NEC			SAB80C535	Siemens			
8226	Intel			μPD8253-5	NEC			SAB8031B	Siemens			
μPB8216	NEC			SMC82C54A	S-MOS			SAB8032A	Siemens			
μPB8226	NEC			Programmable Peripheral Interface. See 8255, etc. under 8080.				SAB8032B	Siemens			
CRT Controller. See 8275, etc. under 8080.				8255A	Intel			SCC80C31	Signetics	(3126)	125	
8275	Intel			μPD8255	NEC			SCN8031	Signetics			
SCN2672	Signetics			μPD8255A-5	NEC							
Decoder, 1 of 8. See 8205, etc. under 8080.				SMC82C55A-5	S-MOS							
8205	Intel			PROM (erasable), I/O								
Floppy Disk Controller. See 8271, etc. under 8080.				8755A	Intel							
8271	Intel			μPD8755A	NEC							
8271-6	Intel			RAM, I/O, Timer								
μPD765A	NEC			HS81C55RH	† Harris	(2724)						
FDC1793	SMC			HS81C56RH	† Harris	(2724)						
FDC1793-02	SMC			M8155H	Intel							
FDC1797	SMC			8155	Intel							
FDC1797-02	SMC			8155-2	Intel							
FD1793-02	Western			8155H	Intel							
FD1797-02	Western			8155H-2	Intel							
GPB Talker/Listener				8156	Intel							
8291	Intel			8156-2	Intel							
I/O Expander for 8048 Family				8156H	Intel							
MBL82C43	Fujitsu	(2635)		8156H-2	Intel							
MBL8243	Fujitsu	(2635)		μPD8155	NEC							
M8243	† Intel			μPD8156	NEC							
8243	Intel			MSM81C55	OKI							
M5L8243	Mitsubishi			TMP8155	Toshiba	(3339)						
M5M82C43	Mitsubishi			TMP8156	Toshiba	(3339)						
M50780	Mitsubishi			ROM, I/O								
M50781	Mitsubishi			HS83C55RH	† Harris	(2729)						
M50782	Mitsubishi			8355	Intel							
M50783	Mitsubishi			8355-2	Intel							
M50784	Mitsubishi			MSM83C55	OKI							
M50786	Mitsubishi			SDLC/HDLC Protocol Controller. See 8273, etc. under 8080.								
M50790	Mitsubishi			8273	Intel							
INS8243	National			μPD7201A	NEC							
μPD82C43	NEC			Universal Peripheral Interface (EPROM version of 8042)								
μPD8243	NEC			MBL8742	Fujitsu	(2635)						
MCM82C43	OKI			Universal Peripheral Interface (RAMless version)								
TMP82C43	Toshiba			MBL8042	Fujitsu	(2635)						
Multi-Universal Asynchronous Receiver Transmitter				Universal Peripheral Interface (slave microprocessor)								
SAB8256A	Siemens			MBL8041A	Fujitsu	(2635)						
Priority Interrupt Control. See 8214, etc. under 8080.				M8741A	† Intel							
8214	Intel			8041AH	Intel							
Priority Interrupt Controller				8041AH-2	Intel							
82C59	*† SMC			8042	Intel							
Programmable Communication Interface (USART) See 8251, etc. under 8080.				8641A	Intel							
8251A	AMD			8741A	Intel							
8251A	Intel			8742	Intel							
μPD71051	NEC			M5L8041A	Mitsubishi							
μPD8251	NEC			μPD8041	NEC							
μPD8251A	NEC			μPD8041A	NEC							
μPD8251AF	NEC			μPD8741A	Signetics							
71051	NEC			Octal Bus Transceiver								
MSM82C51A	OKI			M8286	† Intel							
TMP8251A	Toshiba	(3339)		M8287	† Intel							
Programmable Interrupt Controller. See 8259, etc. under 8080.												
8259	Intel											
8259-5	Intel											
8259A	Intel											
8259A-2	Intel											
8259A-8	Intel											
μPD8259	NEC											
μPD8259-2	NEC											
μPD9259A	NEC											
(Continued)				(Continued)								

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8051 (Cont'd)				8080				8085			
Microcontroller, 4 PWM outputs	SAB80515	Siemens		Microcomputer, 8-Bit	8031AH-15	AMD		Decoder, 1 of 8 (See also Digital-TTL-Decoders, 3222, 74LS138, etc.)	INS82LS05 SN74LS138	National TI	100
Microcontroller, 8 input A/D	SAB80512 SAB80532 SAB80535	Siemens Siemens Siemens		Microcomputer, 8-Bit (external ROM)	SAB8031A	Siemens		Display Controller	INS8247 INS8248	National National	
Microcontroller, 8-Bit	8051AH 80515 8053AH 8753H	AMD AMD AMD † AMD	5	Microcomputer, 8-Bit (mask programmable ROM)	SAB8051A	Siemens		Dynamic RAM Controller	82C03 82C08 8202A 8203	Intel Intel Intel Intel	105
Microcontroller, 12 input A/D	SAB80C517	Siemens		Microcontroller, 18 MHz (external ROM)	SAB8031A-18 SAB8031B-18 SAB8032A-18	Siemens Siemens Siemens	25	Error Detection & Correction Chip	8206	Intel	
Microcontroller, 16 MHz (external ROM)	SAB80C31-16 SAB80C32-16 SAB8031A-16 SAB8031B-16 SAB8032B-16 SAB80532-16	Siemens Siemens Siemens Siemens Siemens Siemens	10	Microcontroller, 18 MHz (mask programmed ROM)	SAB8051B-18 SAB8052A-18 SAB8052B-18	Siemens Siemens Siemens		Floating Point Processor	8232	Intel	
Microcontroller, 16 MHz (mask programmed ROM)	SAB80C51-16 SAB80C52-16 SAB8051A-16 SAB8051B-16 SAB80512-16 SAB8052A-16 SAB8052B-16	Siemens Siemens Siemens Siemens Siemens Siemens Siemens	20	Microcontroller, 20 MHz (external ROM)	SAB8031A-20	Siemens		Floppy Disk Controller	8271 μPD765A FDC1793 FDC1793-02 FDC1797 FDC1797-02 FD1793-02 FD1797-02	Intel NEC SMC SMC SMC SMC Western Western	110
Microcontroller, 18 MHz (external ROM)	SAB8031A-18 SAB8031B-18 SAB8032A-18	Siemens Siemens Siemens	25	Microcontroller, 20 MHz (Mask programmed ROM)	SAB8051A-20	Siemens		GPIO Controller	8292	Intel	
Microcontroller, 18 MHz (mask programmed ROM)	SAB8051B-18 SAB8052A-18 SAB8052B-18	Siemens Siemens Siemens		Microcontroller, 16 MHz (external ROM)	SAB8032A-16	Siemens		GPIO Interface Controller, Intelligent	COM7210	SMC	
Microcontroller, 20 MHz (external ROM)	SAB8031A-20	Siemens		Microcontroller, 18 MHz (external ROM)	SAB8032B-18	Siemens		GPIO Talker/Listener Interface	8291A	Intel	120
Microcontroller, 32K RAM	DS5000	Dallas		Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens		GPIO Transceiver	8293	Intel	
Clock/Calendar, Real-Time	CA01C50	Calmos		Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens		GPIO Universal Interface	μPD7210	NEC	
Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens		Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens		I/O Expander for 8041/8741, CMOS	IM82C431 IM82C43M	GE/Intersil † GE/Intersil	
8085				Microcontroller, 20 MHz (external ROM)	SAB8031A-20	Siemens		I/O Expander for 8041A/8741A	8243 TMP8243	Intel Toshiba	125
Microcomputer, 8-Bit	8031AH-15	AMD		Microcontroller, 20 MHz (Mask programmed ROM)	SAB8051A-20	Siemens		I/O Latch (see also Digital-CMOS and TTL, Latches)	INS82C06	National	
Microcomputer, 8-Bit (external ROM)	SAB8031A	Siemens		Microcontroller, 16 MHz (external ROM)	SAB8032A-16	Siemens		I/O Port	CA82C12 HS82C12RH M8212 M8212 8212 DP8212 DP8212M INS8212 μPB8212 MSM82C12	Calmos † Harris † Intel Intel Intel National † National National NEC OKI	130
Microcomputer, 8-Bit (mask programmable ROM)	SAB8051A	Siemens		Microcontroller, 18 MHz (external ROM)	SAB8032B-18	Siemens		Keyboard Display Controller	8279 8279-5 μPD8279-5 KR9600 KR9601 KR9602	Intel Intel NEC SMC SMC SMC	140
Microprocessor	M8080A 8080A 8080A-1 8080A-2	† Intel Intel Intel Intel	40	Microcontroller (32K RAM)	DS5000	Dallas		Keyboard Encoder (See also Interface-Keyboards Encoders)	INS8245 INS8246	National National	
Microcontroller, 8-Bit (external ROM)	SAB8032A SAB80533	Siemens Siemens		Clock/Calendar, Real-Time	CA01C50	Calmos		Multi-Protocol Communications Controller (SDLC, ADDCP, BiSync, DDCMP)	SCN2652A	Signetics	145
Microcontroller, 8-Bit (mask programmable ROM)	SAB80513 SAB8052A	Siemens Siemens		Microcontroller, 20 MHz (Mask programmed ROM)	SAB8051A-20	Siemens		Multi-Universal Asynchronous Receiver Transmitter	8256 TIM8228 TIM8238	Intel TI TI	
8088				Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens		Multifunction Microprocessor Support Controller	8256AH	Intel	
Microcomputer, 8-Bit	8031AH-15	AMD		Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens		Polynomial Generator/Checker	SCN2653A	Signetics	150
Microcomputer, 8-Bit (external ROM)	SAB8031A	Siemens		Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens		(Continued)			
Microcomputer, 8-Bit (mask programmable ROM)	SAB8051A	Siemens		Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens					
Microprocessor	M8080A 8080A 8080A-1 8080A-2	† Intel Intel Intel Intel	40	Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens					
Microcontroller, 8-Bit (external ROM)	SAB8032A SAB80533	Siemens Siemens		Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens					
Microcontroller, 8-Bit (mask programmable ROM)	SAB80513 SAB8052A	Siemens Siemens		Microcontroller, 18 MHz (mask programmed ROM)	SAB8051A-18	Siemens					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8080 (Cont'd)				Universal Peripheral Interface (slave microprocessor)				Dynamic RAM Controller			
Priority Interrupt Controller	82C59	*† SMC		MBL8041A	Fujitsu	(2635)		82C03	Intel		110
Programmable Communication Interface (USART) (See also Interface-Transmitters, Receivers)				8041AH	Intel			8202A	Intel		
AM9551	AMD			8041AH-2	Intel			8203	Intel		
8251	AMD			8641A	Intel		60	Erasable PROM, I/O			
M8251A	† Intel			8741A	Intel			M8755A	† Intel		
8251A	◊ Intel		5	μPD8041	NEC			8755A	Intel		
μPD8251	NEC			μPD8741A	NEC			μPD8755A	NEC		115
μPD8251A	NEC							MSM8755	OKI		
71051	NEC			Octal Bus Transceiver							
MSM82C51A	OKI			M8286	† Intel			Floppy Disk Controller. See 8271, etc. under 8080.			
SMC82C51A	S-MOS		10	M8287	† Intel		65	8271	Intel		
SCN2651C	Signetics							μPD765A	NEC		
SCN2661A	◊ Signetics			8085A				FDC1793	SMC		
SCN2661B	◊ Signetics			Microcomputer, 8-Bit				FDC1793-02	◊ SMC		120
SCN2661C	◊ Signetics			8031AH-15	AMD			FDC1797	SMC		
COM2651	SMC			Microprocessor				FDC1797-02	◊ SMC		
TMS5501	TI			8085A	AMD			FD1793-02	Western		
Programmable Counter				8085AH	AMD			FD1797-02	Western		
μPD71054	◊ NEC			8085AH-2	AMD						
Programmable Direct Memory Access Controller				CA80C85B	Calmos			GPiB Controller			
AM9517A-5	AMD			HS80C85RH	‡ Harris	(2723)		8292	Intel		125
M8257	† Intel			M8085A	† Intel			GPiB Interface Controller, Intelligent			
8257	Intel			M8085AH	† Intel			COM7210	SMC		
8257-5	Intel			8085AH	Intel			GPiB Talker/Listener Interface			
μPD71055	◊ NEC			8085AH-2	Intel			8291A	Intel		
μPD8257	NEC			M5L8085A	Mitsubishi			I/O Expander			
μPD8257-5	NEC			M5M80C85A	◊ Mitsubishi			8243	Intel		
				μPD8085A-2	NEC			μPD82C43	NEC		130
				μPD8085AH	NEC			μPD8243	NEC		
				MSM80C85A	◊ OKI			I/O Port			
				TMP8085A	Toshiba			CA82C12	Calmos		
								M5L8212	Mitsubishi		
				Microprocessor Bus Controller							
				CA82C88	*† Calmos			Interrupt Controller, Programmable			
				8219	Intel			TMP82C59	Toshiba	(3339)	
				Microprocessor, 8-Bit (3 MHz)				Keyboard/Display Controller, Programmable			
				SAB8085AH	Siemens			M5L8279-5	Mitsubishi		
				Microprocessor, 8-Bit (5 MHz)				TMP82C79-2	Toshiba	(3339)	135
				SAB8085AH-2	Siemens			TMP8279-5	Toshiba	(3339)	
				Asynchronous Communications Element				Memory, 256x8-Bit Static RAM with I/O Port and Timer			
				CA82C50A	Calmos			SAB8155	Siemens		
				Bidirectional Bus Driver. See 8216, 8226, etc. under 8080.				SAB8155-2	Siemens		
				8216	Intel						
				8226	Intel			Multi-Universal Asynchronous Receiver Transmitter			
				M5L8226	Mitsubishi			SAB8256A	Siemens		
				μPB8216	NEC			Priority Interrupt Controller			
				μPB8226	NEC			82C59	*† SMC		140
				Bus Driver, Bi-Directional				Programmable Communication Interface (USART)			
				M5L8216	Mitsubishi			8251	AMD		
				Bus Monitor				8251A	◊ Intel		
				MD68SC49B	Mitel			μPD8251	NEC		
				Clock/Calendar, Real-Time				μPD8251A	NEC		
				CA01C50	Calmos			71051	NEC		
				146818	*† SMC			MSM82C51A	OKI		
				Clock Generator and Driver				SMC82AC51	S-MOS		
				CA82C84A	*† Calmos			SMC82C51A	S-MOS		
				M5L8284A	Mitsubishi			TMP82C51A-2	Toshiba	(3339)	150
				Converter, A/D (8-bit)				TMP82C51A-8	Toshiba	(3339)	
				M58990	Mitsubishi			Programmable Communications Interface (USART)			
				Counter, CMOS Programmable				M5L8251A-5	Mitsubishi		
				82C54	*† SMC			Programmable Direct Memory Access Controller			
				VL82C54	VLSI Tech			8237A	AMD		
				CRT Controller. See 8275, etc. under 8080.				8237A-5	AMD		
				8275	Intel			CA82C37A	*† Calmos		
				Data Acquisition System, 8 Channel, 8-Bit Conversion				HS82C37ARH	‡ Harris	(2725)	155
				AD7581A	◊ AD	(2415)		MD82C37	† Harris		
				AD7581B	◊ AD	(2415)		82C37A	◊ Harris	(2739)	
				AD7581C	◊ AD	(2415)		M8257	† Intel		
				AD7581J	◊ AD	(2415)		8237A	Intel		
				AD7581K	◊ AD	(2415)		8237A-4	Intel		160
				AD7581L	◊ AD	(2415)		8237A-5	Intel		
				Decoder, 1 of 8. See 8205, etc. under 8080.				8257	Intel		
				8205	Intel			8257-5	Intel		
				DMA Controller				M5L8257-5	Mitsubishi		
				TMP82C37A-5	Toshiba	(3339)		μPD71055	◊ NEC		165
								μPD8237A-5	NEC		
								μPD8257	NEC		
								μPD8257-5	NEC		
								MSM82C57	OKI		
											(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8Bit											
8085A (Cont'd)											
Programmable Direct Memory Access Controller (Cont'd)				RAM (1024x8) (See also: Memory-RAMs)				Multi-Protocol Serial Communications Controller			
SMC82C37AC	S-MOS			M8185	† Intel			SAB7201A	Siemens		
SMC82C37AC-4	S-MOS			8185	Intel			Priority Interrupt Controller			
SMC82C37AC-5	S-MOS			8185-2	Intel			82C59	*† SMC		
TMP8237A	Toshiba (3339)			ROM, I/O	HS83C55RH	† Harris (2729)	65	Programmable Interval Timer			
TMP8237A-5	Toshiba (3339)			8355	Intel			CAB2C54	Calmos		
VL82C37A	VLSI Tech			8355-2	Intel			82C54	*† SMC		
				MSM83C55	OKI			8088			
				TMP8355	Toshiba (3339)			Microprocessor, 8-Bit (10 MHz)			
				SCSI Interface Controller	CA53C80	*† Calmos		SAB80188-1	♦ Siemens		110
				SDLC/HDLC Protocol Controller. See 8273, etc. under 8080.	8273	Intel		SAB8088-1	♦ Siemens		
				Serial Controller Interface	CA82C52	Calmos		Bus Controller	UC82C88	* Unicorn	
				Static Microprocessor with Extended Instruction Set	CA80C85S	*† Calmos		Clock Generator/Driver	UC82C84A	* Unicorn	
				Universal Peripheral Interface (slave microprocessor)	MBL8041A	Fujitsu (2635)	75	DMA Controller	UC82C37A	* Unicorn	
				8041A	Intel			Parallel I/O Port	UC82C55A	* Unicorn	115
				8741A	Intel			Priority Interrupt Controller	UC82C59A	* Unicorn	
				μPD8041	NEC			Programmable Interval Timer	UC82C54	* Unicorn	
				μPD8741A	NEC			NSC800			
				Octal Bus Transceiver, Inverting	M8287	† Intel	80	Microprocessor			
				8287	♦ Intel			NSC800	National		
				M5L8287	Mitsubishi			NSC800-1	National		
				Octal Bus Transceiver, Non-Inverting	M8286	† Intel	85	NSC800-4	National		120
				8286	♦ Intel			MPU800	SMC		
				M5L8286	Mitsubishi			MPU800-1	SMC		
				Octal Latch, Inverting	M5L8283	Mitsubishi		MPU800-4	SMC		
				M5M82C83	Mitsubishi			Bidirectional Transceiver			
				Octal Latch, Non-Inverting	M5L8282	Mitsubishi		MM82PC08	National		
				M5M82C82	Mitsubishi			Bidirectional Transceiver (CMOS)			
				8086/88				MM82PC08	National		125
				Asynchronous Communications Element	SSI73M450	♦ SiliconSys (3255)	90	Intelligent I/O, 3 Programmable Ports			
				Bus Arbiter	M5L8289	Mitsubishi		NSC831	National		
				SAB8289-1	Siemens			NSC831-1	National		
				Bus Compatible Digital Pulse Width Modulator	IXPD610	IXYS		NSC831-4	National		
				Bus Compatible Incremental Shaft Encoder Interface	IXSE501	IXYS		MPU831	SMC		
				Bus Controller	M5L8288	Mitsubishi	95	Interrupt Control Unit	NSC859	National	130
				Bus Monitor	MD68SC49B	Mitel		RAM, I/O, Timer			
				Clock/Calendar, Real-Time	CA01C50	Calmos		NSC810	National		
				146818	*† SMC			NSC810-1	National		
				Clock Generator and Driver for 8086 MPU (8 MHz)	SAB8284B	Siemens		NSC810-4	National		
				Clock Generator and Driver for 8086 MPU (10 MHz)	SAB8284B-1	Siemens		MPU810A	SMC		
				Dynamic RAM Controller Interface Circuit	DP84432	National	100	MPU810A-1	SMC		135
				IBM PC/XT Compatible Chip (replaces address, data buffers and DRAM/ROM decode on the XT motherboard)	POACH/XTB	ZyMOS		MPU810A-4	SMC		
				IBM PC/XT Compatible Chip (replaces the main logic functions of the IBM PC/XT motherboard)	POACH/XT88	ZyMOS		ROM, I/O			
				Interrupt Controller, Programmable	TMP82C59	Toshiba (3339)	60	NSC830	National		
				Keyboard Interface Controller	KyBRD	*† SMC	105	NSC830-1	National		
								NSC830-4	National		
								MPU830	SMC		140
								8X300			
								Microprocessor			
								N8X300	Signetics		
								N8X305	Signetics		
								S8X300-1	† Signetics		145
								S8X300-2	† Signetics		
								S8X305	† Signetics		
								FIFO RAM Controller			
								N8X60	Signetics		
								S8X60	† Signetics		
								Floppy Disk Controller			
								N8X330	Signetics		150

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8Bit								(Cont'd)			
8X300 (Cont'd)											
I/O Port, Asynchronous, Field Programmable Address				Microcomputer (ROMless, 8 MHz)	Z86R91	† SGS-Thomson		Microprocessor	Z84C00-CPU	Zilog	95
N8T36	Signetics								Z8400-CPU	◊ Zilog	
N8X376	Signetics			Microcomputer, Tiny Basic	Z8671	◊ SGS-Thomson		Microprocessor and Clock Generator Controller			
S8T35	† Signetics								TMPZ84C02-6	Toshiba (3339)	
S8T36	† Signetics			Microcomputer, 2K bytes of ROM, 128 bytes of RAM, 22 I/O Lines	Z8600-MCU	Zilog		Microprocessor (2.5 MHz)	Z8400	◊ SGS-Thomson	
S8X376	† Signetics							Microprocessor (4 MHz)			
I/O Port, Latched Bidirectional				Microcomputer, 2K RAM	Z8601	◊ Zilog			Z84C00A	◊‡ SGS-Thomson	100
N8T31	Signetics								Z8400A	◊‡ SGS-Thomson	
N8X371	Signetics			Microcomputer, 2K ROM	Z8601	◊‡ SGS-Thomson	55		TMPZ84C00A	Toshiba (3339)	
S8X371	† Signetics				Z8601A	◊‡ SGS-Thomson		Microprocessor (6 MHz)			
I/O Port, Synchronous, Field Programmable Address				Microcomputer (2K ROM, 12 MHz)	Z8600A	† SGS-Thomson			Z84C00B	◊‡ SGS-Thomson	
N8T32	Signetics								Z8400B	◊‡ SGS-Thomson	
N8T33	Signetics			Microcomputer (2K ROM, 8 MHz)	Z8600	† SGS-Thomson			TMPZ84C00A-6	Toshiba (3339)	
N8X372	Signetics							Microprocessor (8 MHz)			
N8X382	Signetics			Microcomputer, 4K bytes of ROM, 128 Bytes of RAM, 32 I/O Lines	Z85C11	Zilog			Z8400H	◊‡ SGS-Thomson	105
N8X42	Signetics								TMPZ84C00A-8	Toshiba (3339)	
S8T32	† Signetics			Microcomputer, 4K EPROM	Z86E11	† SGS-Thomson	60	Microprocessor, 16-Bit	Z80280-MPU	Zilog	
S8T33	† Signetics				Z86E11A	† SGS-Thomson		Microprocessor, 16-Bit with Enhanced Z80 Instruction Set	Z280-MPU	Zilog	
S8X372	† Signetics			Microcomputer (4K EPROM, OTP, 12 MHz)	Z8611E	† SGS-Thomson		Bus Compatible Digital Pulse Width Modulator	IXPD610	IXYS	
S8X382	† Signetics							Bus Compatible Incremental Shaft Encoder Interface	IXSE501	IXYS	110
I/O Port with Parity				Microcomputer, 4K ROM	Z8611	◊‡ SGS-Thomson		Bus Monitor	MD68SC49B	Mitel	
N8X374	Signetics				Z8611A	◊‡ SGS-Thomson		Clock Generator and Controller			
S8X374	† Signetics				Z8611	◊ Zilog	65		TMPZ84C60	Toshiba (3339)	
I/O Register Array (16x8 or 8x16)				Microcomputer (4K ROM, 12 MHz)	Z8610A	† SGS-Thomson			TMPZ84C61	Toshiba (3339)	
N8X320	Signetics								T6497	Toshiba	
Interrupt Controller				Microcomputer (4K ROM, 8 MHz)	Z8610	† SGS-Thomson			Z84C60-CPU	Zilog	115
N8X310	Signetics							Counter/Timer Circuit			
S8X310	† Signetics			Microcomputer (8 MHz)	Z84C00H	◊‡ SGS-Thomson			Z8430	GoldStar (2695)	
LIFO Stack Memory (32x8)									Z84C30	◊‡ SGS-Thomson	
N8X355	Signetics			Microcomputer (8K EPROM, OTP, 12 MHz)	Z8621E	† SGS-Thomson			Z8430	◊‡ SGS-Thomson	
S8X355	† Signetics								LH0082	Sharp	120
Memory Address Director				Microcomputer (8K EPROM, 12 MHz)	Z86E21A	† SGS-Thomson			LH0082A	Sharp	
N8X360	Signetics								LH0082B	Sharp	
S8X360	† Signetics			Microcomputer (8K EPROM, 8 MHz)	Z86E21	† SGS-Thomson			LH0082E	Sharp	
RAM, Static (32x8)									TMPZ84C30	Toshiba (3339)	
N8X353	Signetics			Microcomputer, 8K ROM	Z8621	◊‡ SGS-Thomson	70		TMPZ84C30A	Toshiba (3339)	
S8X353	† Signetics				Z8621A	◊‡ SGS-Thomson			TMPZ84C30A-6	Toshiba (3339)	
RAM, Static (256x8)				Microcomputer, 8K ROM, DMA Controller	Z8820	Zilog			TMP82C53	Toshiba (3339)	
N8X350	Signetics				Z8822	Zilog	75		Z84C30-CTC	Zilog	
S8X350	† Signetics								Z8430-CTC	◊ Zilog	
Z8				Microcomputer (8K ROM, 12 MHz)	Z8620A	† SGS-Thomson		Data Acquisition System, 8 Channel, 8-Bit Conversion			
Microcomputer									AD7581A	◊ AD (2415)	130
EF68HC04J3	◊ SGS-Thomson			Microcomputer (8K ROM, 8 MHz)	Z8620	† SGS-Thomson			AD7581B	◊ AD (2415)	
EF68HC04P2	◊ SGS-Thomson								AD7581C	◊ AD (2415)	
Z8681	◊‡ SGS-Thomson			Microcomputer (16 MHz)	TS68000-16	◊‡ SGS-Thomson			AD7581J	◊ AD (2415)	
Z8681A	◊‡ SGS-Thomson								AD7581K	◊ AD (2415)	
Z86C08-MCU	Zilog			Microcomputer, 24 I/O Lines, ROMless	Z86C81	Zilog			AD7581L	◊ AD (2415)	135
Z86C10-MCU	Zilog								AD8581B	AD	
Z86C20-MCU	Zilog			Z80				Direct Memory Access Controller			
Z86C21-MCU	Zilog								Z8410	◊‡ SGS-Thomson	
Z86E21-MCU	Zilog								LH0083	Sharp	
Z8601-MCU	◊ Zilog								LH0083A	Sharp	
Z8671-MCU	Zilog			Microprocessor	Z8400	GoldStar (2695)	80		TMPZ84C10	Toshiba (3339)	140
Z8681-MCU	◊ Zilog				μPD70008	NEC			TMPZ84C10A	Toshiba (3339)	
Z8800	Zilog				μPD70008A	NEC			TMPZ84C10A-6	Toshiba (3339)	
Microcomputer, FORTH Interpreter					μPD780	NEC			TMP82C37	Toshiba (3339)	
Z8874	Zilog				μPD780-1	NEC			TMP8237	Toshiba (3339)	
Microcomputer Prototyping Device, 2K EPROM Interface	Z8603	Zilog	45		μPD780-2	NEC	85	General Logic Unit (Interfaces the Z80 to a system environment)	Z84C10-DMA	Zilog	145
Microcomputer Prototyping Device, 4K EPROM	Z8613	Zilog			SMC84C00	S-MOS			Z8410-DMA	Zilog	
Microcomputer, ROMless, DMA Controller	Z8801	Zilog			LH0080	Sharp		Keyboard/Display Interface, Programmable			
Microcomputer (ROMless, 12 MHz)					LH0080A	Sharp			TMP82C79	Toshiba (3339)	
Z86R91A	† SGS-Thomson				TMPZ84C00	Toshiba (3339)			TMP8279	Toshiba (3339)	
Microcomputer, ROMless, 24 I/O Lines, UART					TMPZ84C00-3	Toshiba (3339)	90	Parallel I/O Controller			
Z86C91	Zilog				TMPZ84C01	Toshiba (3339)			Z8420	GoldStar	150
Z8691	Zilog		50		Z180-MPU	Zilog			Z84C20	◊‡ SGS-Thomson	
					Z80	Zilog					(Continued)
					Z80180-MPU	Zilog					

† Military Temperature Range (-55° to 125° C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8Bit				μPD7810				Asynchronous Communications Element			
Z80 (Cont'd)				Microcomputer				(Cont'd)			
Parallel I/O Controller				Microcomputer with A/D Converter				Bus Arbiter			
Z8420	SGS-Thomson			μPD78P09	NEC			82C50A	♦ Harris	(2739)	
LH0081	Sharp			μPD7807	NEC			82C50	† SMC		
LH0081B	Sharp			μPD7809	NEC			UM82450	UMC		
LH0081E	Sharp							UM8250	UMC		
TMPZ84C20	Toshiba (3339)			8/16 Bit				Bus Arbiter (CMOS)			
TMPZ84C20A	Toshiba (3339)			1600				82C89/B	♦† Harris	(2742)	
TMPZ84C20A-6	Toshiba (3339)			Asynchronous/Synchronous Transmitter/Receiver				82C89/883	♦† Harris	(2742)	
Z84C20-PIO	Zilog			(ASTRO) (See also Interface-Serial Transmitters-Receivers)				Bus Controller			
Z8420-PIO	♦ Zilog			Floppy Disk Controller/Formatter				82C288	AMD		
Programmable Peripheral Interface				Microprocessor, Operating System				8288	AMD		
TMP82C55	Toshiba (3339)			80130				CA82C88	† Calmos		
Serial I/O Controller				Microprocessor, 16-Bit				MBL8288	Fujitsu	(2635)	
Z8440	GoldStar			8086				MD82C88	† Harris		
MK14007	SGS-Thomson			Microprocessor, 8086				82C88	♦ Harris	(2742)	
Z84C40	† SGS-Thomson			8086-1				82C88-Cell	♦ Harris	(2742)	
Z84C41	† SGS-Thomson			8086-2				M8288	† Intel		
Z84C42	† SGS-Thomson			MBL8086				82C88	Intel		
Z84C44	♦ SGS-Thomson			MBL8086-1				82188	Intel		
Z8440	† SGS-Thomson			MBL8086-2				8288	♦ Intel		
Z8441	† SGS-Thomson			HS80C86RH				8288-1	♦ Intel		
Z8442	† SGS-Thomson			MD80C86				μPB8288	NEC		
Z8444	♦ SGS-Thomson			80C86				μPD71088	♦ NEC		
LH0084	Sharp			80C86-2				MSM82C88	OKI		
LH0084A	Sharp			M8086				SAB8288	Siemens		
LH0084E	Sharp			80286				UC82C88	♦ Unicorn		
LH0085	Sharp			8086-1				VL82C88	VLSI Tech		
LH0085A	Sharp			8086-2				Bus Controller (CMOS)			
LH0085E	Sharp			8086-1				82C88/B	♦† Harris	(2742)	
LH0086	Sharp			8086-2				82C88/883	♦† Harris	(2742)	
LH0086A	Sharp			8086-1				Bus Driver, Inverting Octal Latching (CMOS)			
LH0086E	Sharp			8086-2				82C83H/B	♦† Harris		
LH0087	Sharp			8086-1				82C83H/883	♦† Harris		
LH0087A	Sharp			8086-2				Bus Driver, Octal, Latching (CMOS)			
LH0087B	Sharp			8086-1				82C82/B	♦† Harris	(2741)	
TMPZ84C40	Toshiba (3339)			8086-2				82C82/883	♦† Harris	(2741)	
TMPZ84C40A	Toshiba (3339)			8086-1				Bus Interface Controller			
TMPZ84C40A-6	Toshiba (3339)			8086-2				SAB82220	Siemens		
TMPZ84C41	Toshiba (3339)			8086-1				Bus Transceiver, Octal (CMOS)			
TMPZ84C41A	Toshiba (3339)			8086-2				82C86H/B	♦† Harris		
TMPZ84C41A-6	Toshiba (3339)			8086-1				82C86H/883	♦† Harris		
TMPZ84C42	Toshiba (3339)			8086-2				Bus Transceiver, Octal Inverting			
TMPZ84C42A	Toshiba (3339)			8086-1				82C87H/883	♦† Harris		
TMPZ84C42A-6	Toshiba (3339)			8086-2				Bus Transceiver, Octal Inverting (CMOS)			
TMPZ84C43	Toshiba (3339)			8086-1				82C87H/B	♦† Harris		
TMPZ84C44A	Toshiba (3339)			8086-2				Chipset, 8088/8086/V30 (PC/XT Compatible)			
Z80-SIO	Zilog			8086/88				82C100	Chips&Tech		
Z8440-SIO	♦ Zilog			Microprocessor, High Integration				CHIPSpak, PC Compatible Multifunction Controller	82C606	Chips&Tech	
Serial Input/Output Controller				Microprocessor, I/O Preprocessor				CHIPSport, PC Compatible Multifunction Controller	82C605	Chips&Tech	
Z84C40-SIO	Zilog			8089				Clock/Calendar, Real-Time			
Z84C41-SIO	Zilog			80186				146818	† SMC		
Z84C42-SIO	Zilog			80188				Clock Controller/Generator, Static (CMOS)			
Z84C44-SIO	Zilog			SAB80188				82C85/B	♦† Harris	(2742)	
Z8441-SIO	Zilog			SAB8088				82C85/883	♦† Harris	(2742)	
Z8442-SIO	Zilog			SAB8088-2				Clock Generator and Controller			
Z8444-SIO	♦ Zilog			Microprocessor, 16-Bit				HS82C85RH	† Harris	(2728)	
Dual Asynchronous Receiver/Transmitter				A Clock Generator and Driver (5 MHz)				MD82C85	† Harris		
Z8470	GoldStar			82C84A-5				82C85	♦ Harris	(2742)	
Z8470	♦ SGS-Thomson			Asynchronous Communications Element				VL85C81	VLSI Tech		
Z80-DART	Zilog			82C50A				Clock Generator and Driver			
Z8470-DART	Zilog			MD82C50				8284A	AMD		
Z80 MPU (4 MHz), Clock Generator Controller, Counter/Timer, I/O				82C50-Cell				CA82C84A	† Calmos		
TMPZ84C011A	Toshiba (3339)			Microcomputer				MBL8284A	Fujitsu	(2635)	
TMPZ84C013A	Toshiba (3339)			Microcomputer with A/D Converter				MD82C84	† Harris		
TMPZ84C015A	Toshiba (3339)			Microprocessor, 8-Bit				(Continued)			
Z80 MPU (6 MHz), Clock Generator Controller, Counter/Timer Controller, I/O				80188				(Continued)			
TMPZ84C011A-6	Toshiba (3339)			SAB80188				(Continued)			
TMPZ84C013A-6	Toshiba (3339)			SAB8088				(Continued)			
TMPZ84C015A-6	Toshiba (3339)			SAB8088-2				(Continued)			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8 / 16 Bit				Priority Interrupt Controller (CMOS)				Octal Bus Transceiver, Inverting (Cont'd)			
8086/88 (Cont'd)				82C59A/B ♦† Harris				82C87 Harris			
Clock Generator and Driver (Cont'd)				82C59A/883 ♦† Harris				M8287 † Intel			
82C84A ♦° Harris (2742)				Programmable Asynchronous Communications Interface				M5M82C87 Mitsubishi			
M8284 † Intel				HD6406 ♦° Harris (2743)				μPB8287 NEC			
82C84A Intel				HD6406-Cell ♦° Harris (2743)				μPD71087 ♦ NEC			
8284A ♦ Intel				Programmable DMA Controller				SAB8287 Siemens			
8284A-1 Intel				CA82C37A *† Calmos				Octal Bus Transceiver, Non-Inverting			
M5M82C84A Mitsubishi				Programmable Interrupt Controller				8286 AMD			
μPB8284A NEC				CA82C59A *† Calmos				MBL80286-6 Fujitsu (2635)			
μPD7108A ♦ NEC				MBL8259A Fujitsu (2635)				MBL8286 Fujitsu (2635)			
MSM82C84A OKI				82C59A-2 Intel				MD82C86 † Harris			
82C84 *† SMC				8259A Intel				82C86 Harris			
UC82C84A * Unicorn				SAB8259A Siemens				M8286 † Intel			
UM82C84A UMC				SAB8259A-2 Siemens				M5M82C86 Mitsubishi			
VL82C84A VLSI Tech				82C59 *† SMC				μPB8286 NEC			
Clock Generator Driver (CMOS)				Programmable Interval Timer				μPD71086 ♦ NEC			
82C84A/B ♦† Harris				HS82C54RH ‡ Harris (2727)				SAB8286 Siemens			
82C84A/883 ♦† Harris				82C54 ♦ Harris (2739)				Octal Latch, Inverting			
Control Buffer (For 80386/AT Chipset)				82C54-Cell ♦° Harris (2739)				MBL8283 Fujitsu (2635)			
82A306 Chips&Tech				SMC82C54AC S-MOS				MD82C83 † Harris			
Controller, CMOS Programmable Interrupt Controller				82C54 *† SMC				82C83 Harris			
VL82C59A VLSI Tech				UC82C54 * Unicorn				M8283 † Intel			
Counter, CMOS Programmable				Programmable Interval Timer (CMOS)				8283 ♦ Intel			
VL82C54 VLSI Tech				MD82C54 † Harris				μPB8283 NEC			
Data Buffer (For 80386/AT Chipset)				82C54/B ♦† Harris (2739)				μPD71083 ♦ NEC			
82A305 Chips&Tech				82C54/883 ♦† Harris (2739)				SAB8283 Siemens			
DMA Controller				Programmable Interval Timer (8 MHz)				Octal Latch, Non-Inverting			
82C37A ♦ Harris (2739)				82C54 AMD				MBL8282 Fujitsu (2635)			
82258 Intel				Programmable Interval Timer (10 MHz)				MD82C82 † Harris			
SMC82C37 S-MOS				82C54-2 AMD				82C82 ♦ Harris (2741)			
UC82C37A ° Unicorn				Programmable Interval Timer (12.5 MHz)				M8282 † Intel			
DMA Controller (CMOS)				82C54-12 AMD				8282 ♦ Intel			
82C37A/B ♦† Harris				Programmable Peripheral Interface				μPB8282 NEC			
82C37A/883 ♦† Harris				CA82C55A *† Calmos				μPD71082 ♦ NEC			
Dynamic RAM Controller				HS82C55ARH ‡ Harris (2727)				SAB8282 Siemens			
8202A Intel				MD82C55 † Harris				8-Bit I/O Port CA82C12 Calmos			
8203 Intel				82C55A ♦ Harris (2740)				8088			
8207 Intel				82C55A-Cell ♦ Harris				Microprocessor, 8-Bit			
8208 Intel				UM82C55A UMC				8088 ♦ AMD			
DP84332 National				Programmable Peripheral Interface (CMOS)				8088-1 ♦ AMD			
DP84422 National				82C55A/B ♦† Harris				8088-2 ♦ AMD			
GPIO Interface Controller				82C55A/883 ♦† Harris				MBL8088 Fujitsu (2635)			
COM7210 SMC				Serial Communications Controller				MBL8088-2 Fujitsu (2635)			
GPIO Talker/Listener				CA85C30 Calmos				80C88 ♦ Harris (2735)			
8291A Intel				Serial Communications Interface				8088 ♦ Intel			
Keyboard Encoder				HS82C52RH ‡ Harris (2725)				8088-2 ♦ Intel			
UM82C01 UMC				MD82C52 † Harris				μPD8088 NEC			
Keyboard Interface Controller				82C52 ♦ Harris (2739)				μPD8088-2 NEC			
KyBRD SMC				82C52-Cell ♦° Harris (2739)				MSM80C88 OKI			
Local Bus Arbiter				Serial Controller Interface				9900			
SAB82200 Siemens				CA82C52 Calmos				Microcomputer ROM-Less			
Multi-Universal Asynchronous Receiver Transmitter				82C52/B ♦† Harris (2739)				TM9995 TI			
8256 Intel				Serial Controller Interface (CMOS)				Microprocessor			
SAB8256A Siemens				82C52/883 ♦† Harris (2739)				TMS9981 TI			
Multiprotocol Serial I/O Controller				Text Coprocessor				Microprocessor, 16-Bit			
μPD7210 NEC				82730 Intel				TMS9900 TI			
Parallel I/O Port.				Universal DMA Controller, 16-Bit, 10 MHz				Addressable Latch, 8-Bit			
UC82C55A ° Unicorn				AM9516A-1 AMD				SN54LS259B ♦† TI			
Printer Adapter Interface				Universal DMA Controller, 16-Bit, 4 MHz				SN74LS259B TI			
UM82C11 UMC				AM9516A-4 AMD				TIM9906 TI			
Priority Interrupt Controller				Universal DMA Controller, 16-Bit, 6 MHz				Asynchronous Communications Controller			
HS82C59ARH ‡ Harris (2728)				AM9516A-6 AMD				TMS9902A TI			
MD82C59 † Harris				Universal DMA Controller, 16-Bit, 8 MHz				Clock Generator and Driver (4-phase for 9900)			
82C59A ♦ Harris (2740)				AM9516A-8 AMD				TIM9904 TI			
82C59A-Cell ♦ Harris				Video Interface Controller				Data Selector/Multiplexer (See also			
MSM82C59A OKI				82731 Intel				Digital-TTL-Multiplexers 74LS251)			
SMC82C59AC S-MOS				Octal Bus Transceiver, Inverting				SN54LS251 ♦† TI			
UC82C59A ° Unicorn				8287 AMD				SN74LS251 TI			
				MBL8287 Fujitsu (2635)				TIM9905 TI			
				MD82C87 † Harris							
				(Continued)							

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

♦ Available in Surface Mount Package

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Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
8/16 Bit				16 Bit				First In/First Out Buffer			
9900				2900				Z8060-FIFO			
(Cont'd)				Microprocessor Slice, 16-Bit				Z8060A-FIFO			
GPB Controller				CY7C9101				LH8060			
SMJ9914A				◇ Cypress (2590)				LH8060A			
TMS9914A				IDT49C401				Z8060-Z-FIFO			
† TI (3289)				IDT							
Modern, 300 Baud				IDT49C401A							
SC11002				IDT							
SC11003				IDT49C403							
Sierra				IDT							
Sierra				IDT49C403A							
Multi-Processor Interface				Error Detection and Correction							
TMS9650				IDT39C60A							
TI				◇ IDT (2831)							
Priority Encoder (See also Digital-TTL Miscellaneous, Priority Encoder, 74LS148)				Microprogram Sequencer, 16-Bit							
TIM9907				IDT49C410							
TI				◇ IDT							
Priority Encoder, 8-Line to 3-Line, Three State				IDT49C410A							
SN74LS348				◇ IDT							
TI				Quad 2901 with 64x16 Dual Port Memory Capacity							
TIM9908				IDT49C402							
TI				◇ IDT (2832)							
Priority Encoder, 8-Line to 3-Line, Three-State				IDT49C402A							
SN74LS148				◇ IDT (2832)							
TI											
Programmable Systems Interface				6500							
TMS9901				Microprocessor (software compatible with 8-bit 6500 series)							

♦ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
16 Bit (Cont'd)				68000				DMA Controller			
8096				Microprocessor				HD68450-10 ♦ Hitachi 85			
Microcomputer, 232x8 RAM, 10-Bit A/D, IO, 12 MHz 8096 Intel				HD68000 Hitachi				HD68450-4 ♦ Hitachi			
Microcomputer, 232x8 RAM, 10-Bit A/D, 8Kx8 ROM, I/O, 12 MHz 8396 Intel				HD68000-12 Hitachi				HD68450-6 ♦ Hitachi			
9440				HD68000-4 Hitachi				HD68450-8 ♦ Hitachi			
Microprocessor				HD68000-6 Hitachi				MC68450 Motorola (2925)			
F9440M † National				HD68000-8 Hitachi				SCB68430 ♦ Signetics 90			
F944516 † National				MC68000-10 Motorola (4859, 2924)				DMA Controller, Extended Address MC68442 Motorola (2925)			
F944518 † National				MC68000-12 Motorola (4859, 2924)				DMA Controller, Dual MC68440 Motorola (2925)			
F944520 † National				MC68000-8 Motorola (4859, 2924)				EF68440 SGS-Thomson			
F944524 † National				R68000 Rockwell				Dynamic RAM Controller Interface Circuit DP84322 National			
9450				EF68000 SGS-Thomson				Error Detection and Correction Circuit MC74F2960 Motorola (2947) 95			
Block Protect Unit				EF68000-10 SGS-Thomson				Ethernet, Local Area Network Controller			
F9452 ♦ † National				EF68000-12 SGS-Thomson				MK68540 SGS-Thomson			
Memory Management Unit				EF68000-16 SGS-Thomson				FIFO MK68345 SGS-Thomson			
F9451 ♦ † National				EF68000-8 SGS-Thomson				FIFO, 512x9 MK68345-12 SGS-Thomson			
16000				MKB68000 † SGS-Thomson				MK68345-15 SGS-Thomson			
Microprocessor				MK68000-10 SGS-Thomson				MK68345-20 SGS-Thomson 100			
F16032 National				MK68000-4 SGS-Thomson				Local Area Network Controller for Ethernet MK68590 SGS-Thomson			
Microprocessor, Enhanced 16-Bit MIL-STD-1750A (CMOS)				MK68000-6 SGS-Thomson				Memory Access Controller SCC68905 ♦ Signetics			
P1750AE-30XM ♦ † Performance				MK68000-8 SGS-Thomson				SCC68906 Signetics			
P1750AE-35XM ♦ † Performance				SCN68000 ♦ Signetics				Memory Management Controller (supports 68010, 68020) MC68641 Motorola			
P1750AE-40XM ♦ † Performance				Microprocessor 8-Bit (bus interface version of MC68000) MC68008 Motorola (4859, 2924)				Memory Management Unit MC68451 Motorola (2925) 105			
Microprocessor Hybrid System Module (P1750A MPU, P1753 MMU, and P1754 Processor Interface Circuit)				EF68008 SGS-Thomson				MK68451 SGS-Thomson			
P1757M-20M ♦ † Performance				Microprocessor 16-Bit (virtual machine version of MC68000) MC68010 Motorola (4859, 2924)				Multi-Function Peripheral MC68901 Motorola (2926)			
P1757M-30M ♦ † Performance				SCN68010 ♦ Signetics				EF68901 SGS-Thomson			
P1757M-40M ♦ † Performance				Address Decoder, 68000 Compatible USC68HC138 Universal				MK68901 SGS-Thomson			
Microprocessor, 16-Bit				Broadband Interface Controller (IEEE 802.4 Broadband Physical Layer) MC68184 Motorola (2925)				Multibus II Message Passing Coprocessor VL82C389 VLSI Tech (3377) 110			
HPC46030 † National				Bus Arbitration Module MC68452 Motorola (2926)				Parallel Interface/Timer MC68230-12 Motorola (2926)			
Microprocessor, 16-Bit MIL-STD-1750A (CMOS)				Bus Interrupter Module MC68153 Motorola (2926)				MC68230L10 Motorola			
P1750A-20XM ♦ † Performance				Bus Monitor MD68SC49B Mitel				MC68230L8 Motorola			
P1750A-30XM ♦ † Performance				Carrierband Modem (IEEE 802.4 Phase Coherent Physical Layer) MC68194 Motorola				EF68230-10 SGS-Thomson			
P1750A-40XM ♦ † Performance				Clock Generator and Controller VL85C81 VLSI Tech				EF68230-8 SGS-Thomson			
Microcontroller (external ROM)				CMOS 16/32-Bit Microprocessor SCC68070 ♦ Signetics				MK68230-8 SGS-Thomson			
HPC16003 † National				Communications, Asynchronous Communications Adapter Interface (ACIA) USC68HC551 Universal				Parallel Port Interface, To 25 MHz USC68HC221 Universal			
HPC26003 National				Communications, Multi-protocol Communications Controller MC2652 Motorola				Programmable Counter/Timer USC68HC331 Universal			
HPC36003 National				Communications, Programmable Communications Interface MC2661 Motorola (2926)				Protocol Controller (X.25) MC68605 Motorola (2926)			
HPC46003 National				Communications, Dual Asynchronous Communications Interface Adapter (DACIA) R68C552 Rockwell (3028)				SCSI Interface Controller CA53C80 *† Calmos 120			
Microcontroller with HDLC Controller				Communications, Dual Universal Serial Communications Controller SCN68562 ♦ Signetics (3114)				Serial Communications Controller CA85C30 Calmos			
HPC16400 National				Controller, Programmable Interrupt USC68HC908 Universal				Serial I/O EF68564 SGS-Thomson			
HPC36400 National				Disk, Intelligent Multiple Disk Controller SCN68454 Signetics (3116)				MK68564 SGS-Thomson			
HPC46400 National				Disk, Phase Locked Loop SCB68459 Signetics (3118)				Serial Interface Adapter (SIA) MK68592 SGS-Thomson			
Microcontroller (4K ROM, 256 bytes RAM)				Display Processor EF68483 SGS-Thomson				Token Bus Controller (IEEE 802.4 Media Access Control sublayer) MC68824 Motorola (2925) 125			
HPC16043 † National								Video Display Generator MC6847 Motorola (2932)			
HPC26043 National								VMEbus Controller (BUSCON) SCB68172 ♦ Signetics (3120)			
HPC36043 National								Dual UART MC68681 Motorola (2926)			
HPC46043 National								SCN68681C ♦ Signetics (3108)			
Microcontroller (8K ROM, 256 bytes RAM)											
HPC16083 † National											
HPC26083 National											
HPC36083 National											
HPC46083 National											
I/O Port Expander (for HPC microcontroller family)											
HPC16900 † National											
HPC26900 National											
HPC36900 National											
HPC46900 National											
MMU, BPU, I/O, and Fault Controller											
L64550 ♦ † LSI Logic (2887)											
Serial Network Interface											
DPB391 National											

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

° Macrocell

♦ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
16 Bit				32000							
(Cont'd)											
80286											
Microprocessor, 16-Bit	SAB80286	Siemens		SCSI Interface Controller	CA53C80	*† Calmos	35	Microprocessor, 8-Bit	TI32008	TI	
Asynchronous Communications Element	CA82C50A	Calmos		Serial Communications Controller	CA85C30	Calmos		Microprocessor, 16-Bit	TI32016	TI	65
Bus Arbiter (synchronizes 80286 with Multi-Master bus.)	82289	Intel		Serial Controller Interface	CA82C52	Calmos		Microprocessor, 32-Bit	TI32032	TI	
Bus Controller	CA82C88	*† Calmos		SBP9989				Microprocessor, 32-Bit, CMOS, with 16-Bit External Data Bus	NS32C016	National	
	UC82C288	* Unicorn		Microprocessor	SBP9989	† TI		Microprocessor, 32-Bit, CMOS, with 32-Bit External Data Bus	NS32C032	National	
	VL82C288	VLSI Tech	5	Interrupt Control Circuit	SBP9966	† TI		Microprocessor, 32-Bit, with Virtual M	NS32332	National	
Clock Driver and Ready Interface (for iAPX 286 processors)	82284	AMD		Programmable System Interface	SPB9901	† TI	40	Microprocessor, 32-Bit, with 32-Bit External Data Bus	NS32032	National	70
Clock Generator and Driver	CA82C84A	*† Calmos		TMS380					NS32132	National	
	VL82C284	VLSI Tech		Token-Ring LAN Communications Processor (Part of TMS380 Chip Set)	TMS38010	TI		Microprocessor, 32-Bit, with 8-Bit External Data Bus	NS32008	National	
Clock Generator and Ready Interface	82C284-10	Intel	10	Token-Ring LAN Protocol Handler (Part of TMS380 Chip Set)	TMS38020	TI		Arithmetic, Floating Point, Advanced	NS32310	National	
	82C284-12	Intel		Token-Ring LAN Ring Interface Controller (Part of TMS380 Chip Set)	TMS38052	TI		Arithmetic, Floating Point Processor	NS32081	National	
	82C284-6	Intel		Token-Ring LAN Ring Interface Transceiver (Part of TMS380 Chip Set)	TMS38051	TI		DMA Controller	NS32203	National	75
	82C284-8	Intel		Token-Ring LAN System Interface (Part of TMS380 Chip Set)	TMS38030	TI	15	Floating Point Unit	NS32081-10	National	
Clock Generator/Driver	UC82C284	* Unicorn		Transputer					NS32081-15	National	
DMA Controller	UC82C37A	* Unicorn		Microprocessor with External Memory Interface	IMST212	Inmos			NS32081-6	National	
DMA Coprocessor	SAB82257	Siemens			IMST222	Inmos (2782)			TI32081	TI	
	SAB82257-6	Siemens		Microprocessor, 10 or 20 Mb/s Serial Links, 2 Kbytes RAM	T212A	Inmos		Floating Point Unit (15 MHz)	NS32381-15	National	80
	SAB82258-1	Siemens		Disk Processor	IMSM212	Inmos (2785)		Floating Point Unit (16 or 32-bit slave protocol support)	NS32381	National	
IBM PC/AT Compatible Chip Set (replaces major logic functions of all microprocessor peripherals)	POACH/AT	ZyMOS		Link Adapter, 10 or 20 Mb/s	IMSC011	Inmos (2781)		Floating Point Unit (20 MHz)	NS32381-20	National	
IBM PC/AT Compatible Chip Set (replaces most address and data buffers on the AT motherboard)	POACH/ATB	ZyMOS	20		IMSC012	Inmos (2781)		Interrupt Control Unit	NS32202	National	
IBM PC/AT Compatible Chip Set (replaces the major logic functions of the AT motherboard)	POACH/ATF	ZyMOS		Z8000					TI32202	TI	
Matrix-Vector Multiplier Module (for 256-column matrices)	64K8-ICMM	Oxford (2998)		Bus Monitor	MD68SC49B	Mitel		Memory Management Unit	NS32082	National	85
Multibus II Message Passing Coprocessor for 80186/80286/80386 and 6800	VL82C389	VLSI Tech (3377)		Clock Generator and Controller	VL86C81	VLSI Tech			NS32382	National	
PC/AT Address Buffer (part of IBM PC/AT chipset)	VL82C103	VLSI Tech		Counter/Timer, Parallel I/O	Z8536-CIO	◊ Zilog			NS32382-10	National	
PC/AT Data Buffer (part of IBM PC/AT chipset)	VL82C104	VLSI Tech	25	DMA Transfer Controller	Z8516-DTC	Zilog			NS32382-15	National	
PC/AT Memory Controller (part of IBM PC/AT chipset)	VL82C102	VLSI Tech		FIFO Buffer Unit (128x8)	Z8060	Zilog		Serial Communications Controller	CA85C30	Calmos	90
PC/AT Peripheral Controller (part of IBM PC/AT chipset)	VL82C100	VLSI Tech		General Logic Unit (Interfaces the Z80 to a system environment)	Z80C20-Z-GLU	Zilog		Timing Control Unit	NS32C201	National	
PC/AT System Controller (part of IBM PC/AT chipset)	VL82C101	VLSI Tech		Output Interface Unit (with 128 byte FIFO Unit)	Z8038	◊ Zilog			NS32201	National	
Priority Interrupt Controller	UC82C59A	* Unicorn		SCSI Interface Chip	Z5380-SCSI	Zilog			NS32301	National	
Programmable DMA Controller	CA82C37A	*† Calmos	30	Serial Communications Controller	Z80C30Z-SCC	Zilog	60		TI32201	TI	
Programmable Interrupt Controller	CA82C59A	*† Calmos		Serial Controller Multi-Protocol	Z8530-SCC	◊ Zilog		32 Bit			
Programmable Interval Timer	CA82C54	*† Calmos		16/32 Bit				Microprocessor	WE32200	AT&T	95
Programmable Peripheral Interface	CA82C55A	*† Calmos		16000				DMA Controller	WE32204	AT&T (2538)	
Real-Time Clock/Calendar	CA01C50	*† Calmos		Microprocessor, 32-Bit	F32032	National		Math Acceleration Unit	WE32206	AT&T	
				LAN Coax Receiver Interface	DP8392	National		Memory Management Unit	WE32201	AT&T	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
32 Bit (Cont'd)				Math Acceleration Unit (32, 64, and 80-bit precision)	Z32106-MAU	Zilog		Data/Buffer Controller	82C325	Chips&Tech	
32000				Memory Management Unit (4 GB)	Z32101-MMU	Zilog		Data Buffer (two included in CS8232-16)	82C305	Chips&Tech	70
Microprocessor	NS32016	National		80286				DMA Controller	82258	Intel	
Microprocessor (full 32-bit architecture)	NS32532-20	National		Address/Data Buffer	82C225	Chips&Tech		8237	Intel		
NS32532-30	National			Advanced Memory Controller	82C222	Chips&Tech		UC82C37A	Unicorn		
Microprocessor, 32-Bit (on chip MMU, instruction and data caches)	NS32532	National		CPU Controller	82C211	Chips&Tech		Enhanced Graphics Controller	82C435	Chips&Tech	
Microprocessor, 32-Bit RISC (CMOS)	PR3000-16XC	Performance	5	82C221	Chips&Tech			Floating Point Processor	80287	Intel	75
PR3000-16XM	Performance			CS8220 with Integrated Peripheral Controller	CS8226	Chips&Tech	40	80387	Intel		
PR3000-20XC	Performance			Data Address Buffer	82C215	Chips&Tech		80387	Weitek		
PR3000-20XM	Performance			Data Bus Buffer and Parity Generator, for PC/AT	82A205	Chips&Tech		Graphics Processor	82786	Intel	
PR3000-25XC	Performance			DMA Controller	82C223	Chips&Tech		High Address Buffer	82C303	Chips&Tech	
PR3000-25XM	Performance			EMS Mapper Chip	82C631	Chips&Tech		IBM PC/AT Compatible Chip (companion part for upgrading to 32-bit 80386 microprocessor)	POACH/AT386	ZyMOS	80
Asynchronous Communications Element with FIFOs	NS16550	National		High Address Bus Buffer and Port, for PC/AT	82A203	Chips&Tech		IBM PS/2 Model 70/80 Compatible Chipset	CHIPS/280	Chips&Tech	
Floating Point Unit	NS32381-15	National		IBM PS/2 Model 50/60 Compatible Chipset	CHIPS/250	Chips&Tech		LAN Processor	82586	Intel	
NS32381-20	National			Low Address Bus Buffer and Refresh Counter, for PC/AT	82A204	Chips&Tech		82588	Intel		
Microprocessor (full 32-bit architecture)	NS32532-25	National		Memory Interleave Controller	82C212	Chips&Tech		LCD/CRT Controller	82C425	Chips&Tech	
Universal Asynchronous Receiver/Transmitter (with FIFOs)	NS16550A	National	15	Micro-Channel Controller I	82C611	Chips&Tech		Low Address Buffer	82C304	Chips&Tech	85
32100				Micro-Channel Controller II	82C612	Chips&Tech		Matrix-Vector Multiplier Module (for 4-column matrices)	1MB32-IGMM	Oxford (2998)	
Microprocessor	WE32100	AT&T		Multifunction Controller	82C607	Chips&Tech	50	Micro-Channel/80386 CPU Controller	82C321	Chips&Tech	
Clock	WE32102	AT&T		PC/AT Compatible Chipset	CS8220	Chips&Tech		Multifunction Controller	82C607	Chips&Tech	
CPU and MMU Device Monitor (signal observation of target systems)	WE321DM	AT&T		RAM/ROM Decode, I/O Control, for PC/AT	82C202A	Chips&Tech		Prior Interrupt Controller	UC82C59A	Unicorn	
WE322DM	AT&T			Super VGA Controller	82C451	Chips&Tech		Programmable Interrupt Controller	8259	Intel	90
DMA Controller	WE32104	AT&T (2538)	20	System Control Chip, for PC/AT	82C201	Chips&Tech		Super VGA Chip	82C452	Chips&Tech	
DRAM Controller	WE32103	AT&T (2537)		System Peripheral Chip	82C226	Chips&Tech	55	Super VGA Controller	82C451	Chips&Tech	
Math Acceleration Unit	WE32106	AT&T		80386				System Peripheral Chip	82C226	Chips&Tech	
Memory Management Unit	WE32101	AT&T		Microprocessor	80386-16	Intel		VGA Bus Interface	82C442	Chips&Tech	95
68000				80386-20	Intel			VGA Chipset	CS8245	Chips&Tech	
Microprocessor, 16/32-Bit	TS68000	SGS-Thomson		8086-20	Intel			Transputer			
Microprocessor, 32-Bit. See 16-Bit series for additional system components.	MC68020	Motorola (4859, 2924)	25	Advanced DMA Controller	82C223	Chips&Tech	60	Processor, Memory, Communications.	IMST425	Inmos (2783)	
32C032	National			Advanced Page/Interleaved Memory Controller	82C322	Chips&Tech		Peripheral Controllers			
Floating-Point Co-processor	MC68881	Motorola		AT/386 Chipset	CS8230	Chips&Tech		Microprocessor Bus Controller	CAB2C88	Calmos	
Paged Memory Management Unit	MC68851	Motorola (2925)		Cache Controller (included with CS831)	82C307	Chips&Tech	65	Microcontroller, Mask Programmable ROM	SAB8052A	Siemens	
80000				Cache/DRAM Controller (32-bit)	82C327	Chips&Tech		Microcontroller, Mask Programmable ROM (8Kx8)	SAB80515	Siemens	
Microprocessor	Z80000-CPU	Zilog		Clock Generator	82384	Intel		Microcontroller, RAM and I/O Facilities	SAB80535	Siemens	100
Microprocessor, 32-Bit	Z80320	Zilog	30	Control Signal Buffer	82C306	Chips&Tech		Address Buffer (for PC/AT computers)	FE3020	Faraday	
Clock (2 frequencies: 10/14 MHz)	Z32102-Clock	Zilog						Address Bus Buffer Controller	82B305	Chips&Tech	
Direct Memory Access Controller	Z32104-DMA	Zilog						Analog Data Separator Support Circuit (ADSSC)	HDC9223	SMC	
Dynamic RAM Controller	Z32103-DRAM	Zilog									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

° Macrocell

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Peripheral Controllers (Cont'd)				Communication Micro-Channel Interface Chip				CRT Controller			
				82C575 ♦ Chips&Tech				(Cont'd)			
Arithmetic Processor, Floating Point				Communications, Advanced Multi-Protocol Serial Controller (HDLC/SDLC, bisynchronous/asynchronous with four baud rate generators)				68C45 *† SMC			
MSM6992 OKI				μPD72001 NEC				† TI (3287)			
Asynchronous Communications Controller				Communications Circuit Multi-Protocol (includes SDLC, BiSync)				TMS34061 ♦ TI			
NS16450 National				SCN2652A ♦ Signetics				TC8505AF Toshiba (3339)			
SCN2641 ♦ Signetics				Communications, Enhanced Programmable Communications Interface (EPCI)				TC8505AP Toshiba (3339)			
Asynchronous Communications Element				MC2661A Motorola				UC6845 Unicorn			
82C50 *† SMC				MC2661B Motorola				UC6845E Unicorn			
Asynchronous Communications Interface Adapter (ACIA)				MC2661C Motorola				UC6845R Unicorn			
S65C51 Gould/AMI				MC68661A Motorola (2926)				UM9007 UMC			
UC6551 Unicorn				MC68661B Motorola (2926)				VL68C45R VLSI Tech (3363)			
Asynchronous Receiver and Transmitter, Dual (DUART)				MC68661C Motorola (2926)				VL68C45S VLSI Tech (3363)			
LD1102 ♦ Silicon Logic				COM2661 SMC				WD8276 Western			
Asynchronous Serial Communication Controller				VL2661 VLSI Tech				CRT Controller, Video Engine for Windows (127 independent Windows per screen)			
Z8531 ♦‡ SGS-Thomson				Communications Interface, Programmable				CRT97C11 SMC			
Z8531A ♦‡ SGS-Thomson				26C61 *† SMC				CRT Controller- Enhanced VGA Compatible Graphics Chip Set (Graphics/Attributes Chip)			
Asynchronous Serial Communications Controller				Communications, Local Area Network (OmniNet)				CLGD510 Cirrus			
Z8531 AMD				μPD72105 NEC				CLGD520 Cirrus			
SCC *† SMC				Communications, Multi-Protocol Serial Controller (HDLC/SDLC, bisynchronous/asynchronous)				CRT Cursor Controller			
Bargraph and Numeric Display Controller (vacuum fluorescent or LED)				μPD7201A NEC				BT431 Brooktree			
10951 Rockwell (3029)				SAB7201A Siemens				CRT Data Row Buffer			
Baud Rate Generator				Communications, TWINAX Controller				CRT9006-135 SMC			
AY-5-8126T Microchip				52C50 *† SMC				CRT9006-83 SMC			
AY-5-8146 Microchip				Controller, Digital Exchange (Multi-Protocol)				CRT, Display Refresh Controller			
AY-5-8146T Microchip				29C53 Matra-Harris				AM8150C AMD			
AY5-8126 Microchip				Controller, FDC (floppy disk controller)				CRT, Display/Terminal Management Processor			
BITBLT Processing Unit (BIT boundary Block Transfer)				TC8565AF Toshiba (3339)				NS406 National			
DP8511 National				TC8565AP Toshiba (3339)				CRT, Double Row Buffer (RAM-based buffer that appears to the system as two octal shift registers of dynamically variable length)			
Bus Arbiter for SAB80286 Processor Family				Controller (for 4-bit microcontroller)				CRT9212 SMC			
SAB82289 Siemens				BM1020 Toshiba				CRT9212H STC			
Bus Arbitration Module				Controller, Hard Disk (ST406/512 format)				CRT, Graphic Display Processor			
MC68452 Motorola (2926)				TMP280C47P Toshiba (3339)				EF9365 SGS-Thomson			
Bus Compatible Digital PWM for Direct Control of a Power H-Bridge (provision for dead time, output protection)				UM83C001 UMC				EF9366 SGS-Thomson			
IXPD610 IXYS				Controller, IBM System/3X Interface Controller				EF9367 SGS-Thomson			
Bus Compatible Incremental Shaft Encoder Interface with Quadrature Detection				COM52C50 ♦ SMC				CRT, Graphics Color Palette (video DAC and 256x8 color map)			
IXSE501 IXYS				Controller Programmable				AM8151C AMD			
Bus Controller (for PC/AT computer)				AM9519A AMD				CRT Graphics Controller			
FE3000A Faraday				CY750 Cybernetic				μPD7220A NEC			
Bus Controller for SAB80286 Processors				Controller, RAM Buffer				μPD7220A-1 NEC			
SAB82288 Siemens				UM83C002 UMC				μPD7220A-2 NEC			
Bus Extender/Repeater				Controller, Single Floppy Disk				CRT, Graphics Display Controller			
NBX41 Signetics				UM8398 UMC				82720 Intel			
Bus Interface Controller, Programmable				Counter/Timer, Parallel I/O				μPD7220A NEC			
5CBIC Intel				Z8536 ♦‡ SGS-Thomson				CRT7220A SMC			
Cable Driver/Receiver, SCSI Interface for MC68HC99				Z8536A ♦‡ SGS-Thomson				CRT7220A-1 SMC			
MC6898 Motorola				Z8536-CIO Zilog				CRT7220A-2 SMC			
Centronics Printer Interface, Bidirectional				CRT, Advanced Graphics Display Controller				CRT, Monochrome Attributes Controller, IBM-PC Compatible			
LD805 ♦ Silicon Logic				μPD72120 ♦ NEC				FE2200 Faraday			
CHIPSLink Protocol Controller				CRT, Advanced Video Display Controller				CRT Processor			
82C570 Chips&Tech				MC2674 Motorola				EF9364 SGS-Thomson			
Clock Generator and Driver				SCN2674 ♦ Signetics (3100)				CRT, Programmable CRT Controller			
CA82C84A *† Calmos				CRT, Bus Interface for EGA Controllers				8275 Intel			
Clock Timer Chip (4 MHz)				82A436 Chips&Tech				WD8275 Western			
MK3801-4 SGS-Thomson				CRT, Color Lookup Table (RGB video DAC and 16x12 RAM)				CRT, Programmable Video Timing Controller			
Color Graphics and Monochrome Adapter Host Interface Chip				BT452 Brooktree				SCN2672A ♦ Signetics			
NCR72C81 ♦ NCR				CRT, Color/Monochrome Attributes Controller				CRT, Raster Operations Device			
Color/Monochrome Attributes Controller				MC2675 Motorola				VL16160 VLSI Tech (3363)			
SCB2675 ♦ Signetics (3102)				SCB2675 ♦ Signetics (3102)				CRT (RGB video DAC)			
Communication Interface Programmable				CRT, Color Video Display Generator, Videotext and Teletext. See also Telecommunications Circuits.				RGBDAC8E Adv Analog			
AY2661A Microchip				R6549 Rockwell (3028)				VDAC444 Adv Analog			
AY2661B Microchip				CRT Controller				BT101 Brooktree			
AY2661C Microchip				S6845E Gould/AMI				BT101KC30 Brooktree			
SCN2661A ♦ Signetics				HD63484 ♦ Hitachi				BT102 Brooktree			
SCN2661B ♦ Signetics				8276 Intel				BT103 Brooktree			
SCN2661C ♦ Signetics				MC6845 ♦ Motorola (2932)				BT103KC30 Brooktree			
				NCR7250 ♦ NCR				BT106KC30 Brooktree			
				R6545 Rockwell (3028)				BT109 Brooktree			
				(Continued)				HDAC34010 Honeywell SPT (Continued)			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

♦ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Peripheral Controllers (Cont'd)				CRT, Video Controller, composite output (Cont'd)				Direct Memory Access Controller (Cont'd)			
CRT (RGB video DAC) (Cont'd)				8566	Commodore		40	NS32203-8	National		
HDAC34020	Honeywell SPT			8569	Commodore	(2579)		μPD71071	NEC		
SCD6038	STC							SAB82C37A-5	Siemens		
CRT (RGB video DAC and 16x12 RAM)								SAB82C37A-8	Siemens		
BT450	Brooktree			CRT Video Controller, digital RGB output							
BT454	Brooktree			8563	Commodore	(2579)		MC68440	Motorola (2925)		85
CRT (RGB video DAC and 256x2 RAM)				8568	Commodore	(2579)		EF68440	SGS-Thomson		
BT451	Brooktree		5								
CRT (RGB video DAC and 256x24 RAM)				CRT, Video Data Serializer				Direct Memory Access Controller (programmable)			
BT453	Brooktree			AM8177	AMD			8237	Intel		
BT458	Brooktree							8257	Intel		
CRT Terminal Controller				CRT, Video Display Generator, Reads Data from Memory to Produce Composite Video Signal, Internal Display Memory Mux	MC6847	Motorola (2932)	45	μPD71055	NEC		90
NS455	National							SAB8237A	Siemens		
CRT Text Coprocessor				CRT, Video Display Processor				SAB8237A-5	Siemens		
82730	Intel			TMS9118	TI						
CRT, TV-CRT Processor; Performs Text Refresh, Character Writing and Cursor Management on TV Screen; 1.6 MHz Clock Rate (typ.)				TMS9128	TI						
SFF96364	SGS-Thomson		10	TMS9129	TI						
CRT, TV-CRT Processor; 96364 with External Sync				CRT Video Display-Controller Video Generator				Direct Memory Access Controller 10 MHz			
SFF96366	SGS-Thomson			CRT8002	SMC			NS33203-10	National		
CRT, VGA Bus Interface Controller				CRT, Video Interface Controller				Direct Memory Access (DMA) Controller, CMOS			
82C442	Chips&Tech			82731	Intel		50	P1755-XM	Performance		
CRT, VGA Single-Chip Controller				CRT, Video Palette (color lookup table and video DAC)							
82C441	Chips&Tech			TMS34070	TI			Disk Drive VFO			
CRT, Video Attributes Controller				CRT, Video Processor and Controller				HA16632A	Hitachi		
MC2673	Motorola			CRT9007A	SMC						
SAB8275	Siemens		15	CRT9007A1	SMC			Disk, Hard Disk Controller			
SAB8276	Siemens			CRT9007A2	SMC			HD63463	Hitachi		95
SCB2673A	Signetics			CRT9007A	STC			μPD7261A	NEC		
SCB2673B	Signetics			CRT9007B	STC						
SCB2677A	Signetics			CRT9007C	STC			Display Character and Graphics Generator			
SCB2677B	Signetics							MC2670	Motorola		
CRT9041A	SMC		20					Display Controller, 4-Character Alphanumeric			
CRT9041B	SMC			CRT, Video Shift Register				MM74C956	National		
CRT9041C	SMC			AM8157	AMD						
UM8321	UMC			CRT, Video System Controller				Display Controller, 14 to 18 Segment Vacuum Fluorescent Displays (16 characters)			
CRT Video Attributes Controller (graphic logic, attributes logic, data and attributes latches, cursor control and shift register)			25	TMS34061	TI			10937	Rockwell (3029)		100
CRT Video Attributes Controller/Video Generator (video shift register, horizontal and vertical retrace blanking, graphics generation, attributes buffer)								10957	Rockwell (3029)		
CRT8021	SMC			CRT, Video System Controller (See 8052 CRT Controller)							
CRT8021-003	SMC			AM8152AC	AMD		60	Display/Terminal Management Processor			
CRT, Video Controller, composite output				AM8152AM	AMD			NS32405	National		
6560	Commodore							NS405	National		
6561	Commodore			CRT, Video Terminal Logic Controller				DMA, Advanced Coprocessor for 16-Bit Microcomputer Systems			
6567	Commodore			CRT9028	SMC			SAB82258	Siemens		
6569	Commodore			CRT9053	SMC			DMA Controller, Programmable			
6572	Commodore			CRT9128	SMC			M5M82C37A	Mitsubishi		
6573	Commodore			CRT9153	SMC						
8360	Commodore			CRT Video Timer-Controller				Dot Matrix Display Controller (vacuum fluorescent or LED)			105
8365	Commodore			CRT5027	SMC			10938	Rockwell (3029)		
8366	Commodore			CRT Video Timer-Controller, Line Lock Feature				10939	Rockwell (3029)		
8562	Commodore			CRT5057	SMC			10941	Rockwell (3029)		
8564	Commodore			CRT Video Timer-Controller, Preprogrammed				10942	Rockwell (3029)		
8565	Commodore			CRT5047	SMC			10943	Rockwell (3029)		
				CRT Video Timer-Controller, ROM Programmed							
				CRT5037	SMC			Dot Matrix LCD Controller/Driver, Intelligent			110
				CRT, Video Timing Controller				μPD7227	NEC		
				AM8158C	AMD			μPD7228	NEC		
				CRT, Video Timing Controller, Programmable				Driver/Receiver for Disk Head Amplifier			
				MC2672	Motorola			MB4316	Fujitsu		
				CRT, Quad Row Buffer (part of CRT9007 family)				DUART (with bidirectional printer port)			
				CRT94C12	SMC			LD1108	Silicon Logic		
				CRT, 3 Gun Color Palette				Dynamic Memory Controller (for 256K DRAMs)			
				AM8159	AMD			AM2968A	AMD		
				Data Bit Processor				Dynamic Memory Controller, 1 Megabit			115
				CT1555	CTI			AM29368	AMD		
				CT1608	CTI			Emulator (for TLCS47 series)			
				Data Buffer (for PC/AT computer)				BM47212	Toshiba		
				FE3030	Faraday			BM47213	Toshiba		
				Data Bus Buffer Controller				BM47214	Toshiba		
				82A303	Chips&Tech			BM47215	Toshiba		
				82A304	Chips&Tech			BM47216	Toshiba		
				Direct Memory Access Controller				BM47218	Toshiba		120
				AM9517A-4	AMD			BM47219	Toshiba		
				NS32203-6	National						
								Emulator (for TLCS470 series)			
								BM47C800	Toshiba		
								BM47C820	Toshiba		
								BM47C860	Toshiba		
								BM47C870	Toshiba		125
								BM47C884	Toshiba		
								Enhanced Programmable Communications Interface (EPCI)			
								IM26C61	GE/Intersil		
								IM26C62	GE/Intersil		

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*Typical Value

*Macrocell

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Peripheral Controllers (Cont'd)											
Enhanced Programmable Communications Interface (EPCI)				Floppy Disk Controller/Formatter (IBM 3740 and System 34)				Floppy Disk Data Separator			
SCN68661B ♦ Signetics				FDC9791 SMC				MB4107 Fujitsu (2633)			
SCN68661C ♦ Signetics				FDC9793 SMC				μPD71065 NEC			
Enhanced Sound Generator				FDC9795 SMC				μPD71066 NEC			
AY8930 Microchip (2897)				FDC9797 SMC				SED9420CAC S-MOS			
Error Detection and Correction Circuit (CMOS cascable 32-bit)				Floppy Disk Controller/Formatter (single and double density)				SED9420D S-MOS			
AM29C660 AMD				SAB2793B Siemens				FDC9216 SMC			
Error Detector and Correction Unit				SAB2797B Siemens				FDC9216B SMC			
54HST630 ♦ Marconi				FDC1791 SMC				UM8326 UMC			
ESDI Disk Controller				FDC1791-02 SMC				UM8326B UMC			
MSD7262 SMC				FDC1792 SMC				WD9216-01 Western			
ESDI Winchester Disk Controller				FDC1793 SMC				Floppy Disk Data Separator and Clock Generator			
WD5020-10 Western				FDC1793-02 ♦ SMC				FDC92C38 SMC			
Ethernet Data Link Controller				FDC1794 SMC				Floppy Disk Data Separator (for 3.5, 5.25 and 8-inch drives)			
AM7990 AMD				FDC1795 SMC				FDC91C36 SMC			
MB87012 Fujitsu				FDC1795-02 SMC				FDC92C36 SMC			
MB8795B Fujitsu (2634)				FDC1797 SMC				Floppy Disk Digital Data Separator			
8003 SEEQ				FDC1797-02 ♦ SMC				V3829 VDA			
8005 SEEQ				VL1772-02 VLSI Tech				Floppy Disk Digital Data Separator, Enhanced			
Ethernet, Local Area Network Controller				FD1791-02 ♦ Western				WD92C32 Western			
MK68590 SGS-Thomson				FD1793-02 Western				Floppy Disk Interface Circuit			
COM82C501 SMC				FD1795-02 Western				μPB9201 NEC			
COM82C502 SMC				FD1797-02 Western				FDC9229 ♦ SMC			
COM82586 SMC				WD1772 Western				FDC9229B ♦ SMC			
Ethernet Manchester Code Converter				WD1773 Western				UM8329 UMC			
8020 SEEQ				WD2791-02 Western				UM8329B UMC			
8023A ♦ SEEQ				Floppy Disk Controller, Head Driver				Floppy Disk Interface Circuit (for 3.5, 5.25 and 8-inch drives)			
Ethernet Serial Interface Adapter				XR3448 Exar				FDC92C39 SMC			
MK68591 SGS-Thomson				MC3469 Motorola (2979)				Floppy Disk Logic Circuit and Stepper Motor Driver			
FDMC (Floppy Disk Mechanism Control, 3.5")				MC3471 ♦ Motorola (2979)				CS279 Cherry Semi			
TC8601F Toshiba (3339)				Floppy Disk Controller, IBM-PC Compatible				Floppy Disk Mechanism Control (5 1/4 ")			
TC8602F Toshiba (3339)				FE2100 Faraday				TC8600F Toshiba (3339)			
FDMC (Floppy Disk Mechanism Control, 5- 1/4")				Floppy Disk Controller/Interface (single and double density)				Floppy Disk Read Amplifier			
TC8680F Toshiba				FDC9266 ♦ SMC				HA16631 Hitachi			
Field Programmable Controller, CMOS				Floppy Disk Controller, Programmable				Floppy Disk Read Amplifier System			
AM29CPL141 AMD				8271 Intel				CS3470A Cherry Semi			
Floating Point Controller (FPC)				Floppy Disk Controller/Transmitter (IBM 3740 compatible)				Floppy Disk Read/Write Amplifier			
L64802 LSI Logic (2884)				MB8866 Fujitsu				HA16642 Hitachi			
Floppy Disc Controller/Formatter (single and double density)				μPD765A NEC				Floppy Disk Read/Write Circuit, 2-Channel			
MB89311 Fujitsu (2633)				Floppy Disk Controller/Transmitter, Single Chip				CS570 Cherry Semi			
WD1770 Western				TMS2791 TI				Floppy Disk Subsystem Chip			
Floppy Disc Controller/Transmitter (IBM 3740 compatible)				TMS2793 TI				WD37C65 Western			
MB8876A Fujitsu (2633)				TMS2795 TI				Floppy Disk Support Device			
MB8877A Fujitsu (2633)				TMS2797 TI				WD16C92A Western			
Floppy Disk Controller				VL2793 VLSI Tech (3363)				Floppy Disk Write Amplifier			
5710 Commodore				VL2797 VLSI Tech (3363)				XR3471 Exar			
HA16643 Hitachi				WD2791 Western				Floppy Disk Write and Mechanism Controller			
Floppy Disk Controller				WD2793-02 Western				HA16640NT Hitachi			
82072 Intel				WD2795-02 Western				Floppy Disk Write Control			
Floppy Disk Controller				WD2797-02 Western				CS3471 Cherry Semi			
FDC72C65 SMC				Floppy Disk Controller (with VFO)				Floppy Disk Write Control/Head Driver			
FDC72C66 SMC				TC8566AF Toshiba (3339)				CS283 Cherry Semi			
FDC765A-2 SMC				Floppy Disk Controller, Single/Double Density				Floppy/Hard Disk Controller			
FDC92C81 SMC				8272A ♦ Intel				μPD7260 NEC			
Z765A-FDC Zilog				μPD72065 ♦ NEC				Floppy/Hard Disk Data Controller			
Floppy Disk Controller, Data Separator				μPD765A NEC				DP8475 National			
FDC9268 ♦ SMC				R6765 Rockwell				Floppy Support Logic			
Floppy Disk Controller (for PC/XT, AT and PS/2)				FDC765A SMC				WD1691 Western			
DP8473 National				UC8272A Unicorn				Function Generator, Peripheral Controller			
Floppy Disk Controller for Sony format				UM8272A UMC				CY360 Cybernetic			
μPD7265 NEC				VL6765 VLSI Tech				GPIB Controller			
R6265 Rockwell				Z765A Zilog				8292 Intel			
Floppy Disk Controller/Formatter				Floppy Disk Controller, Single- or Double Density				WD9914 Western			
DP8472 National				μPD765A-2 NEC				GPIB, General Purpose Interface Adapter (IEEE 488 bus)			
DP8474 National				μPD765B NEC				96LS488DC National			
				Floppy Disk Controller, Single- or Double-Density				96LS488DM † National			
				μPD72065B ♦ NEC				HEF4738 Signetics			
				Floppy Disk Controller, Single- or Double-Density (IBM and ECMA formats)				GPIB Interface Controller, Intelligent			
				μPD72067 ♦ NEC				COM7210 SMC			
				Floppy Disk Controller, Two-Sided				GPIB Talker/Listener/Control			
				μPD765A NEC				F681488 National			

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Peripheral Controllers (Cont'd)				IEEE 802.3 Ethernet Controller	8001	SEEQ	40	Manchester Encoder/Decoder.	JMEDM-2200	† Technitrol	80
									JMEDM-2250	† Technitrol	
									JMEDM-2500	† Technitrol	
GPB Talker/Listener Interface	8291A	Intel		IEEE 802.3 StarLAN Hub Controller	MK5030	SGS-Thomson		Manchester Encoder/Decoder	JMEDM-5186	† Technitrol	
GPB Transceiver	8293	Intel							JMEDM-5200	† Technitrol	
Graphic Display Processor	EF9345	SGS-Thomson		IEEE 802.3 StarLAN Manchester Encoder/Decoder	MK5035	SGS-Thomson			JMEDM-5230	† Technitrol	85
Graphics Display Controller	Z7220A	Zilog							JMEDM-5300	† Technitrol	
	Z7220A-GDC	Zilog		Integrated Controller with on-chip DMA, Interrupt, Timer/Counter, Real-Time Clock	82C206	Chips&Tech			JMEDM-5400	† Technitrol	
Hard Disk Buffer Controller	SSI32C453	SiliconSys (3254)	5						JMEDM-5500	† Technitrol	
Hard Disk Controller	MC68HC99	Motorola (2928)		Intelligent Slave Physical Interface Controller (ISPIC)	S61393	Gould/AMI			MEDM2010	Technitrol	
	HDC9234	SMC							MEDM2020	Technitrol	90
Hard Disk Controller for PC/XT/AT Computers	CL-SH260	◊ Cirrus		Interpolation, Pulse Generator	KM3701	Toko	45		MEDM2050	Technitrol	
Hard Disk Controller, Head Driver	XR117	Exar (2620)	10						MEDM2100	Technitrol	
Hard Disk Controller (ST506/ESMD format)	μPD72061	NEC		Interrupt Controller Programmable	8259A-2	Intel			MEDM2120	Technitrol	
	μPD7261B	NEC			8259A-5	Intel			MEDM2150	Technitrol	
Hard Disk Controller supports ST506/412 and IBM double-density formats)	AM9580A	AMD							MEDM2200	Technitrol	95
	AM9590	AMD		Interval Timer, Programmable, High Performance	μPD71054	◊ NEC		Manchester Encoder/Decoder.	MEDM2250	Technitrol	
Hard Disk Data Separator	DP8460	National	15						MEDM2500	Technitrol	
	DP8461	National		Keyboard and Communications Controller	MC2671	Motorola		Manchester Encoder/Decoder	MEDM5186	Technitrol	
	HDC92C26	SMC		Programmable					MEDM5200	Technitrol	
Hard Disk Data Synchronizer	DP8451	National							MEDM5230	Technitrol	100
Hard Disk Interface Circuit	μPD9306	NEC		Keyboard/Display Interface	8279	Intel	50		MEDM5300	Technitrol	
Hard Disk Pulse Detector	XR541	Exar (2620)	20						MEDM5400	Technitrol	
	XR8464B	Exar (2620)		Keyboard Interface Controller	KyBRD	*† SMC			MEDM5500	Technitrol	
	ML8464X	MicroLinear							USCL3000	Universal	
	DP8464	National		LCD Alphanumeric Controller/Driver. See also Interface-Display Drivers	μPD7225	◊ NEC		Manchester Encoder/Decoder, Remote Control	MC145030	Motorola (2992)	105
Hard Disk Read/Write Controller with Internal Damping Resistor (6 channel)	XR501R-6	Exar (2620)	25								
	XR501R-8	Exar (2620)		LCD/CRTC Controller (640x400 dot matrix)	T7779	Toshiba (3339)		MAP Broadband Interface Controller (IEEE 802.4 Broadband Physical Layer)	MC68184	Motorola (2925)	
	XR510R	Exar									
Hard Disk Read/Write Controller (4 channel)	XR510	Exar		LCD Display Timing Controller	HD63645F	Hitachi		MAP Carrierband Modem (IEEE 802.4 Phase Coherent Physical Layer)	MC68194	Motorola	
Hard Disk Read/Write Controller (6 channel)	XR501-6	Exar (2620)									
	XR501-8	Exar (2620)		LCD Windows Controller (128x240)	CY325	Cybernetic	55	MAP Token Bus Controller (IEEE 802.4 Media Access Control sublayer)	MC68824	Motorola (2925)	
Hard Disk Read/Write Controller (8 channel)	XR501-8	Exar (2620)									
Hard Disk Read/Write Interface with Internal Damping Resistors (2 heads)	XR117R-2C	Exar (2620)	30	Local Area Network Coax Receiver Interface	DP8392	National		Memory Interleaving Controller	82C302	Chips&Tech	
	XR117R-4C	Exar (2620)									
	XR117R-6C	Exar (2620)		Local Area Network Communications, Ethernet Serial Interface	82501	Intel					
Hard Disk Read/Write Interface (2 heads)	XR117-2C	Exar (2620)			82586	Intel					
Hard Disk Read/Write Interface (4 heads)	XR117-4C	Exar (2620)		Local Area Network Controller	R68802	Rockwell	60	Micro Channel Memory Controller	EL2010	EdsunLabs	110
Hard Disk Read/Write Interface (6 heads)	XR117-6C	Exar (2620)			COM90C26	SMC					
Hard/Floppy Disk Controller	HDC7260	SMC			COM9026	SMC		Micro-Channel Interface Chip	82C574	◊ Chips&Tech	
	Z7260-H/FDC	Zilog		Local Area Network Controller/Transceiver	COM90C62	SMC					
HDLC Protocol Controller	MT8952B	◊ Mitel						Microfloppy Disk Controller for Sony Format	FDC7265	SMC	
I/O Controller (IOC)	VL86C410	VLSI Tech		Local Area Network Token Access Controller	WD2840A	Western		Microprogram Controller	AM2910A	AMD	
				Local Area Network Transceiver	COM90C32	SMC	65	Microprogram Controller (20 MHz)	AM29C10A	AMD	
					COM9032	SMC					
					COM91C32	SMC		Microprogram Controller (25 MHz)	AM29C10A-1	AMD	115
					HYC9058	SMC		MIL-STD-1553 MacAir/Grumman Bus Controller and Remote Terminal	UT1553BCRTMP	◊ ‡ UPMC (4305)	
					HYC9068	SMC					
				Local Area Network Transceiver, Enhanced (converts data to NRZ or Manchester format)	COM92C32	SMC		MIL-STD-1553A/B Remote Terminal Controller—Multiprotocol	UT1553RTMP	◊ ‡ UPMC (4305)	
				Local Area Network Transceiver, High-Impedance (5 Mbit/s data rate)	HYC9078	SMC	70	MIL-STD-1553B Bus Controller—Remote Terminal Controller	UT1553BBCRTM	◊ ‡ UPMC (4305)	
									UT1553BBCRTM	◊ ‡ UPMC (4305)	
				Manchester Encoder/Decoder	MB502A	Fujitsu (2634)		MIL-STD-1553B Remote Terminal Controller	MA805	Marconi	120
					HS15530RH	‡ Harris (2732)			COM1553B	◊ SMC	
					MA15530	Marconi		MIL-STD-1553B Remote Terminal Interface Controller	UT1553BRTI	◊ ‡ UPMC (4305)	
				Manchester Encoder/Decoder.	JMEDM-2010	† Technitrol	75		UT1553BRTM	◊ ‡ UPMC (4305)	
					JMEDM-2020	† Technitrol		MIL-STD-1553B Remote Terminal with RAM	UT1553BTR	◊ ‡ UPMC (4305)	
					JMEDM-2050	† Technitrol					
					JMEDM-2100	† Technitrol		MIL-STD-1553B Subsystem Interface Circuit	MA8055	Marconi	
				Manchester Encoder/Decoder	JMEDM-2120	Technitrol					
					JMEDM-2150	† Technitrol					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Peripheral Controllers (Cont'd)				Programmable Interrupt Controller (with CMOS interface to 68000)				SCSI Processor			
MIL-STD-1750A MBU Peripheral	L64550	LSI Logic (2887)		USC68HC908	Universal			NCR53C90	◊ NCR	(2994)	80
MIL-STD-1760A Remote Terminal Controller with RAM	UT1760ARTS	◊‡ UPMC (4305)		Programmable Interval Timer				NCR53C90A	◊ NCR	(2994)	
Motion Control/Buffer Manager and Read Write Formatter (WD2400 Chip Set)	WD24C02	Western		M5M82C54	◊ Mitsubishi			NCR53C90B	◊ NCR	(2994)	
Motor, Intelligent Stepper Motor Controller	SMC23	◊ AdvMicroSys		SAB82C54	Siemens			NCR53C94	◊ NCR	(2994)	
	CY500	Cybernetic		SAB82C54-2	Siemens		35	NCR53C95	◊ NCR	(2994)	
	CY512	Cybernetic	5	82C54	*† SMC			SCSI Protocol Controller (Small Computer Systems Interface)	NCR5385E	◊ NCR (2994)	85
Multi-Protocol Communications Controller	R65560	Rockwell		Programmable Peripheral Interface	CAB2C55A	*† Calmos		SCSI Protocol Controller	MB87031	◊ Fujitsu (2633)	
	R68561	Rockwell (3028)		Programmable Sound Generator	AY3-8913	Microchip		MB87033	◊ Fujitsu (2633)		
Multi-Protocol Serial Controller	Z8530A	◊ AMD		Protocol Controller, LAPD (link access procedure protocol for ISDN networks)	MC68606	Motorola (2926)		MB89532	◊ Fujitsu		
Multi-System Control Chip. Interfaces any two CYxxx Devices to a Computer, Keyboard or RS232 Terminal	CY250	Cybernetic	10	Protocol Controller, X.25 (supports single-channel LAPD)	WD25C84	Western (3401)	40	SCSI Protocol Controller (Small Computer Systems Interface)	AM9582	AMD	90
Multibus II Bus Arbiter/Controller	BAC84110	Toshiba (3339)		Protocol Controller, X.25 (supports 8-bit data bus)	T7100A	AT&T (2498)		5380	AMD		
Multibus II Message Interrupt Controller	MIC84120	Toshiba (3339)		Protocol Controller, X.25/X.75 (supports 8/16-bit data bus)	T7102A	AT&T (2499)		CA53C80	*† Calmos		
Multifunction Controller	82C607	◊ Chips&Tech		Protocol Data Formatter, Synchronous with Serial Interface	T7110	AT&T (2500)		MB87030	Fujitsu (2633)		
Optical Storage Support Device	WD60C80	Western		Protocol Processor, MIL-STD-1553			45	MB89351	Fujitsu (2633)		
Parallel to Serial Interface	CY232	Cybernetic	15	CT1560	† CTI			L53C80-2	LogicDev		
PC bus CPU and peripheral control, DMA, clock, interrupt, timer and Bus controller	FE2010A	Faraday		CT1561	† CTI			L53C80-4	LogicDev		95
PC Bus Interface Controller (handles PC interrupt, DMA, and data bus control)	WB83C580A	Western (3397)		CT1562	† CTI			L5380-2	LogicDev		
PC Mouse Controller (CMOS)	5720	Commodore (2575)		CT1601	† CTI			L5380-4	LogicDev		
Peripheral Controller (for PC/AT computer)	FE3010	Faraday		CT1602	† CTI			NCR53C80	NCR (2994)		
Peripheral, Multifunction	TS68HC901	◊ SGS-Thomson	20	CT1603	† CTI			NCR53C81	NCR (2994)		
Peripheral, Programmable Peripheral Interface	8255A	◊ Intel		CT1604	† CTI			NCR5380	◊ NCR (2994)		100
Phase-Locked Oscillator For Winchester	ML405	◊ MicroLinear		CT1605	† CTI			NCR5381	NCR (2994)		
Polynomial Generator Checker	SCN2653A	◊ Signetics		CT1606	† CTI			NCR5386	◊ NCR (2994)		
Printer Adapter Interface	COM82C11	SMC		CT1610	† CTI			UC53C80	Unicorn		
Printer Controller, for 5x7 Dot Matrix Printer	CY480	Cybernetic		CT1612	† CTI			UM53C80	UMC		105
Printer, Dot Matrix Printer Controller	8295	Intel		CT1615	† CTI			V8580	VDA		
Priority Interrupt Controller	82C59	*† SMC		CT1617	† CTI			SCSI Dual-Ported Buffer Controller	NCR53C300	◊ NCR (4288)	
Processor Signal Converter (accelerator for 8088 based system)	EL286-88-10	EdsunLabs		RAMDAC, High-Performance	NCR77C171	◊ NCR		Segmented Display Driver (drives grids and anodes of vacuum fluorescent displays)	10955	Rockwell	
Programmable Communications Interface	AM95C85	AMD		Real-Time Clock				Serial Communications Controller (multi-protocol)	Z8530	◊ AMD	
	M5M82C51A	◊ Mitsubishi		MM58167A	National			μPD7210	NEC		
Programmable Interrupt Controller	SAB82C59-2	Siemens	30	MM58174A	National			Z8530	◊‡ SGS-Thomson		110
				RP5C01	Ricoh			Z8530A	◊‡ SGS-Thomson		
				RP5C15	Ricoh			VL85C30	VLSI Tech (3379)		
				146818	*† SMC			Serial Communications Controller (8 MHz)	Z8030B	◊† SGS-Thomson	
				TC8250	Toshiba (3339)			Z8530B	◊† SGS-Thomson		
				Real-Time Clock/Calendar	TC8205P	Toshiba		Serial Timer Interrupt Controller	MK3801-6	SGS-Thomson	115
				TC8250A	Toshiba (3339)			Servomechanism	KM3702	Toko	
				Real-Time Clock/μP Interface	MSM5832	OKI		SMD Controller/Formatter	WD1050	◊ Western	
				L5832	SGS-Thomson			Sound Generator	AY3-8910A	Microchip	
				SCSI Bus Controller Device	WD33C92A	Western		AY3-8912A	Microchip		
				WD33C93A	Western			Stand Alone Microcontroller, Programmable	PAC1000-12	† Waferscale (3392)	120
				SCSI Bus Interface Adapter	V8500	VDA		PAC1000-16	† Waferscale (3392)		
				SCSI Bus Interface Controller for External Drivers	WD33C92	Western		PAC1000-20	Waferscale (3392)		
				SCSI Bus Interface Controller with 48 mA Drivers	WD33C93	Western					
				SCSI Controller	SSI32B450A	SiliconSys (3254)		StarLAN Hub Controller	WD83C510	Western	
				MSD95C00	SMC			StarLAN Hub Controller (IEEE 802.3)	82C551	Chips&Tech	
				SCSI Hard Disk Controller	CL-SH250	◊ Cirrus		StarLAN Hub Controller (IEEE 802.3 1BASE5 compatible)	WD83C510A	Western (3397)	125
				SCSI Host Adapter	NCR53C400	◊ NCR (2994)		StarLAN Mini Hub Controller	WD83C503	Western (3397)	
				SCSI Interface Controller	AM53C80	AMD		StarLAN PC Bus Interface Controller	WD83C580	Western	
				AM5380	AMD			StarLAN, Serial Interface (IEEE 802.3)	82C550A	Chips&Tech	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Peripheral Controllers (Cont'd)												
StarLAN Transceiver	XRT82C516 XRT82515	Exar Exar		User-configurable Microprocessor Peripheral Device with 8-bit Bus Port (expandable to 16 and 32-bits) EPB1400	Altera			Winchester Disk Formatter, Enhanced ECC CLSH135	Cirrus			
Stepper Motor Controller and Peripheral Interface CY545		Cybernetic		Video Attribute Controller (part of EGA chipset) Renegade-AC	Renaissance			Winchester Disk Head Actuator Control Circuit μA2460 μA2461	National National			
Stepper Motor Controller, Intelligent Ramping CY525		Cybernetic		Video Controller (VIDC) VL86C310 IMS6300	VLSI Tech (3381) Inmos (2800)	35		Winchester Disk Improved MFM Generator HDC1100-12	SMC	75		
Storage Controller MSD95C02		SMC	5	Video Controller, 640x480 Resolution (part of EGA chipset) Legacy-VC	Renaissance			Winchester Disk Memory Head Read/Write Circuit, for thin film heads SSI32R114	SiliconSys (3254)			
Storage Controller (20 Mbps) SSI32C452		SiliconSys (3254)		Video DAC (with look-up table) LD1104	Silicon Logic			Winchester Disk Memory Read/Write Circuit MB4111 MB4112 SSI32R104C	Fujitsu Fujitsu SiliconSys (3254)			
String Proximity Computer and Ranker PF474C		Proximity		Video Frame Controller, 640x480 Resolution (part of EGA chipset) Legacy-FC	Renaissance			SSI32R115	SiliconSys (3254)	80		
Synchronous Data Link Controller COM5025 VL1935		SMC VLSI Tech (3363)		Video Graphics Array (VGA) Chip NCR77C22	NCR			Winchester Disk Memory Servo Preamplifier, for thin-film heads VM114 VM214	VTC (3385) VTC (3385)			
Synchronous Packet Data Formatter T7111A		AT&T (2501)	10	Video Storage and Display (up to 512 Kbytes of display memory) 82716/VSDD	Matra-Harris	40		Winchester Disk Memory Video Amplifier, for Magnetic Servo Head SSI32H101A	SiliconSys (3254)			
System Clock Generator μPD71011		NEC		Video System Controller—12 MHz (generates user programmable control signals, horizontal sync, vertical sync, and blanking) TMS34061-12	TI			Winchester Disk Memory Video Amplifier, for Thin Film Magnetic Heads SSI32H116	SiliconSys (3254)			
System Controller for 80386 Based Systems 82C301		Chips&Tech		Video Timing Controller (part of EGA chipset) Renegade-TC	Renaissance			Winchester Disk Parallel-to-Serial Converter HDC1100-05	SMC	85		
Tape Drive Clock Synchronizer VT210		VTC (3385)		Videotext CRT Display Processor EF9340 EF9341	SGS-Thomson SGS-Thomson			Winchester Disk Read/Write Amplifier VM104 VM104L VM108 VM122	VTC (3385) VTC (3385) VTC VTC			
Tape Drive Controller Device ADS4360		Western		VMEbus, Bus Controller SCB68175	Signetics	45		Winchester Disk Read/Write Amplifier with Damping Resistors, 2-Channel VM117R2 VM117R4 VM117R6 VM217R6 VM217R8	VTC VTC VTC VTC VTC	90		
Tape Drive Magnetic Write Driver VT211		VTC (3385)	15	VMEbus, Interrupt Controller SCB68155	Signetics			Winchester Disk Read/Write Amplifier, 2-Channel VM1172 VM1182	VTC VTC	95		
Terminal Logic Controller (implements all logic functions for timing and video) CRT92C07		SMC		VMEbus, Interrupt Generator SCB68154	Signetics			Winchester Disk Read/Write Amplifier, 4-Channel VM1174 VM1184 VM314	VTC VTC VTC			
Trajectory Generator For Winchester ML404		MicroLinear		Winchester Controller/Formatter WD1010A	Western			Winchester Disk Read/Write Amplifier, 5-Channel VM115	VTC (3385)	100		
TV Display Controller MB88303		Fujitsu (2636)		Winchester Disk Address Mark Detector HDC1100-03	SMC			Winchester Disk Read/Write Amplifier, 6-Channel VM1176 VM1186 VM2176 VM2186	VTC VTC VTC VTC			
UART, Programmable High-Speed CMOS (with baud rate generator) COM81C17		SMC		Winchester Disk Buffer Storage Manager, Customizable CLSH120	Cirrus	50		Winchester Disk Read/Write Amplifier, 8-Channel VM2178 VM2188	VTC VTC	105		
UART (with bidirectional printer port) LD1107		Silicon Logic		Winchester Disk Controller HDC7261 HDC9224 ADS1000 WD10C00 WD30C30	SMC SMC Western Western Western			Winchester Disk Read/Write Preamplifier ML117 μA2482 μA2484 μA2485 μA2486 μA2486x2 μA2488 μA2488x2 SSI101A SSI114 SSI116 SSI117-2 SSI117-4 SSI117-5	MicroLinear National National National National National National National National National National National National	110 115 120		
UART (with FIFO) LD1201		Silicon Logic		Winchester Disk Controller Chip Set WD1100	Western							
Universal Asynchronous Receiver and Transmitter (UART) LD1101		Silicon Logic		Winchester Disk Controller, Error Correction Circuit WD11C00-13	Western							
Universal Peripheral Interface, I/O Expander 8243		Intel		Winchester Disk Controller/Formatter 82062 WD2010 WD5010 WD5011	Intel Western Western Western		60					
Universal Peripheral Interface (slave I/O processor) UPI-452		Intel		Winchester Disk Controller, PC/XT Host Interface Logic Device WD11C00-17	Western							
Universal Peripheral Interface (8-Bit slave microcontroller—6 MHz) UPI-41 UPI-42		Intel Intel	25	Winchester Disk Controller, SCSI, Customizable. CLSH130	Cirrus							
Universal Peripheral Interface, 1K EPROM 8741A		Intel		Winchester Disk Controller (with on-chip EDAC) 82064	Intel							
Universal Peripheral Interface, 1K ROM 8041AH		Intel		Winchester Disk CRC Checker/Generator HDC1100-04	SMC	65						
Universal Peripheral Interface, 2K EPROM 8742		Intel		Winchester Disk Data Separator/Encoder, MFM or 2,7 μA2490 μA2491 μA2492	National National National							
Universal Peripheral Interface, 2K ROM 8042		Intel	30	Winchester Disk Data Separator (self-adjusting) SYSC WD10C20	Western Western	70						
Universal Peripheral Interface, 4K EPROM 8744		Intel		Winchester Disk Encoder/Decoder RLL CLSH110	Cirrus							
Universal Peripheral Interface, 4K ROM 8044		Intel										

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Peripheral Controllers (Cont'd)				Winchester Read/Write Circuit, 2-4- or 6-Channel	SSI32R117	SiliconSys (3254)		Microprocessor Watchdog, Battery Switchover, Reset Generator		(Cont'd)	
Winchester Disk Read/Write Preamplifier (Cont'd)					SSI32R117A	SiliconSys (3254)			MAX691C	Maxim	
	SSI117-6	National		Winchester Read/Write Circuit, 4-Channel	SSI32R510A	SiliconSys	45		MAX692	Maxim	
	SSI117-8	National		Winchester Read/Write Circuit, 8-Channel	ML501	MicroLinear		Microprocessor, 8-Bit (80C51 instruction set)	RS20C51	GE/RCA (4234)	80
	VM117	VTC (3385)			SSI32R501	SiliconSys (3254)		Microprocessor, 16-Bit	SN74ACT29116-1	TI (3297)	
	VM118	VTC (3385)		Winchester Spindle Motor Controller (three-phase)	SSI32M593	SiliconSys (3254)		Microprocessor, 16-Bit (4x2901 bit-slice architecture)	RS59016	GE/RCA (4234)	
	VM217	VTC (3385)	5	Winchester, Support Logic	SSI32B545	SiliconSys		Microprocessor, 32-Bit (MIL-STD-1750A or RISC mode)	UT1750AR	UTMC (4305)	
	VM218	VTC (3385)		Winchester Thin-Film Head Read/Write Circuit	SSI32R520	SiliconSys (3254)		Microprocessor, 32-Bit RISC	IDT79R2000	IDT	
Winchester Disk Read/Write Preamplifier with Internal Damping Resistor					SSI32R521	SiliconSys (3254)	50	Microcontroller with Embedded Real-Time Clock	DS5000T	Dallas	85
	μ A2482R	National		X.25 Protocol Controller	MC68605	Motorola (2926)		Microcontroller, 8-Bit (four separately configurable 8-Bit I/O ports, programmable UART, and 4Kbytes of ROM)	TMS70A2400	TI	
	μ A2484x2	National		Dual Channel NRZI Encoder/Decoder	USCL2002	Universal		Microcontroller, 16-Bit (16K ROM, 512 bytes RAM, A/D Converter)	MSM66301	OKI	
	μ A2485x2	National		Dual Data Link Controller (DDLC)	MC145488	Motorola		Microcontroller, 4-Bit (A/D converter, LCD)	TMP47C446A	Toshiba	
Winchester Disk Serial to Parallel Converter	HDC1100-01	SMC	10	Dual-Channel Multiprotocol Controller	8274	intel		Microcontroller, 4-Bit (D/A converter, LED)	TMP47C233A	Toshiba	
Winchester Disk Servo Preamplifier				Four Phase Clock Generator	WD2143-03	Western		Microcontroller, 4-Bit (TDMF, LCD)	TMP47C433A	Toshiba	90
	μ A24H80	National		General Purpose							
	μ A2480	National		Microcomputer with Tone Generator and LCD Driver	LR4810	Sharp					
	VM101	VTC (3385)		Microcomputer, 4-Bit (RAM, ROM)	LC6528	Sanyo					
	VM116	VTC (3385)		Microcomputer, 4-Bit (RAM, ROM, LCD drivers)	LC5732	Sanyo					
	VM216	VTC (3385)	15		LC5850	Sanyo					
Winchester Disk Support Device				Microcomputer, 4-Bit (RAM, ROM, LCD drivers, counter)	LC5864	Sanyo					
	ADS3570	Western		Microcomputer, 4-Bit (RAM, ROM, LCD drivers, U/D counter)	LC5812	Sanyo					
	ADS5050	Western		Microcomputer, 4-Bit (RAM, ROM, VF drivers, timer)	LC6538	Sanyo	30				
	WD10C20B	Western		Microcomputer, 8-Bit (16K ROM, 256 bits RAM)	MSM83C154	OKI					
	WD10C21A	Western		Microcomputer, 8-Bit (256 bits RAM)	MSM80C154	OKI					
	WD11C00-14	Western		Microprocessor Chip (for 10 MHz PC/XT)	UM82C086	UMC					
	WD11C00B-20	Western		Microprocessor (for PC/AT)	UM82C286	UMC					
	WD11C00C-22	Western		Microprocessor Monitor (monitors voltage, system activity)	DS1232	Dallas					
	WD50C12	Western		Microprocessor Supervisory Circuit (watchdog timer, battery backup, and power fail monitor)	C690	CMD Micro (2573)					
	WD50C20A	Western			C691	CMD Micro (2573)					
Winchester, Error Detection (Support Logic for WD1015)	WD1014	Western	25		C692	CMD Micro (2573)					
Winchester, Head Positioning Set, Quad di'bit servo					C693	CMD Micro (2573)					
	ML401	MicroLinear		Microprocessor Voltage Regulator (supervisory circuit)	MC33160	Motorola					
	ML402	MicroLinear			MC34160	Motorola					
	ML403	MicroLinear		Microprocessor Watchdog, Battery Switchover, Reset Generator	MAX690C	Maxim	75				
Winchester Motor Speed Control					MAX690M	† Maxim					
	SSI32M590	SiliconSys (3254)		(Continued)							
	SSI32M591	SiliconSys (3254)	30								
Winchester Pulse Detector Circuit											
	ML541	MicroLinear									
	SSI32P541	SiliconSys (3254)									
Winchester, Read Data Path	SSI32P540	SiliconSys (3254)									
Winchester Read/Write Amplifier (for ferrite heads)	SSI32R511	SiliconSys (3254)									
	SSI32R514	SiliconSys (3254)	35								
Winchester Read/Write Amplifier (for thin-film heads)	SSI32R512	SiliconSys (3254)									
	SSI32R522	SiliconSys (3254)									
Winchester Read/Write Channel											
	VM442	VTC									
	VM542	VTC									
Winchester Read/Write Circuit	CS117	Cherry Semi	40								
Winchester, Read/Write Circuit for thin-film heads											
	ML502	MicroLinear									
	MC4290	NEC									

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
General Purpose (Cont'd)				Burst Error Processor	AMZ8065	AMD		Clock, Real Time	MM58174	National	
					AM9520	AMD			MM58274	National	
				Bus Compatible Digital PWM for Direct Control of a Power H-Bridge (provisions for dead time, output protection)	IXPD610	IXYS			MM58274A	National	80
Arithmetic Logic/Multiplier, Floating Point Set (Cont'd)				Bus Compatible Incremental Shaft Encoder Interface with Quadrature Detection	IXSE501	IXYS		Clock, Real Time, 12/24 Hour Format (Uses 8-bit bidirectional data bus)	ICM7170	GE/Intersil (2685)	
WTL1164 Weitek				Bus Exchange, Multiple (4-bit by 4-port)				Color Lookup Table and DAC (256x12)	IM2110	GE/Intersil (2679)	
WTL1164A Weitek					AM29C982	AMD	50	Color Palette (Three 4-Bit Video DACs)	TMS34070-66	TI	
WTL1165 Weitek					AM29C983	AMD		Communications, Biphase Processor (processes IBM 3270, 3299 and 5250 protocols)	DP8344	National	
WTL1165A Weitek				Bus Interface Device, Differential MFM Drivers/Receivers for ST506/412 Disk Drives (part of OMTI chipset)	OMTI5011	SMS		Composite Graphics Adapter	UM85C314	UMC	85
WTL1264 Weitek				Bus Interface Device, IBM PC/AT Bus Interface Chip (part of OMTI chipset)	OMTI5098	SMS		Content Addressable Memory (CAM), 256x8	AM99C10	AMD	
WTL1264A Weitek				Bus Interface Device, IBM PC/XT Bus Interface Chip (part of OMTI chipset)	OMTI5090	SMS		Controller, Micro Channel™ Bus Controller and Arbiter	MCA1200	PLX Tech	
WTL1265 Weitek				Bus Interface Device, SCSI Multifunction Chip (part of OMTI chipset)	OMTI5080	SMS		Controller, Programmable Integrated Controller/Sequencer (State machine with instruction processing for decision, control or timing applications)	LS7270	LSI Comp (2883)	
WTL1265A Weitek				Bus Interface Register, Bidirectional	WS59820	◊† Waferscale		Controller, VMEbus Master Controller with System Arbiter	VME1200	PLX Tech	
Arithmetic Logic Unit, 32-Bit	AM29332	AMD		Bus Interrupter Module	MC68153	Motorola (2926)	20	Controller, VMEbus Slave Controller	VME2000	PLX Tech	90
Arithmetic Processor				Bus Transceiver, SCSI	NCR83C10	◊ NCR		Controller, VSBbus Master Controller	VS81200	PLX Tech	
AM9511A AMD					NCR83C11	◊ NCR		Controller, VSBbus Master Controller (chip set)	VS81400	PLX Tech	
8231A ◊ Intel				Bus Transceiver, SCSI (48 mA)	NCR8310	NCR	25	Controller, VSBbus Slave Controller	VS82000	PLX Tech	
Arithmetic Processor, 2-chip set				Byte Queue, 32-Bit (up to four bytes queued and dequeued in a single cycle)	AM29338	AMD		Convolution Memory Chip (256-column matrix/vector multiplier slice with 64Kx1 matrix memory)	64K1-ICMC	Oxford (2998)	
WTL1032AC Weitek				Cache Memory Subsystem	μPD43608	NEC		Coprocessor, 32-Bit RISC Floating Point Accelerator	PR3010-16XC	◊ Performance	95
WTL1032AM † Weitek				Central Processing Unit (CPU)	L64811	LSI Logic (2884)	30		PR3010-16XM	◊† Performance	
WTL1032C Weitek				Centronics I/O Interface and RS-232C	TC8576AF	Toshiba (3339)			PR3010-20XC	◊ Performance	
WTL1032M † Weitek				Centronics I/O with RS-232-C Port	TC8576A	Toshiba (3339)	65		PR3010-20XM	◊† Performance	
WTL1033AC Weitek				Centronics Input and RS-232C	TC8578AP	Toshiba (3339)			PR3010-25XC	◊ Performance	100
WTL1033AM † Weitek				Centronics Output and RS-232C	TC8577AP	Toshiba (3339)		Crossbar Switch	L64270	LSI Logic (4265)	
WTL1033C Weitek				Centronics Output with RS-232 Port	TC8577A	Toshiba (3339)		CRT Color/Monochrome Video Attributes Controller	SCB2675T	◊ Signetics (3102)	
WTL1033M † Weitek				Character Display, On-Screen 12 Lines by 24 Columns	μPD6145	NEC		CRT Controller, ACRTC	SCC63484	Signetics (3104)	
Asynchronous Bidirectional Bus Extender and Repeater	N8X41	Signetics		Clear/Acquisition Coder (generates the C/A codes and other timing information required in GPS receivers)	STEL1023	STI (3264)	70	CRT Display Controller	TC8505A	Toshiba (3339)	
Asynchronous Communication Interface Adapter				Clock/Calendar with Serial I/O (Inter IC interface)	PCF8573	Signetics (3193)		CRT Programmable video Timing Controller, Turbo	SCN26727	◊ Signetics	105
HD63A50 Hitachi				Clock/Calendar, Real-Time	MSM68321	OKI		CRT Video Display Controller, Turbo	SCN2674T	◊ Signetics (3100)	
HD63B50 Hitachi				Clock Generator and Microcycle Length Controller (up to 31 MHz)	AM2925	AMD		Data Access Arrangement (DAA)	DS6112	Dallas	
HD6350 Hitachi					AM2925A	AMD		Data Ciphering Processor (encrypts and decrypts data)	AM9568	AMD	
MC68A50 Motorola				Clock Generator, Crystal	DP8514	National	75	Data Ciphering Processor (for data encryption)	Z8068	Zilog	
MC68B50 Motorola				Clock Generator (for medium performance graphics systems)	DP8530	National		Data Encryption Set	F9414STC	National	110
MC6850 Motorola (2932)				Clock Generator, Multi-Board Video (for medium to high-performance CRT graphics systems)	DP8513	National			F9414STM	† National	
EF68A50 SGS-Thomson								Data Encryption Unit	8294	Intel	
EF68B50 SGS-Thomson											
EF6850 SGS-Thomson											
Asynchronous Communications Adapter (bus interface to 68000)	USC68HC551	Universal									
Asynchronous Communications Element											
UM82C450 UMC											
UM82C50A UMC											
Asynchronous Communications Element (ACE)											
CA82C50A Calmos											
Asynchronous Communications Element (advanced)											
UM82C550 UMC											
Asynchronous Communications Element, Dual											
WD16C452 Western (3400)			35								
WD16C552 Western (3400)											
Asynchronous Communications Interface Adapter (ACIA)											
CDP65C51A GE/RCA (2644)											
Backplane Transceiver Logic (BTL) Transceiver											
DS3893A National											
Bar Code Processor											
NCR8301 NCR											
Barrel Shifter, 16-Bit											
AM29130 AMD			40								
Battery Backup Circuit											
ICL7673 ◊ GE/Intersil (2676)											
BITBLT Processing Unit											
DP8510 National											
BITBLT Processing Unit (20 MHz)											
DP8511 National											
Bounds Checker, 16-Bit											
S61C337 Gould/AMI											
Bounds Checker, 16-Bit (with out-of-bounds flag)											
AM29337 AMD			45								

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
General Purpose (Cont'd)				Ethernet Chip Set (Ethernet I/O device) WD83B692 Western (3402)				I/O Support (for PS/2 model 30) UM85C302 UMC			
Data Path Management Device, Disk Drive Sequencer Chip for ST506/412, ESDI and SMD type Drives (part of OMTI chipset) OMTI5050 SMS				Ethernet Chip Set (network interface Controller) WD83C690 Western (3402)				I/O Support, 8-Bit (for AM29116 microprocessor family) AM29118 AMD			
Data Path Management Device, DMA Controller Chip for SCSI or QIC-02 Interface (part of OMTI chipset) OMTI5060 SMS				FIFO RAM Controller (up to 64K words) ISP9119 GE/Intersil (2680)				I/O, 8-Bit Bidirectional MAS2952 Marconi			
Data Path Management Device, Kombo Chip, Direct ESDI NRZ Interface (part of OMTI chipset) OMTI5055 SMS				FIFO/Write Buffer for Cache Interface LR2020 ♦ † LSI Logic (2885)				IBM PS/2 Model 30 Compatible Chip Set and VGA (I/O controller) VL8SC032 VLSI Tech			
Data Retention Module (converts CMOS SRAM to non-volatile RAM) DRM Catalyst DRM2 Catalyst				Floating Point Accelerator (32-bit) 79R2010 ♦ † Intel 79R3010 ♦ † Intel				IBM PS/2 Model 30 Compatible Chip Set and VGA (system controller) VL82C031 VLSI Tech (3375)			
Data Separator Device, MFM/NRZ Data Separator (part of OMTI chipset) OMTI5070 SMS				Floating Point Accelerator, 32-Bit RISC IDT79R2010 ♦ † IDT				IBM PS/2 Model 30 Compatible Chip Set and VGA (video graphics controller) VL82C037 VLSI Tech (3375)			
Data Separator Device, 2,7 RLL/NRZ Data Separator (part of OMTI chipset) OMTI5027 SMS				Floating Point Arithmetic and Logic Unit (MIL-STD-1750A, IEEE-754 V10) UT1733ALU ♦ † UPMC				LAN (StarLAN Transceiver) XRT82C516 Exar XRT82515 Exar			
Data Synchronizer (all code) DP8459 National				Floating Point Controller (FPC) L64812 LSI Logic (2884)				LCA SmartSocket (keeps logic defined in Xilinx/MMI user programmable gate arrays in absence of power) DS1264 Dallas DS1265 Dallas			
Digital Crossbar Switch, 64-Bit S618840 Gould/AMI				Floating Point Controller (20 MHz) NS32580-20 National				Manchester Decoder and Interface (10 Mbp/s decoding) T7210 AT&T (2506)			
Digital Pulse Width Modulator (programmable frequency) CDP68HC68W1 GE/RCA (2644)				Floating Point Controller (30 MHz) NS32580-30 National				Manchester Encoder/Decoder HD15530-8 ♦ † Harris (2744) HD15530/883 ♦ † Harris (2744) HD15531-8 † Harris (2744) HD15531/883 † Harris (2744) HD15531B-Cell ♦ Harris (2744) HD15531B-8 † Harris (2744) HD15531B-9 Harris (2744) HD15531B/883 † Harris (2744) HD6409-8 ♦ † Harris (2744) HD6409-9 ♦ Harris (2744) MAS15530 † Marconi			
Digital Signal Processor (Microcomputer including 16x16 Multiplier, RAM, ROM for rapid signal processing) MB87064 Fujitsu (2633) MB8764 Fujitsu (2633)				Floating Point Coprocessor LR3020 ♦ † LSI Logic (2885)				Manchester Encoder/Decoder (interface between LAN controller/receiver) USCSL3000 Universal			
Digital Signal Processor (Microcomputer including 24x24 Multiplier, RAM, ROM for rapid signal processing) DSP56000 Motorola (2920)				Floating Point Multiplier (MIL-STD-1750A, IEEE-754 V10) UT1732MUL ♦ † UPMC				Math Coprocessor (for PC/AT) UM82C287 UMC			
Digital Signal Processor (2K RAM—program, 1K RAM—data) ADSP2101 ♦ AD ADSP2102 ♦ AD				Floating Point Processing Unit 8232 Intel				Memory Array Controller NCR52C40 ♦ NCR NCR52C60 ♦ NCR			
Digital Signal Processor (16/32-bit) TMS320E15 TI				Floating Point Processor LR2010 ♦ † LSI Logic (2885)				Memory, Converts Byte Wide JEDEC to 3-Wire Serial Port DS1280 ♦ Dallas			
Digital to Analog Converter UM70C171 UMC				Floating Point Processor, 32-Bit L64133 LSI Logic (2891) L64133A LSI Logic (2891) L64133B LSI Logic (2891)				Memory Management and Protection Unit, MIL-STD-1750A (CMOS) P1753-20XM ♦ † Performance P1753-30XM ♦ † Performance P1753-40XM ♦ † Performance			
DMA Address Generator MAS2940 Marconi				Floating Point Processor, 32-Bit (uses IEEE-P754 floating point standard) AM29325 AMD				Memory Management Controller MC68461 Motorola			
Electronic Configurator (NV switch comparator and RAM), for remotely configuring equipment DS1223 Dallas				Floating Point Unit (FPU) L64814 LSI Logic (2884)				Memory Management Unit/Cache Controller L64815 LSI Logic (2884)			
Electronic Key (128-bit NVRAM) with security system, user insertion DS1204U Dallas				Floppy Disk Controller TC8565A Toshiba (3339)				Memory Management Unit for MIL-STD-1750A/B UT1750MMU ♦ † UPMC (4305)			
Electronic Key (1024-bit NVRAM), user insertion DS1201 Dallas				Floppy Disk Controller (for PS/2 model 30) UM85C303 UMC				Memory Management Unit (MMU) L64803 LSI Logic (2884)			
Enhanced Floating Point Coprocessor (HCMOS) MC68882 Motorola (2924)				Floppy Disk Controller (support for PS/2 model 30) UM85C313 UMC				Memory Management Unit (16K cache) MC88200 Motorola			
Enhanced Local Area Network Controller COM90C56 SMC				Function Generator, D/A Controller CY360 Cybernetic				Memory Mapper UC74HCT612 Unicorn			
Error Correcting Code Chip NCR82C50 ♦ NCR (4288)				General Purpose (SCSI) Bus Transceiver VL83C11 VLSI Tech (3378)				Memory, Quad Port Serial RAM (64 bits per port) DS2015 Dallas			
Error Correction, Three-Way Interleave Chip (part of OMTI chipset) OMTI8510 SMS				Graphics Color Palette (with 256x8 color map and video DAC) AM8151A AMD				Micro Channel Interface Chip UM85C561 UMC UM85C562 UMC			
Error Detection and Correction Circuit (16-bit) AM29C60 AMD AM29C60-1 AMD AM29C60A AMD				Graphics Memory Chip (4-column matrix/vector multiplier slice with 256Kx4 matrix memory) 256K4-IGMC Oxford (2998)				Micro Channel Modem Controller (for IBM PS/2 models 50, 60, 80 and compatibles) EL2050 EdsunLabs			
Error Detection and Correction Circuit (16-bit) AM2960A AMD				Graphics, Raster Graphics Processor (20 MHz) DP8500 National							
Ethernet/Cheapernet Transceiver AM7996 AMD				Graphics System Processor (32-bit fully programmable) TMS34010-40 TI TMS34010-50 TI							
Ethernet Chip Set (Ethernet data separator) WD83C691 Western (3402)				Gray Scale Enhancement Module 2564 OEI							
				High Impedance Transceiver HYC9078 SMC							
				I/O, Parallel (16 eight bit ports) GD9620 GoldStar							
				I/O Port CDP68HC68P1 GE/RCA (2644)							
				I/O Ports (2 serial and 1 parallel) UM82290 UMC							

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

♦ Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
General Purpose (Cont'd)				Parallel Interface Timer for MC68000 Systems MC68230 Motorola (2926)				Real-Time Clock (with RAM and power sense/control) CDP68HC68T1 GE/RCA (2644, 2653)			
Microprocessor, RISC (optimized for MIL-STD-1750A, UART) UT175AR	o‡ UPMC			Peripheral Clamping Array TCF6000 Motorola (2980)				Real-Time Clock with RAM and Serial Interface MC68HC68T1 Motorola (2932)			
Microprocessor Control Circuit S2854	Calmos			Peripheral Driver Addressable NE590 NE591	Signetics Signetics			Real-Time Interrupt Controller AM29114	AMD		
Microprogram Controller RS5910A	o GE/RCA (4234)			Peripheral Interface Adapter HD63A21 HD63B21 HD6321 MC68A21 MC68B21 MC6821 Motorola (2932) EF68A21 EF68B21 EF6821 UM6522 UM6522A	Hitachi Hitachi Hitachi Motorola Motorola o Motorola (2932) SGS-Thomson SGS-Thomson SGS-Thomson UMC UMC		40	Reed-Solomon Error Correction Code Processor 9707	STAC		80
Microprogram Sequencer, 12-Bit ISP9110	GE/Intersil (2680)			Printer Adapter Interface For IBM PC UC82C11	Unicorn			Register File, ECL Dual-Access (4-port) AM29434	AMD		
Microprogram Sequencer, 16-Bit AM29C111 AM29331	AMD AMD		5	Printer/Display Processor (10 MHz) NS32CG16-10	National			Register File, Dual-Access (4-port) AM29334	AMD		
Microsequencer, 16-Bit SN74ACT8818	TI (3290, 3292, 3297)			Printer/Display Processor (15 MHz) NS32CG16-15	National			Registers with Parity (9-bit bidirectional) USCSL6000	Universal		
MIL-STD-1553 Dual-Port RAM Controller MAS3692	Marconi			Priority Interrupt Controller AM2914C AM2914M M8214 MC8507 SFC2914	AMD o‡ AMD o‡ Intel Motorola SGS-Thomson		45	RISC Microprocessor LR2000	o‡ LSI Logic (2885)		
MIL-STD-1750A Microprocessor MAS281	o‡ Marconi			Processor Interface Circuit with Built-In System Test Feature (CMOS) P1754-20XM P1754-30XM P1754-40XM	o‡ Performance o‡ Performance o‡ Performance		50	RISC CPU Processor (32-bit) 79R2000 79R3000	o‡ Intel o‡ Intel		85
MIL-STD-1750A Control Unit MAS17502	o‡ Marconi			Programmable DMA Controller MAS8237	o‡ Marconi			RISC Microprocessor LR3000	o‡ LSI Logic (2885)		
MIL-STD-1750A Execution Unit MAS17501	o‡ Marconi		10	Programmable Event Generator (12 simultaneous events) AM2971 AM2971A	AMD AMD			Safety Counter, Non-Volatile SLE4501	Siemens		
MIL-STD-1750A Interrupt Unit MAS17503	o‡ Marconi			Programmable Logic Device for Bus Interface Applications (64 mA high drive current) PLX464	PLX Tech		55	Safety Critical Microprocessor MAS1908	o‡ Marconi		
MIL-STD-1750A Memory Management Unit MAS17504	o‡ Marconi			Programmable Parallel Interface MAS8255	o‡ Marconi			Safety Critical Microprocessor (dual operation) MAS1909	o‡ Marconi		90
Monochrome and Composite Graphics Adapter UM487 UM85C304	UMC UMC		15	Public Key Encryption Processor CA34C168	o‡ Calmos			SCSI Bus Controller L53C80 L5380 UM53C80	LogicDev LogicDev UMC		
Monochrome Graphics Adapter UM486	UMC			Pulse Input Servo Controller IC GL1200	Galil		60	SCSI Interface Circuit L5380C	o LogicDev		
Multi-Port Pipelined Processor (byte-slice operation) AM29501A	AMD			QIC Tape Formatter, PLL, Counter, Timer, I/O 9810	STAC			Serial Bus Interface CDP68HC68S1	GE/RCA (2644)		95
Multi-Port Repeater Unit Controller (for use in 10BASE5 and 10BASE2 networks) T7200	AT&T (2504)			Real Time Clock/Calendar Module (seconds, minutes, hours, day, date, month and year) RTM3	Catalyst			Serial Communications Controller CA85C30	Calmos		
Multilevel Pipeline Registers (four 8-bit wide Registers) AM29520A AM29521A	AMD AMD		20	Real-Time Clock TC8250A Toshiba (3339)				Serial Controller Interface CA82C52	Calmos		
Multiple Analog I/O Port (4 input channels, 2 output channels) AD75016	o AD			Real-Time Clock interface (allows time of day to be retrieved over µP bus) C3008	LMS		65	Serial Convolver MA7178	Marconi		
Multiplier/Accumulator (16x16) HMU1010	Harris			Real-Time Clock Plus RAM (CMOS) CDP6818A	GE/RCA (2644, 2653)			Serial Data Receiver LIU01	PMI (3006)		
Multiplier/Divider, Quad AD834	AD (2432)			Real-Time Clock Plus RAM (NVRAM) DS1287	Dallas		70	Serial I/O, A/D Converter (8-bit with single differential input) ML2281	MicroLinear		100
Multiplier (16x16) HMU16 HMU17 HMU18	Harris Harris Harris		25	Real-Time Clock Plus RAM (replacement for MC146818) XE1287	Xecom			Serial I/O, A/D Converter (8-bit with 2-input multiplexer) ML2282	MicroLinear		
Nonvolatile Controller (converts CMOS RAMs to nonvolatile storage) DS1210 DS1211 DS1212 DS1221	o Dallas o Dallas o Dallas o Dallas			Real-Time Clock Plus RAM (CMOS) CDP6818A	GE/RCA (2644, 2653)			Serial I/O, A/D Converter (8-bit with 4-input multiplexer) ML2284	MicroLinear		
Nonvolatile Controller (converts CMOS static RAMs into nonvolatile memories) DS1234	Dallas		30	Real-Time Clock plus RAM (NVRAM) DS1287	Dallas			Serial I/O, A/D Converter (8-bit with 8-input multiplexer) ML2288	MicroLinear		
Nonvolatile SRAM Plus Real-Time Clock (32Kx8) DS1244	Dallas			Real-Time Clock Plus RAM (replacement for IBM AT computer clock/calendar) DS1285	o Dallas		75	Serial Interface Adapter (compatible with Ethernet/CheaperNet) AM7992B	AMD		
Nonvolatile SRAM Plus Real-Time Clock (8Kx8) DS1243	Dallas							Serial Memory Phantom Interface (adapts memory bus to three-wire serial port) DS1206	o Dallas		105
NRZI Encoder/Decoder, Dual Channel (with digital PLL) USCSL2002	Universal							Shuffle/Exchange Network, 32-Bit S618839	Gould/AMI		
Orthogonal Rotation Processor (performs rotation of font characters or blocks of bit-mapped data) AM95C76	AMD		35					Signal Processing Interface (Microcomputer including 16x16 Multiplier, RAM, ROM for rapid signal processing) S77C20 µPD77P20 µPD7720	Gould/AMI NEC NEC		

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

° Macrocell

o Available in Surface Mount Package

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MICROPROCESSOR—System Components (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line
General Purpose (Cont'd)				Universal Synchronous/Asynchronous Receiver Transmitter	MAS8251A	± Marconi	
Smart Watch (watch or clock, nonvolatile RAM control) with socket, battery				UPC/EAN Scanner	NCR8415	NCR	
DS1216	Dallas			VGA Graphic Chip (for IBM OS/2 and IBM PC/XT/AT/AT386 compatible systems)	POACH/VGA-50	ZyMOS	
DS1216C	Dallas			Video Clock Generator (for medium to high performance CRT graphics systems)	DP8512	National	40
DS1216E	Dallas			Video DAC (TV/video displays and feed-forward A/D systems)	CA3338	GE/Intersil (2679)	
SmartSocket (battery backup static RAM socket)			5	Video DAC, Triple 8-Bit Color Palette	SC11453	Sierra	
XE1213	Xecom			Video Data Assembly FIFO (supports smooth panning and hardware windows)	AM8172	AMD	
XE1213C	Xecom			Video RAM Controller/Driver (up to 1 Mbit)	DP8521	National	
SmartSocket, Contains Embedded Lithium Cell for RAM Retention	DS1213D	Dallas		Video RAM Controller/Driver (up to 256K bits)	DP8520	National	45
SmartWatch (battery backup SRAM socket with real-time clock)				Video RAM Controller/Driver (up to 4 Mbit)	DP8522	National	
XE1216	Xecom			Video Shift Register (125 MHz parallel to serial)	AM8157	AMD	
XE1216C	Xecom			Video System Controller (video dot clock rate to 80 MHz)	AM8152A	AMD	
XE1216E	Xecom			AM8152B	AMD		
SmartWatch, Calendar/Clock with Embedded Lithium Cell	DS1216F	Dallas	10	VMEbus Interface Controller	VBIC-LIA1744	± SBE	50
Speech Processor, ADM (record/reproduce)				VMEbus Interrupt Generator	VME3000	PLX Tech	
TC8830	Toshiba (3339)			VMEbus Slave Address Manager	VSAM-LIA1743	± SBE	
TC8831	Toshiba (3339)			Voltage Controller (converts CMOS RAMs to nonvolatile storage)	DS1215	Dallas	
ST-Bus Parallel Access Circuit	MT8920	± Mitel		Voltage Regulator Controller, watch dog timer and power-on reset	HA1835	Hitachi	
Stand Alone Microsequencer, Programmable				Watchdog Timekeeper (NV real-time clock, 50 bytes RAM, alarm, watchdog timer, and interval timer)	DS1286	Dallas	55
SAM448-16	± Waferscale (3392)			Watchdog Timekeeper (real-time clock, 50 bytes RAM, alarm, watchdog timer, and interval timer)	DS1284	± Dallas	
SAM448-20	± Waferscale (3392)			Write Buffer (8-bit)	79R2020	± Intel	
SAM448-25	± Waferscale (3392)			79R3020	± Intel		
Super Number Cruncher	MM57409	National		Write Buffers, 32-Bit RISC	IDT79R2020	± IDT	
Synchronous Serial Data Adapter	MC6852	Motorola (2932)		Dual Bus Interface Circuit, MIL-STD-1553 Applications	R1553	Rockwell	60
System Support Chip (for PS/2 model 30)	UM85C301	UMC		Quad Pixel Dataflow Manager (generates mixed text and graphics within display memory)	AM95C60	AMD	
System Timing Controller	AM9513A	± AMD	20	Octal GPIB Transceiver (8 channel bidirectional)	SN75ALS161	TI	
TAXIchip (Transparent Asynchronous Xmitter-Receiver Interface)	AM7968	AMD		SN75ALS162	TI		
AM7969	AMD			Eight-Channel Multiplexed Sample and Hold	SSM2300	PMI	
Testable Functional Circuit (provides circuit functions while providing the capability of a testability bus port)				SSM2300	SSM Audio		65
LT74TC32PC	LSTI			32 Way INMOS link crossbar switch.	IMSC004	Inmos (2780)	
LT74TV32PC	LSTI			8-Bit Binary Counters W/Output Registers	UC74HCT590	Unicorn	
Time Key with Security Clock (384-bit NVRAM)	DS1207	Dallas	25	8-Bit Image and Signal Processing Subsystem	IMSA110	Inmos (2787)	
Timekeeper (watch or clock, nonvolatile RAM control)	DS1215	Dallas					
Transceiver, Dual CMOS (two 74F657's)	LD806	Silicon Logic					
UART (Quad Channel)	XR82C684	Exar (2618)					
Universal Microprocessor Power Supply Controller	TCA5600	Motorola					
TCF5600	Motorola						
Universal Asynchronous Receiver/Transmitter (UART)	CDP6402	GE/RCA (2644, 2653)	30				
CDP6402C	GE/RCA (2644, 2653)						
Universal Asynchronous Receiver/Transmitter with Baud Rate Generator	COM81C17	SMC					
Universal Asynchronous Receiver/Transmitter (2-channel)	COM78C802	SMC					
Universal Asynchronous Receiver/Transmitter (4-channel)	COM78C804	SMC	35				
Universal Asynchronous Receiver/Transmitter (8-channel)	COM78C808	SMC					

† Military Temperature Range (-55° to 125°C)

± High Radiation Resistance

*Typical Value

*Macrocell

± Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTRODUCTION TO INTERFACE

In the Interface Section the selection parameters differ for each category; therefore each has its own format. Some of the products in this section, primarily analog to digital and digital to analog converters, may be hybrids; the hybrids listed are only those packaged to be compatible with ICs.

In addition to these circuits are devices used to interface to peripherals such as: display drivers, keyboard encoder-decoders, line circuits, and transmitter-receiver circuits.

Category

Analog Switches

Switches with Drivers	1002
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Analog to Digital Converters

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Digital to Analog Converters

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Memory Drivers

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INTERFACE—Analog Switches

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line	Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line								
Switches with Drivers								SPST	JFET	100	± 5	± 15	2107BE	† TeledyneC	(Cont'd)								
2xSPST	CMOS/DMOS	320	± 10	± 15	CDG5341AK	† TopazSemi	5	PMOS	80-300	± 10	± 10	-20,10 -20,10	TL610I	TI	65								
					CDG5341BJ	† TopazSemi							TL610C	TI									
					CDG5341CJ	† TopazSemi																	
4xSPST	CMOS	30	0 to 12	2 to 12	TLC4016	TI	5	2xSPST	Bipolar	15	± 5	± 9.5	LB1017AC	AT&T	70								
					TLC4066	TI							IH5148	GE/Intersil (2671)									
		280	± 7.5	± 7.5	74HCT4066	Signetics	10		CMOS	25	± 14	± 15	± 15	IH401/A	GE/Intersil (2671)	75							
					SN54HC4016	† TI								DG401A	† Siliconix								
		850	± 7.5	± 7.5	SN54HC4066	† TI	15							DG421A	† Siliconix	80							
					TLC4066M	† TI								DG5048A	† Siliconix								
		CMOS/DMOS		160	± 10	± 15	74HCT4316		Signetics	20	30		± 14	± 15.5	± 15.5	MAX348C	Maxim	75					
							74HC4316		Signetics							MAX348E	Maxim						
							CDG201AK		† TopazSemi							25	35		± 10	± 15.5	IH5048M	† GE/Intersil (2671)	85
									CDG201BJ													† TopazSemi	
CDG201BK	† TopazSemi						40	45	± 15							± 15	IH5048M		† GE/Intersil (2671)	90			
CDG201CJ	† TopazSemi																		IH5048M		† GE/Intersil (2671)		
CDG211CJ	† TopazSemi						45	50	± 10							± 15.5	IH5048C		† GE/Intersil (2671)	95			
CDG211DY	† TopazSemi																		DGM181B		GE/Intersil (2671)		
CDG308AK	† TopazSemi						50	70	± 7.5							± 15.5	DGM182A		† GE/Intersil	100			
CDG308BJ	† TopazSemi																		IH5141M		† GE/Intersil		
CDG308BK	† TopazSemi	55	60	± 10	± 15.5	IH5141M	† GE/Intersil	105															
CDG308CJ	† TopazSemi						HI300		Harris														
CDG308DY	† TopazSemi	60	65	± 11	± 15.5	HI304	Harris	110															
CDG309AK	† TopazSemi						HI381		Harris														
CDG309BJ	† TopazSemi	65	70	± 15	± 15	DG300AA	† Maxim	115															
CDG309BK	† TopazSemi						DG300AB		Maxim														
CDG309CJ	† TopazSemi	70	75	± 15.5	± 15.5	DG300AC	† Maxim	120															
CDG309DY	† TopazSemi						DG304AA		† Maxim														
CDG4308BJ	† TopazSemi	75	± 10	± 15.5	± 11	DG304AB	† Maxim	125															
CDG4309BJ	† TopazSemi						DG304AC		† Maxim														
SPST	CMOS	25	± 15	± 15	DG417	Siliconix	35	70	± 14	± 15	± 15	DG381AA	† Maxim	130									
					DG418	Siliconix						DG381AB	† Maxim										
		30	± 14	± 15.5	DG5140A	† Siliconix	40					75	± 10		± 15.5	± 11	± 15.5	IH5048-2	† Harris	135			
					DG5240A	† Siliconix													IH5048-5		Harris		
		50	± 11	± 15.5	IH5140M	† GE/Intersil (2671)	45					80	± 14		± 15	± 15	DG200M	† GE/Intersil (2671)	140				
					IH5040M	† Maxim												IH5200		† GE/Intersil			
		75	± 10	± 15.5	IH5041M	† Maxim	50					85	± 15		± 15	± 15	ADG200A	† AD (2471)	145				
					IH5140M	† Maxim												HI200-2		† Harris			
		80	± 15	± 15	IH5141M	† Maxim	55					90	± 10		± 15.5	± 11	± 15.5	DG200AA	† Siliconix	150			
					DG5040A	† Siliconix													DGM182B		GE/Intersil		
100	± 15.5	± 15.5	IH5140C	GE/Intersil (2671)	60	95	± 11	± 15.5	± 15	± 15	DG200	† GE/Intersil (2671)	155										
			IH5040M	† GE/Intersil (2671)								IH200M		† GE/Intersil									
GaAs	JFET	—	20 dBm	± 5	HI5040-2	† Harris	65	80	± 10	± 15.5	± 14	± 15	IH5041M	† GE/Intersil	160								
					HI5040-5	† Harris								IH5341		GE/Intersil (2670)							
		6	-5 to 10	± 15	IH5140C	† Maxim	70							100		± 10	± 15.5	± 14	± 15	IH5041C	† Maxim	165	
					MAX340C	† Maxim															IH5341		† Maxim
		10	-5 to 4	± 15.5	MAX340E	† Maxim	75							105		± 10	± 15.5	± 14	± 15	IH5041-2	† Harris	170	
					MAX340M	† Maxim															HI5041-5		† Harris
		15	-10 to 5	± 15.5	IH5040C	† GE/Intersil (2671)	80							110		± 10	± 15.5	± 14	± 15	MAX341C	† Maxim	175	
					MAX340C	† Maxim															MAX341E		† Maxim
		30	± 5	± 5.5	IH5040M	† GE/Intersil (2671)	85							115		± 10	± 15.5	± 14	± 15	MAX341M	† Maxim	180	
					MAX340E	† Maxim															IH200C		† GE/Intersil
50	-10 to 4	± 15.5	MAX340M	† Maxim	90	120	± 10	± 15.5	± 14	± 15	IH5041C	† GE/Intersil	185										
			MAX340M	† Maxim								DG200C		† GE/Intersil (2671)									
60	± 10	-18,15 ± 18.5	IH5040C	† GE/Intersil (2671)	95	125	± 10	± 15.5	± 14	± 15	IH5200C	GE/Intersil (Continued)	190										
			IH5040M	† GE/Intersil (2671)																			

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line	Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
Switches with Drivers (Cont'd)								4xSPST CMOS 25 0 to 10 -0.5 to 10.5 (Cont'd)							
2xSPST	CMOS	80	± 15	± 15	ADG200B AD (2471) ADG200C AD (2471) HI200-5 Harris								CD54HCT4066 † GE/RCA (2641) CD54HC4066 † GE/RCA (2641) CD74HCT4066 GE/RCA (2641) CD74HC4066 GE/RCA (2641)		
		90	± 15	± 15	AD7592DIB AD (2424, 2462) AD7592DIK AD (2424, 2462)	5	50	± 15	± 15	HI201HS-2 † Harris HI201HS-5 † Harris DG271B Siliconix	65				
CMOS/DMOS								60 ± 15 ± 15 ADG221A AD (2424, 2462) ADG222A AD (2424, 2462)							
JFET		320	± 10	± 15	CDG5341BK TopazSemi CAG27 † TeledyneC CAG27-10 † TeledyneC DG180A † GE/Intersil (2671) DG180B † GE/Intersil (2671) DG180A † Siliconix			75	± 11	± 15,5	IH201M † GE/Intersil IH202M † GE/Intersil IH5052M † GE/Intersil (2671) IH5053M † GE/Intersil	70			
		6	-6 to 10	-18,15	DG141A † GE/Intersil DG141A † Siliconix	10		± 15	± 15	IH5352 Maxim					
10		± 10	-18,12	± 10	DG180A † GE/Intersil (2671) DG180B † GE/Intersil (2671) DG180A † Siliconix	15	80	± 10	± 15	MP201DIA † MicroPwr MP201DIB MicroPwr	75				
		-20,10,5	± 15,5	± 15	DG151A † GE/Intersil DG141B † GE/Intersil	20		± 15,5	IH201C GE/Intersil IH202C GE/Intersil IH5052C GE/Intersil (2671) IH5053C GE/Intersil	80					
15		± 7.5	± 15	± 15	DG151B GE/Intersil CAG24 † TeledyneC DG181A † GE/Intersil IH181M † GE/Intersil DG181A † Siliconix				± 14	± 15	DG201M † GE/Intersil IH5201M † GE/Intersil				
		20	± 5.5	± 15	DG181A † GE/Intersil IH181M † GE/Intersil DG181A † Siliconix	25	90	± 15	± 15	AD7590DIB AD (2424, 2462) AD7590DIK AD (2424, 2462) AD7591DIB AD (2424, 2462) AD7591DIK AD (2424, 2462) DG221A † Siliconix	85				
30		-6 to 10	-18,15	± 15,5	DG181A † GE/Intersil IH181M † GE/Intersil DG181A † Siliconix										
		-7.5 to 15	± 15,5	± 15,5	DG181B † GE/Intersil IH181C † GE/Intersil	30	100	-60 to 50 ± 60 ± 14 ± 15	DG571A † Siliconix DG201C GE/Intersil IH5201C GE/Intersil	90					
50		-12.5 to 10	± 15,5	± 15,5	DG181B † GE/Intersil IH181C † GE/Intersil										
		-20,10,5	± 15,5	± 15,5	DG181B † GE/Intersil IH181C † GE/Intersil	35		± 15	± 15	ADG201B AD (2450, 2461, 2470) ADG201C AD (2450, 2461, 2470) AD7510DIJ AD (2424, 2462) AD7510DIK AD (2424, 2462) AD7510DIS † AD (2424, 2462) AD7511DIJ AD (2424, 2462) AD7511DIK AD (2424, 2462) AD7511DIS † AD (2424, 2462) AD7511DIT † AD (2424, 2462) HI201-5 † Harris MP7510DIJ MicroPwr MP7510DIK MicroPwr MP7510DIS † MicroPwr MP7511DIJ MicroPwr MP7511DIK MicroPwr MP7511DIS † MicroPwr MP7511DIT † MicroPwr DG308AA † Siliconix DG309A † Siliconix DG309C Siliconix	95				
75		-10 to 15	± 15,5	± 15,5	DG182A † GE/Intersil IH182M † GE/Intersil DG182A † Siliconix										
		-15 to 10	-20,10,5	± 15,5	DG182A † GE/Intersil IH182M † GE/Intersil DG182A † Siliconix	40									
80		± 10	-18,12	± 15	DG134A † GE/Intersil DG134A † Siliconix										
		100	-10 to 15	± 15,5	DG182B † GE/Intersil IH182C † GE/Intersil	45	175	± 15	± 15	ADG202A † AD (2424, 2462) DG211 GE/Intersil (2671) DG212 GE/Intersil (2671)	115				
100		-15 to 10	-20,10,5	± 15,5	DG182B † GE/Intersil IH182C † GE/Intersil										
		± 8	-18,12	± 15,5	DG134B † GE/Intersil TL182C TI TL182I TI	50									
4xSPST		50	± 15	± 15	DG202 † Maxim HI201HS-2 † Maxim HI201HS-4 † Maxim HI201HS-5 † Maxim										
		CMOS	25	± 15	± 15	DG411A † Siliconix DG412A † Siliconix DG413A † Siliconix	55								
(Continued)								(Continued)							

DT¹ means four terminals with a pair of normally open and normally closed contacts.

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line	Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
Switches with Drivers (Cont'd)								(Cont'd)							
4xSPST	CMOS	175			DGP201AA	† Siliconix		4xSPST	CMOS	850	± 7.5	± 7.5	HCC4016B	† SGS-Thomson	
			± 22	± 22	DG201A	Raytheon							HCF4016B	◇ SGS-Thomson	
		200	± 15	± 15	CD4066A	† GE/RCA (2639, 2655, 2658)							HEF4016	† Signetics	
		280	± 7.5	± 7.5	CD4066AE	GE/RCA (2639, 2655, 2658)							HEF4016B	† Signetics	
					CD4066B	† GE/RCA (2639, 2655, 2658)							74HC4016	Signetics (3057)	
					CD4066BE	GE/RCA (2639, 2655, 2658)									
					CD74HC4066	GE/RCA (2641)									
					GD4066B	† GoldStar (2710)									
					HD74HC4066	Hitachi									
					CD4066A	† Micrel									
					CD4066B	† Micrel									
					M74HC4066	Mitsubishi									
					MC14066BA	† Motorola (2945)									
					MC14066BC	Motorola (2945)									
					MC54HC4066	† Motorola (2945)									
					MC74HC4066	† Motorola (2945)									
					CD4066BC	National									
					CD4066BM	† National									
					F4066BC	National									
					F4066BM	† National									
					MM54HC4066	† National									
					MM74HC4066	National									
					MN4066B	◇ † Panasonic									
					MN74HC4066	◇ Panasonic									
					BU4066B	ROHM									
					HCC4066B	† SGS-Thomson									
					HCF4066B	◇ SGS-Thomson									
					M74HC4066	SGS-Thomson									
					HEF4066B	Signetics									
					HEF4066BD	† Signetics									
					74HC4066	Signetics (3057)									
					883C4066B	† Sprague									
					TC4066B	Toshiba (3341)									
					TC50H4066	Toshiba									
					TC74HC4066	Toshiba (3340)									
					TC74HC4066A	Toshiba (3340)									
					MC14016BA	† Motorola (2945)									
					MC14016BC	Motorola (2945)									
					BU4016B	ROHM									
					883C4016B	† Sprague									
					TC4016B	Toshiba (3341)									
					F4016C	National									
					F4016M	† National									
					CD4016A	† GE/RCA (2639, 2653, 2655)									
					CD4016AE	GE/RCA (2639, 2653, 2655)									
					CD4016B	† GE/RCA (2639, 2653, 2655)									
					CD4016BE	GE/RCA (2639, 2653, 2655)									
					GD4016B	† GoldStar (2710)									
					CD4016A	† Micrel									
					CD4016B	† Micrel									
					MC54HC4016	† Motorola (2945)									
					MC54HC4016	† Motorola (2945)									
					MC74HC4016	† Motorola (2945)									
					MC74HC4016	† Motorola (2945)									
					CD4016BC	National									
					CD4016BM	† National									
					MM54HC4016	† National									
					MM54HC4016	† National									
					MM74HC4016	National									
					MM74HC4016	National									
					MN4016B	◇ † Panasonic									
(Continued)								(Continued)							

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

° Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
Switches with Drivers (Cont'd)							
4xSPST Various Combinations of Normally On/Off FET					(Cont'd)		
		100	± 10	± 15	SW201F SW202F	PMI PMI	
JFET	200	± 10	± 15,0		LF11201 LF11202 LF11331 LF11332 LF11333	† National † National † National † National † National	5
	250	± 10	± 15,0		LF13201 LF13202 LF13331 LF13332 LF13333	National National National National National	10
5xSPST Common Output PMOS							
	100-450	± 10	-20,10		DG123	♦ † GE/Intersil (2671)	15
					DG123A	† Siliconix	
			-20,10,5		DG125	♦ † GE/Intersil	
					DG125A	† Siliconix	
	125-500	± 10	-20,10		DG123B	♦ GE/Intersil (2671)	
			-20,10,5		DG125B	♦ GE/Intersil	
2xSPDT CMOS/DMOS							
	80	± 10	± 15		CDG2269CJ CDG2269CY	TopazSemi TopazSemi	20
3xSPDT CMOS							
	280	± 7.5	± 7.5		74HCT4353 74HC4353	Signetics Signetics	
SPDT	CMOS	25	± 14 ± 15	± 15 ± 15	IH5150 DG402A DG419D DG5050A	GE/Intersil † Siliconix Siliconix † Siliconix	25
	35	± 15	± 15		IH5050C IH5050M	Maxim † Maxim	
	75	± 60	± 60		MAX342C MAX342E MAX342M	Maxim Maxim † Maxim	30
JFET	50	-10 to 5	-15,5		CDA18	† TeledyneC	
PMOS	100	± 10	-20 to 10		SI3002	Siliconix	
	100-400	± 10	-20,10		TL601I TL607I	TI TI	35
	200-600	± 10	-20,10		TL601C TL607C	TI TI	
SPDT for D/A NPN-PNP							
	10	± 10	-15,5 ± 15		CDA23 CDA6	† TeledyneC † TeledyneC	40
		0 to -10 10	-15 10		CDA13 CDA4A	† TeledyneC † TeledyneC	
SPDT ¹ CMOS							
	30	± 14	± 15,5		DG5142A DG5242A	† Siliconix † Siliconix	45
	35	± 10	± 15,5		IH5050M	† GE/Intersil	
	45	± 10	± 15,5		IH5050C	GE/Intersil	
	50	± 11 ± 15	± 15,5 ± 15		IH5142M HI387 DG301AA DG301AB DG301AC DG305AA DG305AB DG305AC DG387AA DG387AB DG387AC DG301AA DG305AA DG387AA	† GE/Intersil Harris † Maxim Maxim Maxim † Maxim Maxim Maxim † Maxim Maxim Maxim † Siliconix † Siliconix † Siliconix	50
(Continued)							

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
SPDT ¹	CMOS	50	± 15	± 15,5	HI5050-2 HI5050-5 DG5042A	† Harris Harris † Siliconix	(Cont'd)
		75	± 10 ± 11 ± 15	± 15,5 ± 15,5 ± 15,5	IH5142C IH5042M HI5042-2 HI5042-5	GE/Intersil † GE/Intersil † Harris Harris	60
		80	± 10	± 15,5	IH5042C	GE/Intersil	65
JFET	10	-7.5 to 15 -12.5 to 10	± 15,5		DG186A	† Siliconix	70
			-20,10,5 ± 18,12		DG186A DG146A	† Siliconix Siliconix	
	30	-7.5 to 15	± 15,5		IH187M DG187A	† GE/Intersil † Siliconix	
		-12.5 to 10	-20,10,5		IH187M DG187A	† GE/Intersil † Siliconix	75
		± 10	± 18,12		DG144A	† Siliconix	
	50	-7.5 to 15 -12.5 to 10	± 15,5		IH187C	GE/Intersil	
		± 8	± 15		IH187C 2126BG	† GE/Intersil † TeledyneC	
	75	-10 to 15	± 15,5		IH188M DG188A	† GE/Intersil † Siliconix	80
		-15 to 10	-20,10,5		IH188M DG188A	† GE/Intersil † Siliconix	
	80	± 10	-18,12		DG143A	† Siliconix	
	100	-10 to 15 -15 to 10 ± 10	± 15,5 -20,10,5 ± 15,5		IH188C IH188C TL188C TL188I	GE/Intersil GE/Intersil TI TI	85
PMOS	100-400 200-600	± 10 ± 10	-20,10 -20,10		TL604I TL604C	TI TI	90
SPDT ¹	CMOS	50	± 15	± 15	HI301 HI305 IH5142M	Harris Harris ♦ † Maxim	95
		75	± 15	± 15	IH5042M IH5142C	♦ † Maxim ♦ Maxim	
	80	± 15	± 15		IH5042C	♦ Maxim	
JFET	10	-7.5 to 15	± 15,5		DG186A DG186B	♦ † GE/Intersil ♦ GE/Intersil	100
		-12.5 to 10	-20,10,5		DG186A DG186B	♦ † GE/Intersil ♦ GE/Intersil	
		± 10	± 18,12		DG146A	♦ † GE/Intersil	
	15	± 7.5 ± 8	± 15 ± 18,12		DG161A DG146B	♦ † GE/Intersil ♦ GE/Intersil	
	30	-7.5 to 15 -12.5 to 10	± 15,5		DG187A	♦ † GE/Intersil	
			-20,10,5 ± 18,12		DG187A DG144A	♦ † GE/Intersil ♦ † GE/Intersil	105
	50	-7.5 to 15 -12.5 to 10	± 15,5		DG187B	♦ GE/Intersil	
		± 7.5 ± 8	± 15 ± 18,12		DG187B DG162A DG144B	♦ GE/Intersil ♦ † GE/Intersil ♦ GE/Intersil	110
	75	-10 to 15 -15 to 10	± 15,5 -20,10,5		DG188A DG188A	♦ † GE/Intersil ♦ † GE/Intersil	
	80	± 10	-18,12		DG143	♦ † GE/Intersil	
	100	-10 to 15 -15 to 10	± 15,5 -20,10,5		DG188B DG188B	♦ GE/Intersil ♦ GE/Intersil	
2xSPDT CMOS							
	25	± 14	± 15		IH5149 IH5151	GE/Intersil GE/Intersil	115
		± 15	± 15		DG403A DG423A DG5051A	† Siliconix † Siliconix † Siliconix	
(Continued)							

DT¹ means four terminals with a pair of normally open and normally closed contacts.

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line	Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line		
Switches with Drivers (Cont'd)								2xSPDT¹ CMOS (Cont'd)									
2xSPDT	CMOS	35	± 15	± 15	IH5051C IH5051M	Maxim † Maxim	5	CMOS	80 100	± 15 ± 15	± 15 ± 15	IH5043C MP7512DIJ MP7512DIK MP7512DIS MP7512DIT	◊ Maxim MicroPwr MicroPwr † MicroPwr † MicroPwr	(Cont'd)	65		
		40	± 15	± 15	IH5352	GE/Intersil											
		50	± 22	± 22	DGP303A DGP303D	† Siliconix Siliconix											
		75	± 15	± 15	HS303RH HS307RH HS390RH	† Harris (2732) † Harris (2732) † Harris (2732)											
		± 60	± 60		MAX343C MAX343E MAX343M	Maxim Maxim † Maxim											
2xSPDT ¹	CMOS	35	± 10	$\pm 15,5$	IH5051M	† GE/Intersil	10	JFET	10	-7.5 to 15 -12.5 to 15	$\pm 15,5$ -20,15,5	DG189A DG189B DG190A DG190B DG190A DG190B DG191A DG191B DG191B DG191B CD4053B CD4053BE CD54HCT4053 CD54HC4053 CD74HCT4053 CD74HC4053 GD4053B CD4053A CD4053B MC14053BA MC14053BC MC54HC4053 MC54HC4353 MC74HC4053 CD4053BC CD4053BM F4053BC F4053BM MN4053B MN74HC4053 HCC4053B HCF4053B M74HC4053 HEF4053B HEF4053BD 883C4053B TC4053B	† GE/Intersil † GE/Intersil † GE/Intersil † GE/Intersil † GE/Intersil † GE/Intersil † GE/Intersil † GE/Intersil † GE/Intersil † GE/Intersil † GE/RCA (2639, 2655, 2658) GE/RCA (2639, 2655, 2658) † GE/RCA (2641, 2655) † GE/RCA (2641, 2655) GE/RCA (2641, 2655) GE/RCA (2641, 2655) † GoldStar (2710) † Micrel † Micrel † Motorola (2945) † Motorola (2945) † Motorola (2945) † Motorola (2945) † Motorola (2945) National † National National † National † Panasonic Panasonic † SGS-Thomson † SGS-Thomson † SGS-Thomson Signetics Signetics † Sprague Toshiba (3341)	70 75 80 85 90 95 100 105 110 115 120 125			
		45	± 10	$\pm 15,5$	IH5051C	GE/Intersil											
		50	± 11	$\pm 15,5$	IH5143M	† GE/Intersil											
		± 15	± 15		HI390	Harris											
					DG303AA DG303AB DG303AC DG307AA DG307AB DG307AC DG390AA DG390AB DG390AC MP303DIA MP303DIC DG303AA DG307AA DG390AA	† Maxim Maxim Maxim † Maxim Maxim Maxim † Maxim Maxim Maxim MicroPwr MicroPwr † Siliconix † Siliconix † Siliconix											
		60	± 14	$\pm 15,5$	DG5143A DG5243A	† Siliconix † Siliconix			30 35 40 45 50 55 60	30	-7.5 to 15 -12 to 15				$\pm 15,5$ -20,15,5	DG189A DG189B IH190M DG190A IH190M DG190A IH191M DG191A IH191M DG191A IH191C IH191C TL191C TL191I	† Siliconix † Siliconix † GE/Intersil † GE/Intersil † GE/Intersil † GE/Intersil † GE/Intersil † Siliconix † GE/Intersil † GE/

(Continued)

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line	Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line															
Switches with Drivers (Cont'd)								(Cont'd)																						
DPST	CMOS	75	± 11	$\pm 15,5$	IH5144M	$\uparrow$ GE/Intersil	5	2xDPST	JFET	10	± 10	-18,12	DG140A	$\diamond$ GE/Intersil	70															
					DG5044A	$\uparrow$ Siliconix							DG140A	$\uparrow$ Siliconix																
					± 15	± 15							IH5044M	$\diamond$ Maxim		DG153A	$\diamond$ GE/Intersil													
													IH5144C	$\diamond$ Maxim		DG153B	$\diamond$ GE/Intersil													
													IH5144M	$\diamond$ Maxim		DG184A	$\uparrow$ GE/Intersil													
					$\pm 15,5$	$\pm 15,5$							HI5044-2	$\uparrow$ Harris		-12.5 to 10	DG184A	$\uparrow$ GE/Intersil												
													HI5044-5	Harris			IH184M	$\uparrow$ GE/Intersil												
					± 60	± 60							MAX344C	Maxim		± 10	DG184A	$\uparrow$ Siliconix												
													MAX344E	Maxim			DG129A	$\diamond$ GE/Intersil												
													MAX344M	$\uparrow$ Maxim			DG129A	$\uparrow$ Siliconix												
80	± 10	$\pm 15,5$	IH5044C	GE/Intersil	50	-7.5 to 15	$\pm 15,5$	DG184B	$\diamond$ GE/Intersil																					
			IH5044M	$\uparrow$ GE/Intersil				IH184C	$\diamond$ GE/Intersil																					
			± 15	± 15				IH5044C	$\diamond$ Maxim	-12.5 to 15	DG184B	$\diamond$ GE/Intersil																		
JFET	6	-5 to 10	± 15	CAG7	$\uparrow$ TeledyneC	-20,10,5	IH184C	$\diamond$ GE/Intersil																						
				10	-5 to 10		± 15	CAG710	$\uparrow$ TeledyneC	DG154A	$\diamond$ GE/Intersil																			
2xDPST	CMOS	25	± 15	± 15	DG405A	$\uparrow$ Siliconix	20	75	-10 to 15	$\pm 15,5$	DG185A	$\diamond$ GE/Intersil	85																	
					DG425A	$\uparrow$ Siliconix					IH185M	$\uparrow$ GE/Intersil																		
					DG5049A	$\uparrow$ Siliconix					DG185A	$\uparrow$ Siliconix																		
					± 14	$\pm 15,5$					DG5145A	$\uparrow$ Siliconix		-15 to 10	DG185A	$\diamond$ GE/Intersil														
											DG5245A	$\uparrow$ Siliconix			IH185M	$\uparrow$ GE/Intersil														
					± 10	$\pm 15,5$					IH5049M	$\uparrow$ GE/Intersil		80	± 10	-18,12	DG126A	$\diamond$ GE/Intersil												
											± 15	± 15					IH5049C	Maxim	DG126A	$\uparrow$ Siliconix										
					45	± 10					$\pm 15,5$	IH5049C		GE/Intersil	100	-10 to 15	$\pm 15,5$	DG185B	$\diamond$ GE/Intersil											
												IH5145M		$\uparrow$ GE/Intersil				IH185C	GE/Intersil											
					50	± 11					$\pm 15,5$	HI302		Harris	30	-15 to 10	-20,10,5	DG185B	$\diamond$ GE/Intersil											
HI306	Harris	IH185C	GE/Intersil																											
HI384	Harris	DG154B	$\diamond$ GE/Intersil																											
DG302AA	$\uparrow$ Maxim	CAG48A	$\uparrow$ TeledyneC																											
DG302AB	Maxim	± 10	-18,15	TL185C			TI																							
DG302AC	Maxim							TL185I	TI																					
DG306AA	$\uparrow$ Maxim	150	± 10	$\pm 15,5$			HI5046A-2	$\uparrow$ Harris																						
DG306AB	Maxim								HI5046A-5	Harris																				
DG306AC	Maxim	75	± 11	$\pm 15,5$			$\pm 15,5$	$\pm 15,5$	HI5046M	$\uparrow$ GE/Intersil																				
DG384AA	$\uparrow$ Maxim											HI5046-2	$\uparrow$ Harris																	
DG384AB	Maxim	HI5046-5	Harris																											
DG384AC	Maxim	80	± 10	$\pm 15,5$	IH5046C	GE/Intersil																								
IH5145M	$\diamond$ Maxim						DG145A	$\uparrow$ Siliconix																						
MP302DIA	$\uparrow$ MicroPwr	30	± 10	-18,12	DG139A	$\uparrow$ Siliconix																								
MP302DIC	MicroPwr						DG142A	$\uparrow$ Siliconix																						
DG302AA	$\uparrow$ Siliconix	50	± 10	-18,12	DG145A	$\diamond$ GE/Intersil																								
DG306AA	$\uparrow$ Siliconix						DG163A	$\diamond$ GE/Intersil																						
75	± 10	$\pm 15,5$	± 15	$\pm 15,5$	HI5045-2	$\diamond$ Harris	50	DPDT ¹	JFET	10	± 10	-18,12	DG163B	$\diamond$ GE/Intersil	110															
					HI5045-5	$\diamond$ Harris							20	$\pm 5,5$		± 15	D6139A	$\diamond$ GE/Intersil												
					$\pm 15,5$	± 60													± 60	MAX345C	Maxim	50	$\pm 7,5$	± 15	DG164A	$\diamond$ GE/Intersil				
													MAX345E	Maxim		80	± 10	-18,12		DG142A	$\diamond$ GE/Intersil									
					MAX345M	$\uparrow$ Maxim							100	$\pm 5,5$		± 15	DG164B	$\diamond$ GE/Intersil												
					80	± 10							$\pm 15,5$	± 15		IH5045C	GE/Intersil	55	1xSPST	CMOS/D-MOS	160	± 10	± 15	CDG2214AK	$\uparrow$ TopazSemi	115				
																IH5045C	$\diamond$ Maxim							CMOS/DMOS	160		± 10	± 15	CDG2214BJ	TopazSemi
																CMOS-RH	75							± 15	± 15		HS302RH	$\uparrow$ Harris	60	4PDT for D/A
					HS306RH	$\uparrow$ Harris							75	± 11		$\pm 15,5$		IH5047A-2	$\uparrow$ Harris											
					HS384RH	$\uparrow$ Harris														HI5047A-5	Harris									
JFET	10	-7.5 to 15	$\pm 15,5$	DG183A	$\diamond$ GE/Intersil	65	4PST	CMOS	50	± 15	$\pm 15,5$	IH5047M	$\uparrow$ GE/Intersil	120																
				DG183B	$\diamond$ GE/Intersil							75	± 11		$\pm 15,5$	IH5047-2	$\uparrow$ Harris													
				DG183A	$\uparrow$ Siliconix													HI5047-5	Harris											
-12.5 to 10	-20,10,5	DG183A	$\diamond$ GE/Intersil	80	± 10	$\pm 15,5$	IH5047C	GE/Intersil																						
		DG183B	$\diamond$ GE/Intersil																											
		DG183A	$\uparrow$ Siliconix																											

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line	Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
Switches with Drivers (Cont'd)								3xSPST Common Output JFET							
8xSPST	CMOS	100	-60 to 50	± 60	DG566A	† Siliconix		150		± 0.2			IH5014C	GE/Intersil	55
Switches without Drivers													IH5014M	† GE/Intersil	
Monolithic 1x1 Video Crosspoint Switch											0 to (Drive-4)		IH5030C	GE/Intersil	
		900	-4—2	10	GX401	◊ Gennum (2690)							IH5030M	† GE/Intersil	
4xSPST	BiFET	110	24	± 15	MB47201	◊ Fujitsu	5	4xSPST	CMOS	30	± 15	44	ADG201HS	◊† AD (2424, 2450, 2461)	60
	DMOS	70	± 5		SD5001N	TopazSemi				115	± 15	44	ADG211A	† AD (2424)	
			± 7.5		SD5002N	TopazSemi							ADG212A	† AD (2424)	
					SD5402CY	◊ TopazSemi		JFET	100		± 0.2		IH5011C	GE/Intersil	
					SD5000N	TopazSemi							IH5011M	† GE/Intersil	
					SD5400CY	◊ TopazSemi							AH5011C	National	
					SD5401CY	◊ TopazSemi									
SPST	JFET	30	± 10		AM1000	† National	10						IH5027C	GE/Intersil	65
		50	± 15		AM1001	† National				150	± 0.2		IH5012C	GE/Intersil	
		100	± 0.2		IH5021C	† GE/Intersil (2670)							IH5012M	† GE/Intersil	
					IH5021M	† GE/Intersil (2670)							AH5012C	National	
					IH5023C	GE/Intersil (2670)							IH5028C	GE/Intersil	70
					IH5023M	† GE/Intersil (2670)							IH5028M	† GE/Intersil	
							15	PMOS	200-600				MM452	† GE/Intersil	
													MM552	GE/Intersil	
			± 10		AM1002	† National		4xSPST Common Output JFET	100		± 0.2		IH5009C	GE/Intersil	75
			0 to (Drive-4)		IH5037C	GE/Intersil							IH5009M	† GE/Intersil	
					IH5037M	† GE/Intersil							AH5009C	National	
		150	± 0.2		IH5022C	GE/Intersil (2670)	20						IH5025C	GE/Intersil	
					IH5022M	† GE/Intersil (2670)				150	± 0.2		IH5025M	† GE/Intersil	
					IH5024C	GE/Intersil (2670)							IH5010C	GE/Intersil	80
					IH5024M	† GE/Intersil (2670)							IH5010M	† GE/Intersil	
													AH5010C	National	
			0 to (Drive-4)		IH5038C	GE/Intersil							IH5026C	GE/Intersil	
					IH5038M	† GE/Intersil							IH5026M	† GE/Intersil	
2xSPST	JFET	100	± 0.2		IH5017C	GE/Intersil	25	PMOS	—				MM451	† GE/Intersil	85
					IH5017M	† GE/Intersil							MM551	GE/Intersil	
			0 to (Drive-4)		IH5033C	GE/Intersil		6xSPST Common Output PMOS	—				G118A	† Siliconix	
					IH5033M	† GE/Intersil		2xSPST	CMOS	95	± 7.5	± 7.5	TSC444	◊† TeledyneS (3273)	
		150	± 0.2		IH5020C	GE/Intersil	30	2xDPST Common Output PMOS	—				MM450	† GE/Intersil	
					IH5020M	† GE/Intersil							MM550	GE/Intersil	
			0 to (Drive-4)		IH5036C	GE/Intersil		3xDPST Common Output PMOS	—				G119A	† Siliconix	90
					IH5036M	† GE/Intersil							G119B	Siliconix	
2xSPST Common Output JFET	100	± 0.2			IH5019C	GE/Intersil		4x1 Video Crosspoint Switch JFET	960k	-2 to 4	± 8		GX414A	◊ Gennum	
			0 to (Drive-4)		IH5035C	GE/Intersil	35	8x4 Array	CMOS	75	0.5	13	MT8806A	◊ Mitel	
					IH5035M	† GE/Intersil		8x8 Array	CMOS	75	0.5	13	MT8809A	◊ Mitel	
		150	± 0.2		IH5018C	GE/Intersil	40	8x12 Array	CMOS	75	0.5	13	MT8812A	◊ Mitel	95
					IH5018M	† GE/Intersil							MT8814A	◊ Mitel	
			0 to (Drive-4)		IH5034C	GE/Intersil		8x16 Array	CMOS	75	0.5	13	MT8816A	◊ Mitel	
					IH5034M	† GE/Intersil									
3xSPST	JFET	100	± 0.2		IH5015C	GE/Intersil	45	Drivers							
					IH5015M	† GE/Intersil		High Current Switch (to drive power transistor switches)					SG1629	◊† SiliconG	
			0 to (Drive-4)		IH5031C	GE/Intersil							SG3629	◊ SiliconG	
					IH5031M	† GE/Intersil		2 Channel					IH6201	GE/Intersil (2671)	100
		150	± 0.2		IH5016C	GE/Intersil	50						D139A	† Siliconix	
					IH5016M	† GE/Intersil		4 Channel					D129A	◊† GE/Intersil (2671)	
			0 to (Drive-4)		IH5032C	GE/Intersil							D129B	◊ GE/Intersil (2671)	
					IH5032M	† GE/Intersil							D129A	† Siliconix	
3xSPST Common Output JFET	100	± 0.2			IH5013C	GE/Intersil									(Continued)
					IH5013M	† GE/Intersil									
			0 to (Drive-4)		IH5029C	GE/Intersil									
					IH5029M	† GE/Intersil									

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
Drivers (Cont'd)							
4 Channel					D469A Siliconix SI7250 Siliconix	(Cont'd)	
6 Channel					D123A ♦† GE/Intersil (2671) D123B ◇ GE/Intersil (2671) D125A ♦† GE/Intersil (2671) D125B ◇ GE/Intersil (2671) D125A † Siliconix D125B Siliconix CDR125A † TeledyneC		5
Multiplexers							
Audio Signals, Dual 2-Mode					M51551 Mitsubishi		10
Audio/Video Switch					GL3812 GoldStar (2711)		
CMOS Analog Multiplexer, 4-Channel Differential CMOS 1500 ± 15 ± 15					HI509A † Burr-Brown		
CMOS Analog Multiplexer, 8-Channel Differential CMOS 1500 ± 15 ± 15					HI507A † Burr-Brown		
CMOS Analog Multiplexer, 8-Channel Single-Ended CMOS 1500 ± 15 ± 15					HI508A † Burr-Brown		
CMOS Analog Multiplexer, 16-Channel Differential CMOS 1500 ± 15 ± 15					HI506A † Burr-Brown		15
Crosspoint Switches					CD22100 GE/RCA (2645) CD22101 GE/RCA (2645) CD22102 GE/RCA (2645) CD74HCT22106E GE/RCA (2645) CD74HC22106E GE/RCA (2645) GD4741B GoldStar GM62093 GoldStar (2713) MC142100 Motorola MC145100 Motorola MC3416 Motorola RC4444 Raytheon (3025) RM4444 † Raytheon EFB7310 SGS-Thomson		20
3xSPDT CMOS 280 ± 7.5 ± 7.5					BU4053B ROHM		25
Dual 4-Channel Analog Multiplexer HC					M74HC4052 SGS-Thomson		30
Triple 2-Channel Analog Multiplexer HC					M74HC4053 SGS-Thomson		
Triple 2-Channel Analog Multiplexer/Demultiplexer					HD74HC4053 Hitachi		
2-Channel Differential CMOS 90 -5 to 10 -5,15					DG534A † Siliconix		
4 Channel CMOS 40 ± 10 ± 70					HV1014 Supertex HV1714 Supertex HV1016 Supertex HV1716 Supertex		35
JFET 10 ± 10 -18,2,8					CAM604A † TeledyneC		
4 Channel Differential 1800 ± 15 ± 15					HI3-0509A-5 Burr-Brown (2555)		40
CMOS 230 ± 15 ± 15					MP7502S † MicroPwr MP7509S † MicroPwr		
250 ± 15 ± 15					MVD409 Datel (2600)		45
270 ± 7.5 ± 7.5					MC145298A † Motorola (2945) MC14529BC Motorola (2945) CD4529BC National CD4529BM † National		
280 ± 7.5 ± 7.5					CD4052B † GE/RCA (2639, 2653, 2655) CD4052BE GE/RCA (2639, 2653, 2655) (Continued)		
4 Channel Differential CMOS 280 ± 7.5 ± 7.5 (Cont'd)							
					CD54HCT4052 † GE/RCA (2641, 2655) CD54HC4052 † GE/RCA (2641, 2655) CD74HCT4052 GE/RCA (2641, 2655) CD74HC4052 GE/RCA (2641, 2655) GD4052B † GoldStar (2710) HD74HC4051 Hitachi HD74HC4052 Hitachi CD4052A † Micrel CD4052B † Micrel MC14052BA † Motorola (2945) MC14052BC Motorola (2945) MC54HC4052 † Motorola (2945) MC54HC4352 † Motorola (2945) MC74HC4052 Motorola (2945) MC74HC4352 Motorola (2945) CD4052BC National CD4052BM † National F4052BC National F4052BM † National MM54HC4052 † National MM54HC4352 † National MM74HC4052 National MM74HC4352 National MN4052B ♦† Panasonic MN74HC4052 Panasonic HCC4052B † SGS-Thomson HCF4052B ◇ SGS-Thomson 74HCT4352 Signetics 74HC4352 Signetics 883C4052B † Sprague TC4052B Toshiba (3341)		50
300 ± 15 ± 15					AD7502J ◇ AD (2425, 2462) AD7502K ◇ AD (2425, 2462) AD7502S ♦† AD (2425, 2462) IH6208M † GE/Intersil (2670) HI509-2 ♦† Harris HI509-5 ◇ Harris HI509-8 ♦† Harris IH6208M † Maxim		80
320 ± 15 ± 15					MP7502J MicroPwr MP7502K MicroPwr MP7509K MicroPwr		85
350 ± 15 ± 15					IH6208C GE/Intersil (2670) IH6208C Maxim		90
400 ± 15 ± 15					HI1828A-2 † Harris HI1828A-5 Harris HI1828A-8 † Harris DG509AA † Maxim DG506AA † Siliconix DG509AA † Siliconix		95
450 ± 15 ± 15					DG509AB Maxim DG509AC Maxim		100
900 ± 10 ± 15					HI539-2 ♦† Harris HI539-5 ◇ Harris		
1000 ± 13 ± 15					IH5208M † GE/Intersil (2670)		
1200 ± 13 ± 15					IH5208C GE/Intersil (2670)		
1500 ± 15 ± 15					MXD409 Datel (2600) HI509A-2 ♦† Harris HI509A-2 † Maxim MAX359M † Maxim		105
				± 20	HI549-2 † Harris (2754) (Continued)		

DT¹ means four terminals with a pair of normally open and normally closed contacts.

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line	Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
Multiplexers (Cont'd)								8 Channel (Cont'd)							
4 Channel Differential CMOS								CMOS 280 ± 7.5 ± 7.5							
	1800	± 15	± 15		HI509A-5 HI509A-5 MAX359C	◊ Harris Maxim Maxim							CD4051BE	GE/RCA (2639, 2655, 2658)	55
				± 20	HI549-5	Harris	(2754)						CD54HC4051	† GE/RCA (2641, 2655)	
	JFET 260	-15 to 11.5	± 15		MUX24A MUX24E	† PMI PMI	5						CD54HC4051	† GE/RCA (2641, 2655)	
	350 *	-15 to 12	± 15		LF13509	National							CD74HC4051	GE/RCA (2641, 2655)	
	370	-15 to 12	± 15		MUX24B MUX24F	† PMI PMI							CD74HC4051	GE/RCA (2641, 2655)	
4 Channel Differential, Latched CMOS								60							
	1500	± 15	± 15		MAX369M	† Maxim	10						GD4051B	† GoldStar (2710)	
	1800	± 15	± 15		MAX369C	Maxim							CD4051A	† Micrel	
4 Channel Differential, Video CMOS								65							
	150	± 15	± 15		MAX311C MAX311E MAX311M	Maxim Maxim † Maxim	15						MC14051BA	† Motorola (2945)	
					MAX313C MAX313E MAX313M	Maxim Maxim † Maxim							MC14051BC	Motorola (2945)	
4 Channel Differential with Input Latch CMOS								70							
	30 *	± 50			DG569B	Siliconix							MC54HC4051	† Motorola (2945)	
4 Channel (dual) CMOS								75							
	300	± 15	± 15		ADG509A ADG529A	AD (2425, 2462) AD (2425, 2462)	20						MC74HC4051	Motorola (2945)	
4 Channel Video CMOS								80							
	270	± 7.5	± 7.5		MC14529BA MC14529BC CD4529BC	† Motorola (2945) Motorola (2945) National	25						MC74HC4351	Motorola (2945)	
	450	± 15	± 15		HI524-2 HI524-5	† Harris Harris							F4051BC	National	
4 Channel with Input Latch CMOS								85							
	400	± 15	± 15		DG529A	† Siliconix							F4051BM	† National	
4 Channel Dual, with Decode CMOS								90							
	50	± 10	± 70 ± 80		HV1314 HV1316	Supertex Supertex	30						MM54HC4051	† National	
4-Channel Differential CMOS								95							
	90	-5 to 10	-5,15		DG538A BU4052B	† Siliconix ROHM							MM74HC4051	National	
	280	± 7.5	± 7.5		DGP509AA	† Siliconix							MM74HC4351	National	
	400	± 15	± 15										MN74HC4051	Panasonic	
4-Channel Video								100							
					AD9300J AD9300S	AD (2425, 2450) † AD (2425, 2450)	35						HCC4051B	† SGS-Thomson	
4-Channel, with Enable CMOS/DMOS								105							
	160	± 10	± 15		CDG4500AK CDG4500BJ CDG4500BK CDG4500CJ	† TopazSemi TopazSemi TopazSemi TopazSemi	40						HCF4051B	† SGS-Thomson	
6 Channel								110							
	CMOS 150	± 8	± 8		MS504	RTC							HEF4051B	Signetics	
	JFET 60	± 10	-18,2.8		CAM601A	† TeledyneC							HEF4051BD	† Signetics	
8 Channel								115							
	1800	± 15	± 15		HI3-0508A-5	Burr-Brown	(2555)						HEF4052B	Signetics	
	CMOS 50	± 10	± 70		HV1214 HV1614 HV1814	Supertex Supertex Supertex							HEF4052BD	† Signetics	
			± 80		HV1216 HV1616 HV1816	Supertex Supertex Supertex	45						74HCT4351	Signetics	
	50 *				HV11	Supertex							74HC4351	Signetics	
	230	± 15	± 15		MP7501S MP7503S MP7508S	† MicroPwr † MicroPwr † MicroPwr	50						883C4051B	† Sprague	
	250	± 15	± 15		MV808	Datel (2600)							TC4051B	Toshiba (3341)	
	280	± 7.5	± 7.5		CD4051B	† GE/RCA (2639, 2655, 2658)	(Continued)						ADG508A	AD (2425, 2461)	
													ADG528A	AD (2425, 2462)	
													AD7501J	◊ AD (2425, 2462)	
													AD7501K	◊ AD (2425, 2462)	
													AD7501S	◊ † AD (2425, 2462)	
													AD7503J	◊ AD (2425, 2462)	
													AD7503K	◊ AD (2425, 2462)	
													AD7503S	◊ † AD (2425, 2462)	
													IH6108M	† GE/Intersil (2670)	
													HI508-2	◊ † Harris	
													HI508-5	◊ Harris	
													HI508-8	◊ † Harris	
													HS508ARH	† Harris (2731)	
													IH6108M	† Maxim	
													MP7501J	MicroPwr	
													MP7501K	MicroPwr	
													MP7503J	MicroPwr	
													MP7503K	MicroPwr	
													MP7508K	MicroPwr	
													IH6108C	GE/Intersil (2670)	
													IH6108C	Maxim	
													DG508AA	† Maxim	
													DG508AA	† Siliconix	
													HI1818A-2	† Harris	
													HI1818A-5	Harris	
													HI1818A-8	† Harris	
													DG508AB	Maxim	
													DG508AC	Maxim	
													MX818C	Datel (2600)	
													IH5108M	† GE/Intersil (2670)	
													IH5108C	GE/Intersil (2670)	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line	Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line											
Multiplexers (Cont'd)																										
8 Channel	CMOS	1500	± 15	± 15	MX808	Datel	5	8 Channel Differential	CMOS	1800	± 15	± 20	HI547-5	Harris	60											
					MX808M	† Datel							MUX28A	† PMI												
					HI508A-2	† Harris							MUX28E	PMI												
					HI508A-2	† Maxim							MUX28B	† PMI												
					MAX358M	† Maxim							MUX28F	PMI												
			± 20			MAX368M			† Maxim		1000	± 25	± 15	IH5216		GE/Intersil										
						HI548-2			† Harris																	
						HI548-5			Harris																	
						JFET		120	± 50	± 15	HI508A-5	† Harris	10	8 Channel (dual)	CMOS	280	± 15	± 15	ADG507A	AD	65					
											HI508A-8	† Harris							ADG527A	AD						
	HI508A-5	Maxim																								
	260	-15 to 11.5	± 15	MAX358C	Maxim		8 Channel Latched	CMOS	30 *	± 50	± 60	DG568B							Siliconix	70						
				MAX368C	Maxim							HI508L-2							† Maxim							
				IH9108	GE/Intersil							HI508L-5							Maxim							
	PMOS	300	-15 to 12	± 15	MUX08A	† PMI	15	8 Channel Video	CMOS	150	± 15	± 15	MAX310C	Maxim	75											
					LF13508	National							MAX310E	Maxim												
MUX08F					† PMI	MAX310M							† Maxim													
MUX88F					PMI	MAX312C							Maxim													
MUX08B					† PMI	MAX312E							Maxim													
400		-15 to 12	± 15	MUX08B	† PMI	20							8 Channel, BCD Input, Latch	PMOS		—	60	0-70	LS7110	LSI Comp	80					
				DG501A	† Siliconix														8 Channel, 1 of 8 Decode	CMOS		50	± 10	± 70	HV1414	Supertex
				DG503A	† Siliconix																				HV1514	Supertex
				DG501A	† Siliconix																				HV1416	Supertex
				3708	National																				HV1516	Supertex
8 Channel Differential	CMOS	1800	± 15	± 15	HI3-0507A-5	Burr-Brown		30	8-Channel	CMOS	280	± 7.5	± 7.5	M74HC4051		SGS-Thomson	85									
					MP7507S	† MicroPwr	8-Channel Differential							CMOS	400	± 15		± 15	AD7507S	† Maxim						
					MC14097BA	† Motorola													AD7507T	† Maxim						
					MC14097BC	Motorola													450	± 15	± 15	AD7507J	† Maxim			
					MVD807	Datel																AD7507K	† Maxim			
		CD4097B	† GE/RCA	CMOS	400	± 15																± 15	DG507AA	† Maxim		
		CD4097BE	GE/RCA				IH6216M							† Maxim												
		HCC4097B	† SGS-Thomson				450							± 15	± 15	DG507AB		Maxim								
		HCF4097B	SGS-Thomson	DG507AC	† Maxim																					
		IH6216C	GE/Intersil	IH6216C	Maxim																					
	CMOS	230	± 15	± 15	MP7507J	MicroPwr	35		8-Channel with Enable	CMOS	100	± 50	± 60	DG565A	† Siliconix	95										
					MP7507K	MicroPwr		Si3705						Siliconix												
					AD7507S	† AD		DGP508AA						† Siliconix												
					AD7507T	† AD		16 Channel						CMOS	1800		± 15	± 15	HI3-0506A-5	Burr-Brown						
					HI507-2	† Harris													230	± 15	± 15	TC5023B	Toshiba			
		HI507-5	† Harris	250	± 15	± 15																MP7506S	† MicroPwr			
HI507-8		† Harris	MC14067BA																			† Motorola				
DG507AA		† Siliconix	MC14067BC																			Motorola				
CMOS		450	± 15	± 15	DG527A	† Siliconix		45						8-Channel with Enable	CMOS		100	± 50				± 60	DG565A	† Siliconix	100	
					DG528A	† Siliconix													230	± 15	± 15		TC5023B	Toshiba		
	AD7507J				† AD	250			± 15	± 15	MP7506S	† MicroPwr														
	AD7507K				† AD		MC14067BA				† Motorola															
	HI6216C				GE/Intersil		MC14067BC				Motorola															
	600	± 10	± 15	HI6216M	† GE/Intersil	50	16 Channel		CMOS	1800	± 15	± 15	HI3-0506A-5			Burr-Brown										
				HI518-2	† Harris								230			± 15			± 15	TC5023B	Toshiba					
				HI518-5	† Harris															250	± 15		± 15	MP7506S		† MicroPwr
				MPC800K	Burr-Brown																			MC14067BA		† Motorola
				MPC800S	† Burr-Brown																			MC14067BC		Motorola
CMOS	1300	± 15	± 15	AD7507J	† AD	55	8-Channel with Enable		CMOS	100	± 50	± 60		DG565A	† Siliconix		105									
				AD7507K	† AD			230					± 15	± 15	TC5023B	Toshiba										
				HI547-2	† Harris										250	± 15		± 15	MP7506S	† MicroPwr						
				HI507A-5	† Harris														MC14067BA	† Motorola						
				HI507A-8	† Harris														MC14067BC	Motorola						
	1800	± 15	± 15	CD54HCT4067	† GE/RCA										50	16 Channel		CMOS	1800	± 15	± 15	HI3-0506A-5	Burr-Brown			
				CD74HCT4067	GE/RCA			230					± 15	± 15								TC5023B	Toshiba			
				CD74HCT4067	GE/RCA																	250	± 15	± 15	MP7506S	† MicroPwr
				CD74HCT4067	GE/RCA																				MC14067BA	† Motorola
				GD4067B	† GoldStar																				MC14067BC	Motorola
CMOS	1300	± 15	± 15	F4067BC	National		55		8-Channel with Enable	CMOS	100	± 50			± 60	DG565A		† Siliconix	105							
				F4067BC	National	230		± 15					± 15	TC5023B		Toshiba										
				F4067BC	National									250		± 15	± 15	MP7506S		† MicroPwr						
				F4067BC	National													MC14067BA		† Motorola						
				F4067BC	National													MC14067BC		Motorola						
	1800	± 15	± 15	F4067BC	National									55		16 Channel	CMOS	1800		± 15	± 15	HI3-0506A-5	Burr-Brown			
				F4067BC	National	230		± 15					± 15									TC5023B	Toshiba			
				F4067BC	National																	250	± 15	± 15	MP7506S	† MicroPwr
				F4067BC	National																				MC14067BA	† Motorola
				F4067BC	National																				MC14067BC	Motorola

INTERFACE—Analog Switches (Cont'd)

Function	Switch Type	ON Resistance 25°C, Ω	Analog Signal Range V	Supply Voltage, V	Device	Source	Line
Multiplexers					(Cont'd)		
16 Channel					(Cont'd)		
	CMOS	280	± 7.5	± 7.5	F4067BM HCC4067B HCF4067B HEF4067B HEF4067BD 74HCT4067 74HC4067	National † SGS-Thomson SGS-Thomson Signetics † Signetics Signetics Signetics	5
			± 15	± 15	ADG506A ADG526A	AD (2425, 2462) AD (2425, 2462)	
		320	± 15.5	± 15.5	MP7506J MP7506K	MicroPwr MicroPwr	10
		400	± 15	± 15	AD7506S AD7506T HI506-2 HI506-5 HI506/883 DG526A	◊† AD (2425, 2462) ◊† AD (2425, 2462) ◊† Harris ◊ Harris ◊† Harris † Siliconix	15
		450	± 15	± 15	AD7506J AD7506K	◊ AD (2425, 2462) ◊ AD (2425, 2462)	
		600	± 10	± 15	IH6116C IH6116M HI516-2 HI516-5	GE/Intersil (2670) † GE/Intersil (2670) † Harris Harris	20
		750	± 15	± 15	MX1616C MX1616M	Datel (2600) † Datel (2600)	25
		1500	± 15	± 15	MX1606 HI506A-2	Datel (2600) ◊† Harris	
			± 20		HI546-2	† Harris (2753)	
		1800	± 15	± 15	HI506A-5 HI506A-8	◊ Harris ◊† Harris	30
			± 20		HI546-5	Harris (2753)	
		5000	± 5 to 15	± 15.5	HS1840RH	‡ Harris (2731)	
	JFET	300	-15 to 11	± 15	MUX16A MUX16E	† PMI PMI	
		450	-15 to 11.5	± 15	MUX16B MUX16F	† PMI PMI	35
		1000	± 25	± 15	IH5116	GE/Intersil (2670)	
16-Channel							
		400	± 15	± 15	AD7506S AD7506T	† Maxim † Maxim	
		450	± 15	± 15	AD7506J AD7506K	◊ Maxim ◊ Maxim	40
	CMOS	400	± 15	± 15	DG506AA IH6116M	† Maxim † Maxim	
		450	± 15	± 15	DG506AB DG506AC IH6116C	Maxim ◊ Maxim Maxim	45
16-Channel Wideband Video							
	CMOS	90	± 10	16.5	DG535A	† Siliconix	
16-Channel with Enable							
	CMOS	90	0 to 10	0 to 15	DG536	† Siliconix	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters

Bits Res.	Linearity Error $\pm$ LSB	Conversion Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
12	1	15	150	x	x						x		x	x		ADC674ZA	Datel (2595)	
Binary Output																		
4	1/8	0.005	700	x										x		AD9688B	◊ AD (2419)	5
				x										x		AD9688T	◊† AD (2419)	
	1/4	0.04	35 *	x										x		CA3304A	GE/RCA	
		0.05	30	x										x		CA3304	GE/RCA	
	1/2	0.03 *	800	x		x								x		UAB1005	SGS-Thomson	
				x		x								x		UAC1005	† SGS-Thomson	
4 (flash)	1/4		30	x												CA3304	GE/Intersil (2668)	10
			35	x												CA3304A	GE/Intersil (2668)	
			25	x				x						x		TDC1044	TRWLSI	
4 (Video A/D Converter)	1/4	0.1	240	x				x						x		HA19202	Hitachi	15
				x				x						x		HA19203	◊ Hitachi	
6	—	1	—										x			MAH0801	AD (2471)	15
		75 MHz		x										x		AD9000J	AD (2419, 2462)	
				x										x		AD9000S	† AD (2419, 2462)	
	1/8	—														AD5010K	AD (2471)	20
																AD6020K	AD	
	1/4	0.02	450	x	x						x			x		SDA6020	Siemens	25
		0.05	390	x										x		HA19216	◊ Hitachi	
		0.066	70 *	x										x		CA3306A	GE/RCA	
	1/2	0.066	70 *	x										x		CA3306	GE/RCA	30
		0.07	700	x	x									x		ZN440CJ	Plessey	
		0.10	55 *	x										x		CA3306C	GE/RCA	
		700		x	x									x		ZN441CJ	Plessey	25
				x										x		MP7682XB	MicroPwr	
				x										x		MP7682XK	MicroPwr	
		90	120													MP7682XT	† MicroPwr	35
															x	NE5036	Signetics	
														x		NE5037	Signetics	
		300 MSPS	1700	x				x						x		SDA8200	Siemens	30
				x												AD9016	AD (2419, 2446)	
														x		MP7682XA	MicroPwr	
	1	0.66	150	x										x		MP7682XJ	MicroPwr	35
				x										x		MP7682XS	† MicroPwr	
														x		MB40576	Fujitsu	
	6 (A/D - D/A combination)	1	0.05	300	x								x	x		MB40176	◊ Fujitsu	40
	6 (flash)	1/4	70	x												CA3306A	GE/Intersil (2668)	40
				x												CA3306L	GE/Intersil (2668)	
		1/2	55	x												CA3306	GE/Intersil (2668)	
		0.01	1600	x	x		x							x		TDC1029	† TRWLSI	45
				x	x		x							x		TDC1029	TRWLSI	
	6 (video)	1/2	470 MSPS	x												AD9006	AD (2419, 2446)	45
	6 (video digital converter)	1/4	0.05	1000	x	x		x						x		TDC1046	TRWLSI	
7	1/2		30	x										x	x	USC1072	◊‡ Universal	45
			100	x										x	x	USC1073	◊‡ Universal	
			150	x										x	x	USC1071	‡ Universal (Continued)	

Bin.—Binary Compl.—Complementary CTC—Compl. 2's Compl. Mux. In—Multiplexed Inputs Par. Out—Parallel Output
 Off.—Offset Magn.—Magnitude Int. Ref.—Internal Reference S&H—Sample and Hold Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
7	1/2	0.03	385	x													ADC207MC Datel (2595)	5
				x													ADC207MM † Datel (2595)	
		0.04		x			x	x				x					MC10321 Motorola (2970)	
		0.045	400	x				x			x				x		PNA7509 $\diamond$ Signetics (3175)	
		0.05	300	x				x							x		HA19213 Hitachi	
		20 MSPS		x													ADCB207 Datel (2595)	
7 (flash)	1/2		150	x									x	x			USC1070 $\diamond$ $\ddagger$ Universal	
		0.05	1000	x				x							x		TDC1047 TRWLSI	
		15 MHz		x				x									TDC1147 TRWLSI	
8	—	1	—										x				MAH1001 AD (2471)	10
	1/4	0.0067	2200	x	x	x	x	x	x			x			x		HADC77200 † Honeywell SPT	
		9	125	x	x									x	x		ADC847B Datel (2595)	
				x	x									x	x		ADC847M † Datel (2595)	
		125 *		x	x									x	x		ZN447E Plessey	
		15		x										x	x		AD670B AD (2416, 2460, 2462)	15
				x										x	x		AD670K AD (2416, 2460, 2462)	
		110	15	x											x		ADC0801 † National	
				x											x		ADC0801C National	
	1/2	0.0033	1800	x		x		x				x					CXA1176K Sony	20
		0.004	2200	x	x	x	x	x							x		HADC77300A † Honeywell SPT	
			5000		x						x				x		4196 TeledyneP	
		0.005	1070	x		x		x				x					CXA1076K Sony	
		0.006	1400 *	x											x		SCA5008 † STC	
		0.0067	2200	x	x	x	x	x	x			x			x		HADC77100 † Honeywell SPT	
		0.007	7	x							x				x		TKAD20C $\diamond$ Tektronix	25
		0.01	1400	x		x		x						x	x		CXA1066K Sony	
				x		x		x						x	x		CXA1066UK † Sony	
				x		x		x				x			x		CX20116 Sony	
				x		x		x				x			x		CX20116U Sony	
		1500			x									x	x		AD9003K AD (2414, 2416)	30
					x									x	x		AD9003S/883B † AD (2414, 2416)	
					x									x	x		AD9003T/883B † AD (2414, 2416)	
		3100		x	x	x	x								x		ADC303 Datel (2595)	
		3750		x	x	x	x	x						x	x		ADCB303E Datel (2595)	
	0.02	550		x	x	x	x								x		ADC302 Datel (2595)	35
		690		x		x		x						x	x		CXA1056K Sony	
				x		x		x						x	x		CXA1056P Sony	
				x		x		x						x	x		CXA1056UK † Sony	
	0.03	420		x	x	x	x								x		ADC301 Datel (2595)	
	0.033	500 *		x		x		x							x		IDT75C48 $\diamond$ † IDT (2858)	40
				x											x		IDT75C58 $\diamond$ † IDT (2859)	
		570		x		x		x						x	x		CXA1016K Sony	
				x		x		x						x	x		CXA1016P Sony	
				x		x		x						x	x		CXA1016UK † Sony	
	0.05	320		x	x	x	x								x		ADC304 Datel	45
		400		x				x							x		HA19209 $\diamond$ Hitachi	
				x				x							x		HA19210 $\diamond$ Hitachi	
				x				x							x		HA19211 $\diamond$ Hitachi	
				x											x		HA19212 $\diamond$ Hitachi	
		400 *			x	x	x	x	x	x	x	x	x			x	IR3K06 Sharp	50
		480		x		x		x						x	x		CXA1096M $\diamond$ Sony	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time $\pm 1/2$ LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output (Cont'd)																		
8	1/2	0.05		x		x		x					x	x		CXA1096P	Sony	
		600		x										x		ADC208MC	Datel (2595)	
				x										x		ADC208MM $\dagger$	Datel (2595)	
		700		x	x	x	x							x		ADC300	Datel (2595)	
		800		x									x	x		CX20052A	Sony	5
		2600		x									x	x		BX1300	Sony.	
		4075		x	x	x	x	x					x	x		ADCB304E	Datel (2595)	
	0.05 *	910 *			x		x	x	x	x	x	x	x		x	IR3K03A	Sharp	
	0.06 *	1000 *			x		x	x	x	x	x	x	x		x	IR3K04A	Sharp	
	0.07	300		x				x			x			x		HD49303 $\diamond$	Hitachi	10
				x										x		MP7684	$\dagger$ MicroPwr	
	0.1	1000		x		x							x	x		SP1070	$\dagger$ HybridSys	
		1800		x				x					x	x		HS1068	$\dagger$ HybridSys	
	0.10	300		x										x		MP7684K	MicroPwr	15
				x										x		MP7684T	$\dagger$ MicroPwr	
	0.2	75		x										x		MP7683XB	MicroPwr	
				x										x		MP7683KK	MicroPwr	
				x										x		MP7683XT	MicroPwr	
	0.35	130		x			x	x		x					x	ADC0831BC	TI	20
				x			x	x		x					x	ADC0832BC	TI	
	0.4	400		x										x		TDC1001	TRWLSI	
	0.6	1250		x	x			x						x	x	ADC815MC	Datel (2595)	
				x	x			x						x	x	ADC815MM $\dagger$	Datel (2595)	
						x	x	x					x	x	x	MN5815	$\dagger$ MicroNet	25
	0.75	3275		x	x			x					x	x	x	4130	TeledyneP	
	0.9	1550		x	x									x	x	ADC5101	Datel (2595)	
				x		x								x	x	ADC5101H $\dagger$	Datel (2595)	
				x		x	x						x	x	x	MN5101	MicroNet	
				x		x	x						x	x	x	MN5101H	$\dagger$ MicroNet	
	1	1250		x	x			x						x	x	ADC825MC	Datel (2595)	30
				x	x			x						x	x	ADC825MM $\dagger$	Datel (2595)	
						x	x	x					x	x	x	MN5825	$\dagger$ MicroNet	
	1 *	800		x				x					x		x	AM6148C	AMD	
	1.2	1800				x	x						x			HAS0802	AD (2470)	
	1.3	25		x							x			x		MAX150	$\dagger$ Maxim	35
	1.5	75		x	x	x	x	x			x					PM0820A	$\dagger$ PMI	
				x	x	x	x	x			x					PM0820E	PMI	
				x	x	x	x	x			x					PM0820G	PMI	
		1550		x		x	x						x	x	x	MN5100	MicroNet	40
				x		x	x						x	x	x	MN5100H	$\dagger$ MicroNet	
		4500		x			x	x								ADC881	Datel (2595)	
	1.6	50		x							x			x		ADC0820BCD	Maxim	
				x										x		ADC0820BCN	Maxim	
				x										x		ADC0820BD $\dagger$	Maxim	
				x							x			x		AD7820C	Maxim	45
				x							x			x		AD7820L	Maxim	
				x							x			x		AD7820U	$\dagger$ Maxim	
				x							x		x	x		MAX150BE	Maxim	
				x							x		x	x		MAX150BL	Maxim	
				x							x		x	x		MAX150BM $\dagger$	Maxim	50
		75		x							x					AD7820L	AD (2414, 2416, 2462)	
				x							x					AD7820U $\dagger$	AD (2414, 2416, 2462)	

(Continued)

Bin.—Binary
Off.—Offset

Compl.—Complementary
Magn.—Magnitude

CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference

Mux. In.—Multiplexed Inputs
S&H—Sample and Hold

Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
8	1/2	2		x													ADCEH8B2 Datel (2595)	
		50		x						x	x		x	x			MAX154BC Maxim	
				x						x	x		x	x			MAX154BE Maxim	
				x						x	x		x	x			MAX154BM † Maxim	
				x						x	x		x	x			MAX158BC Maxim	5
				x						x	x		x	x			MAX158BE Maxim	
				x						x	x		x	x			MAX158BM † Maxim	
		80		x						x	x			x			AD7824C Maxim	
				x						x	x			x			AD7824L Maxim	
				x						x	x			x			AD7824U † Maxim	10
				x						x	x			x			AD7828C Maxim	
				x						x	x			x			AD7828L Maxim	
				x						x	x			x			AD7828U † Maxim	
		800		x				x					x		x		AM6108C AMD	
		1300		x	x								x	x	x		MN5160 MicroNet	15
				x	x								x	x	x		MN5160H † MicroNet	
				x	x								x	x	x		MN5160H/B † MicroNet	
2 *	—			x				x					x				MC6108A Motorola (2970)	
2.5	35 *			x						x				x			ADC0820B ♦ National	
	50 *			x			x	x					x	x			TLC0820BC TI (3325)	20
				x			x	x					x	x			TLC0820BM † TI (3325)	
	75			x						x	x			x			MAX154 † Maxim	
				x						x	x			x			MAX158 † Maxim	
	650					x	x	x					x	x	x		ADC542B-8 † HybridSys	
						x	x	x					x	x	x		ADC542C-8 HybridSys	25
	915					x							x	x	x		MN5140 MicroNet	
						x							x	x	x		MN5140H † MicroNet	
				x									x	x	x		MN5141 MicroNet	
				x									x	x	x		MN5141H † MicroNet	
				x									x	x	x		MN5142 MicroNet	30
				x									x	x	x		MN5142H † MicroNet	
				x									x	x	x		MN5143 MicroNet	
				x									x	x	x		MN5143H † MicroNet	
	1000			x										x			HS5150B HybridSys	35
				x										x			HS5150C HybridSys	
						x							x	x	x		MN5130 MicroNet	
						x							x	x	x		MN5130H † MicroNet	
				x									x	x	x		MN5131 MicroNet	
				x									x	x	x		MN5131H † MicroNet	
				x									x	x	x		MN5132 MicroNet	40
				x									x	x	x		MN5132H † MicroNet	
				x									x	x	x		MN5133 MicroNet	
				x									x	x	x		MN5133H † MicroNet	
				x	x	x							x	x	x		MN5150 MicroNet	
2.8	650					x	x	x					x	x	x		HSADC82 HybridSys	45
4				x													ADCEH8B1 Datel (2595)	
	25			x										x			MAX160 † Maxim	
5	15 *									x							AD7575K AD (2414, 2416, 2460)	
	30			x										x			MAX160C Maxim	
				x										x			MAX160E Maxim	50
				x										x			MAX160M † Maxim	
	35			x						x				x			AD7575B Maxim	
				x						x				x			AD7575K ♦ Maxim	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conversion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
8	1/2	5	35	x							x			x		AD7575T	† Maxim	5
				x							x		x	x		MAX165A	◊† Maxim	
				x							x		x	x		MAX166A	◊† Maxim	
		6	1000			x							x	x	x	MN5120	MicroNet	5
						x							x	x	x	MN5120H	† MicroNet	
					x								x	x	x	MN5121	MicroNet	
					x								x	x	x	MN5121H	† MicroNet	10
					x								x	x	x	MN5122	MicroNet	
					x								x	x	x	MN5122H	† MicroNet	
				x									x	x	x	MN5123	MicroNet	15
				x									x	x	x	MN5123H	† MicroNet	
		9	4	x						x	x				x	TLC540	TI (3325)	
				x						x	x				x	TLC540M	† TI (3325)	15
				x						x	x				x	TLC541M	† TI (3325)	
		125 *		x	x								x	x		ZN448E	Plessey	
				x	x								x	x		ZN448J	† Plessey	20
		10	11	x						x	x		x		x	MC145040	◊ Motorola (2932, 2970, 2992)	
			35	x										x		AD7576B	Maxim	
				x										x		AD7576K	◊ Maxim	25
				x										x		AD7576T	† Maxim	
			50	x	x									x		AD7821B	◊ AD (2414, 2416)	
				x	x									x		AD7821K	◊ AD (2414, 2416)	30
				x	x									x		AD7821T	◊† AD (2414, 2416)	
		15		x									x	x		AD670A	AD (2416, 2460, 2462)	
				x									x	x		AD670J	AD (2416, 2460, 2462)	35
				x									x	x		AD670S	† AD (2416, 2460, 2462)	
		6.5 *		x						x	x			x		TLC532A	TI	
				x						x	x			x		TLC532M	† TI	40
		15		x						x	x	x		x		SDA0808A	Siemens	
				x						x	x	x		x		SDA0808B	Siemens	
			30	x	x		x						x			AD7574B	◊ AD (2462, 2470)	45
				x	x		x						x			AD7574K	◊ AD (2462, 2470)	
				x	x		x						x			AD7574T	◊† AD (2462, 2470)	
				x	x		x						x	x		AD7574B	Maxim	50
				x	x		x						x	x		AD7574K	Maxim	
				x	x		x						x	x		AD7574T	† Maxim	
		125 *		x	x								x	x		ZN427E-8	Plessey	55
				x	x								x	x		ZN427J-8	† Plessey	
				x	x	x	x	x						x		PM7574A	† PMI	
				x	x	x	x	x						x		PM7574E	PMI	60
				x	x	x	x	x						x		PM7574G	PMI	
		17	15	x							x				x	TLC548C	TI (3325)	
				x							x				x	TLC548M	† TI (3325)	65
				x							x				x	TLC549C	TI (3325)	
			300	x										x		NE5034	Signetics	
		19	6*	x							x				x	TLC549	TI (3325)	70
				x							x				x	TLC549M	† TI (3325)	
		20	11	x						x	x		x		x	MC145041	◊ Motorola (2932, 2970, 2992)	
			25	x						x				x		MAX161	† Maxim	(Continued)

Bin.—Binary
Off.—Offset
Compl.—Complementary
Magn.—Magnitude
CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference
Mux. In.—Multiplexed Inputs
S&H—Sample and Hold
Par. Out.—Parallel Output
Ser. Out.—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conversion Time ± ½LSB μS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line	
Binary Output																		(Cont'd)	
8	1/2	20	500	x				x						x		TDC1038	◊† TRWLSI	(Cont'd)	
				x				x						x		TDC1058	◊† TRWLSI		
		20 MSPS		x												ADC8208	Datel (2595)		
25	14			x						x	x			x		SI8601	Siliconix	5	
	35			x						x				x		MAX161C	Maxim		
				x						x				x		MAX161E	Maxim		
				x						x				x		MAX161M	† Maxim		
30	—			x									x			AD673J	AD (2416, 2460, 2462)		
				x									x			AD673S	† AD (2416, 2460, 2462)		
	6.5 *			x						x	x			x		TLC533A	TI	10	
				x						x	x			x		TLC533M	† TI		
		30 MSPS		x												ADC8301E	Datel (2595)		
32				x						x	x				x	ADC0811	◊ National		
				x						x					x	ADC0838B	TI		
	15 *									x	x				x	ADC0811BC	◊ National	15	
										x	x				x	ADC0811BJ	◊† National		
	55			x						x	x			x		MC14442	◊ Motorola (2970, 2991)		
40	10 *			x						x				x		ADC0844B	National		
	15			x						x				x		ADC0848B	National	20	
				x						x				x		ADC0848C	National		
	175 *			x	x									x	x	AD570J	AD (2416, 2460, 2462)		
				x	x									x	x	AD570S	† AD (2416, 2460, 2462)		
		50 MSPS		x												ADC8302E	Datel (2595)		
60	15 *			x												ADC0841B	† National		
66.6	—			x												AD8581L	AD	25	
	40			x						x				x		AD7581C	Maxim		
				x						x				x		AD7581L	Maxim		
70	2.5 *			x						x	x			x		SI520	Siliconix		
75 MSPS																			
	1000			x												AD9012	◊ AD (2419)		
80	10			x											x	GL0832	GoldStar	30	
				x											x	ADC0831B	National		
				x											x	ADC0832B	National		
				x											x	ADC0833B	National		
				x											x	ADC0834B	National		
				x											x	ADC0838B	National	35	
	875			x						x					x	ADC0832B	TI		
				x						x					x	ADC0834B	TI		
100	15			x						x				x		ADC0808	◊ National		
				x						x				x		ADC0816C	National		
	30			x						x				x		ADC0816	† National	40	
	70					x							x	x	x	ADC830C	Datel (2595)		
							x						x	x	x	MN5065	MicroNet		
							x						x	x	x	MN5065H	† MicroNet		
						x							x	x	x	MN5066	MicroNet		
						x							x	x	x	MN5066H	† MicroNet	45	
	75			x						x					x	MB4052	Fujitsu		
	875			x										x		ADC0803C	TI		
	900							x							x	MB40547-8	Fujitsu		
																			(Continued)

† Military Temperature Range (–55° to 125°C) ‡ High Radiation Resistance *Typical Value *Macrocell ◊ Available in Surface Mount Package
Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear- ity Error ± LSB	Conver- sion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Inte- gra- ting	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
8	1/2	100 *	15	x										x		ADC0802	† GE/Intersil (2669)	5
				x										x		ADC0802C	GE/Intersil (2669)	
				x										x		ADC0803	† GE/Intersil (2669)	
				x										x		ADC0803C	GE/Intersil (2669)	
				x										x		ADC0802	◊† National	
				x										x		ADC0802C	◊ National	
				x										x		ADC0803C	National	
				x										x		ADC0803M	TI	10
				x										x		ADC0803C	Signetics	
				x										x		SDA8010	Siemens	
		125 MSPS	1300	x				x						x				15
		150 MSPS		x								x				HADC77100A	Honeywell SPT	
		256		x						x				x		ADC0829	National	
		300	15 *	x						x						L530	◊ SGS-Thomson	20
		1250 *	20 *	x	x									x		4140	TeledyneP	
				x	x									x		4142	TeledyneP	
		1800	20	x	x							x		x		ADCEK8B	Datel (2595)	25
			25	x	x							x		x		4143	† TeledyneP	
				x								x		x		TSC8700	TeledyneS	
				x								x		x		TSC8703	TeledyneS	30
			50	x										x		ADCE8BC	Datel	
		200 MSPS		x												AD770	AD (2419)	
3/4		0.004	2200	x	x	x	x	x						x		HADC77300B	† Honeywell SPT	35
		0.01	1500	x									x			AD9011J	AD (2419, 2446)	
				x									x			AD9011K	AD (2419, 2446)	
				x									x			AD9011S	† AD (2419, 2446)	40
				x									x			AD9011T	† AD (2419, 2446)	
		6	25	x	x									x		ADC908A	† PMI	
				x	x									x		ADC908E	† PMI	45
				x	x									x		ADC908G	PMI	
		15	30	x	x		x						x			AD7574A	◊ AD (2462, 2470)	
				x	x		x						x			AD7574J	◊ AD (2462, 2470)	50
				x	x		x						x			AD7574S	◊† AD (2462, 2470)	
				x	x		x						x	x		AD7574A	Maxim	
				x	x		x						x	x		AD7574J	Maxim	55
				x	x		x						x	x		AD7574S	† Maxim	
				x	x		x						x			MP7574A	† MicroPwr	
				x	x		x						x			MP7574B	MicroPwr	60
				x	x		x						x			MP7574J	MicroPwr	
				x	x		x						x			MP7574K	MicroPwr	
					x		x						x			MP7574T	MicroPwr	65
		450		x	x	x	x	x						x		PM7574B	† PMI	
				x	x	x	x	x						x		PM7574F	PMI	
				x	x	x	x	x						x		PM7574H	PMI	
		20 MSPS	420	x		x	x	x			x					AD9048	AD (2419, 2446, 2462)	70
		66.6	—	x												AD7581K	◊ AD (2415)	
			40	x						x				x		AD7581B	Maxim	
				x						x				x		AD7581K	Maxim	75
		116	15	x		x	x	x		x				x	x	ADC0808M	† TI	

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
8	7/8	6	25	x	x									x		ADC908B	† PMI	5
				x	x									x		ADC908F	PMI	
				x	x									x		ADC908H	PMI	
		15	30	x	x		x						x			MP7574S	† MicroPwr	10
0.5		9.0		x												TLC545I	TI	
				x												TLC545M	† TI	
		17		x												TLC546I	TI	15
				x												TLC546M	† TI	
0.75		25	2.5	x						x				x		Si8603	† Siliconix	
				x						x				x		Si8604	† Siliconix	20
		100	1.5	x						x	x			x		TL0808	† TI	
			30	x						x	x			x		ADC0808	† TI	
1				x												CA3318C	GE/RCA	25
			1400										x	x		SP1072	† HybridSys	
		0.0067	750	x										x		AD9002	† AD (2419, 2462)	
		0.04	480	x									x	x		MB40578	Fujitsu	30
				x									x	x		MB40578-7	Fujitsu	
		0.067	350	x									x	x		BT208	† Brooktree	
		0.10	300	x										x		MP7684S	† MicroPwr	35
		0.15	1750			x							x	x		AD9502	† AD (2419)	
		0.2	75	x										x		MP7683XA	MicroPwr	
				x										x		MP7683XJ	MicroPwr	40
				x										x		MP7683XS	MicroPwr	
		0.35	130	x			x	x		x					x	ADC0831AC	TI	
				x			x	x		x					x	ADC0832AC	TI	45
		1.2	75	x						x				x		TLC0820A	† TI (3325)	
		1.5	75	x						x				x		ADC0820C	† National	50
				x	x	x	x	x		x						PM0820B	† PMI	
				x	x	x	x	x		x						PM0820F	PMI	55
				x	x	x	x	x		x						PM0820H	PMI	
		1.6	40													AD7824K	AD (2414, 2416, 2462)	60
																AD7824T	† AD (2414, 2416, 2462)	
																AD7828K	AD (2414, 2416, 2462)	
																AD7828T	† AD (2414, 2416, 2462)	65
				x						x				x		ADC0820CCD	Maxim	
				x						x				x		ADC0820CCN	Maxim	70
				x						x				x		ADC0820CD	† Maxim	
				x						x				x		AD7820B	Maxim	75
				x						x				x		AD7820K	Maxim	
				x						x				x		AD7820T	† Maxim	80
				x						x			x	x		MAX150CC	Maxim	
				x						x			x	x		MAX150CE	Maxim	85
				x						x			x	x		MAX150CM	† Maxim	
		75		x						x						AD7820K	AD (2414, 2416, 2462)	90
				x						x						AD7820T	† AD (2414, 2416, 2462)	
				x						x						MAX154CC	Maxim	
				x						x				x		MAX154CE	Maxim	95
				x						x				x		MAX154CM	† Maxim	
		2	50	x						x	x			x	x	MAX158CC	Maxim	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linearity Error $\pm$ LSB	Conversion Time μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output (Cont'd)																		(Cont'd)
8	1	2	50	x						x	x		x	x		MAX158CE	Maxim	
				x						x	x		x	x		MAX158CM	† Maxim	
			60	x							x		x	x		AD7569	◊† AD (2410, 2414, 2416)	
			80	x						x	x			x		AD7824B	Maxim	5
				x						x	x			x		AD7824K	Maxim	
				x						x	x			x		AD7824T	† Maxim	
				x						x	x			x		AD7828B	Maxim	
				x						x	x			x		AD7828K	Maxim	
				x						x	x			x		AD7828T	† Maxim	
		2.5	50 *	x			x	x					x	x		TLC0820AC	TI (3325)	10
				x			x	x					x	x		TLC0820AM	† TI (3325)	
			75	x	x	x	x	x	x		x	x		x	x	LTC1099C	LinearTech	
			1010		x										x	HS5131B	† HybridSys	
					x										x	HS5131C	HybridSys	
		5	15 *								x					AD7575J	AD (2414, 2416, 2460)	15
			35	x							x			x		AD7575A	Maxim	
				x							x			x		AD7575J	◊ Maxim	
				x							x			x		AD7575S	† Maxim	
				x							x		x	x		MAX165B	◊† Maxim	
				x							x		x	x		MAX166B	◊† Maxim	
		8.3 ms	100 *		x	x	x	x	x	x	x				x	IR3K01	Sharp	20
		9	125	x	x								x	x		ADC847A	Datel (2595)	
				x	x								x	x		ZN449E	Plessey	
				x	x								x	x		ZN449J	Plessey	
		10	15 *	x										x		AD7576B	AD (2416, 2462)	25
				x										x		AD7576K	AD (2416, 2462)	
				x										x		AD7576S	† AD (2416, 2462)	
			35	x										x		AD7576A	Maxim	
				x										x		AD7576J	◊ Maxim	
				x										x		AD7576S	† Maxim	
		18	4	x						x	x				x	TLC541	TI (3325)	30
		32		x						x					x	ADC0834A	TI	
				x						x					x	ADC0838A	TI	
			12.5	x						x					x	ADC0831C	National	
				x						x					x	ADC0832C	National	35
				x						x					x	ADC0833C	National	
				x						x					x	ADC0834C	National	
				x						x					x	ADC0838C	National	
			15 *							x	x				x	ADC0811CC	◊ National	40
										x	x				x	ADC0811CJ	◊† National	
		40	12.5	x						x				x		ADC0844B	National	
		100	15	x						x				x		ADC0809C	◊ National	
				x						x				x		ADC0817	National	45
			160												x	MB4056	Fujitsu	
				x						x					x	MB4066	Fujitsu	
			875	x										x		ADC0805C	TI	
			900					x							x	MB40547-7	Fujitsu	50
		100 *	12.5	x										x		ADC0804	† GE/Intersil (2669)	
				x										x		ADC0804C	GE/Intersil (2669)	
				x										x		ADC0804C	◊ National	
				x										x		ADC0804C	Signetics	(Continued)

Bin.—Binary
Off.—Offset

Compl.—Complementary
Magn.—Magnitude

CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference

Mux. In.—Multiplexed Inputs
S&H—Sample and Hold

Par. Out.—Parallel Output
Ser. Out.—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conversion Time ± ½LSB μs	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
8	1	110	12.5	x										x		ADC0805C	National	5
				x										x		ADC0805C	Signetics	
		110 *	1.5 *	x							x			x		MSM5204	OKI	
		112 *	15	x						x					x	μPD7001	NEC	
		114	15	x			x	x						x	x	ADC0804C	TI	
	1 1/4	300	25												x	MB4063	Fujitsu	10
		2000	6.5 *	x									x		x	TC5091A	Toshiba (3341)	
		300		x									x		x	TC5090A	Toshiba (3341)	
		100	1.5	x						x	x			x		TL0809	TI	
		15		x						x	x			x		ADC0809	TI	
8	17/8	66.6	40	x						x				x		AD7581A	Maxim	15
				x						x				x		AD7581J	Maxim	
		2	10	15 *	x									x		AD7576A	AD (2416, 2462)	
					x									x		AD7576J	AD (2416, 2462)	
					x									x		AD7576S	† AD (2416, 2462)	
	50	255		x										x		ADC0800P	† National	20
				x										x		ADC0800PC	National	
		8 (A/D and 10 D/A Video)	1/2	38.5 MHz									x	x		KSV3100A	Samsung (3040)	
		8 (analog input for microprocessors)	1/2	400	1000	x				x		x				AD7583K	AD (2471)	
		8 (analog to pulse width converter for microprocessor systems)	1/2	—	15 *					x						MC14443	Motorola (2970, 2991)	
8	32	50 *								x						MC14447	Motorola (2970, 2991)	25
		75 *								x						μA9708C	National	
										x						μA9708M	† National	
		8 (D/A, A/D, with counter)	1/2	500	150	x	x						x	x		ADCMC8BC	Datel	
		8 (flash)	1/2	0.033	750 *	x							x	x		IDT75MB58	IDT	30
	1	0.05		x										x		THC1068	† TRWLSI	
		1320		x										x		TDC1048	† TRWLSI	
				x										x		TDC1048	† TRWLSI	
		50 MHz		x												TDC1025	TRWLSI	
		150		x												CA3318	GE/Intersil (2668)	35
				x												CA3318C	GE/Intersil (2668)	
	8 (video digital converter)			1/2	0.05	x								x		μPD6950	NEC	
	8 Video Flash Converter			1/2	0.05											MC10319	Motorola (2970)	
9	1	0.05	460	x									x	x		CX20220A-2	Sony	40
		9 (flash)	1/2	0.03		x								x		THC1069	† TRWLSI	
		30 MSPS		x			x	x								TDC1049	TRWLSI	
		—	3	—									x			MAS1202	AD (2471)	
		1/2	0.01	4000	x	x	x	x	x					x		HADC77600	† Honeywell SPT	
	10	0.05	1400	x				x			x			x		HA19214	Hitachi	45
		7500		x										x		TDC1020	† TRWLSI	
		0.425	1700	x	x		x									ADC510MC	Datel (2595)	
		0.45	1700	x	x		x									ADC510MM	† Datel (2595)	
		0.65	1700	x	x		x									ADC515MC	Datel (2595)	

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‡ High Radiation Resistance

*Typical Value

°Macrocell

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INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conversion Time μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
10	1/2	0.7	1700	x	x		x									ADC515MM † Datel	(2595)	(Cont'd)
		0.8		x									x	x	x	ADADC816 AD	(2470)	
		3600		x	x			x					x	x	x	ADC816MC Datel	(2595)	
				x	x			x					x	x	x	ADC816MM † Datel	(2595)	
	1	500 *		x	x								x	x	x	ADC856C Datel	(2595)	5
				x	x								x	x	x	ADC856M † Datel	(2595)	
				x	x								x	x	x	ZN433BJ-10 Plessey		
				x	x								x	x	x	ZN433CJ-10 Plessey		
				x	x								x	x	x	ZN433J-10 † Plessey		
		2100		x		x					x		x	x		ADS115MC Datel	(2595)	10
				x		x					x		x	x		ADS115MM † Datel	(2595)	
					x			x					x	x	x	ADS116MC Datel	(2595)	
					x			x			x		x	x		ADS116MM † Datel	(2595)	
	1.4	1800 *				x	x						x			HAS1002 AD	(2470)	
		3600		x	x			x					x	x	x	ADC826MC Datel	(2595)	15
				x	x			x					x	x	x	ADC826MM † Datel	(2595)	
	1.8	755 *		x	x								x	x	x	AD579B AD	(2416, 2462)	
				x	x								x	x	x	AD579K AD	(2416, 2462)	
				x	x								x	x	x	AD579T † AD	(2416, 2462)	
	2			x												ADCEH10B2 Datel	(2595)	20
	2.2	755 *		x	x								x	x	x	AD579J AD	(2416, 2462)	
	4			x												ADCEH10B1 Datel	(2595)	
	5	1400 *				x	x	x					x	x	x	MN5240 MicroNet		
	6	500		x	x								x	x		ADC910 † PMI		
	8	1400 *				x	x	x					x	x	x	MNADC84-10 MicroNet		25
						x	x	x					x	x	x	MNADC85-10 † MicroNet		
	10	1800				x	x	x					x	x	x	ADADC85-10 AD	(2417, 2462)	
	13			x												CA3310 GE/Intersil	(2669)	
	15															CA3310A GE/RCA		
	15	—		x									x			AD573K AD	(2416, 2460, 2462)	30
				x									x			AD573S † AD	(2416, 2460, 2462)	
	15			x						x	x	x		x		SDA0810A Siemens		
				x						x	x	x		x		SDA0810B Siemens		
	360			x	x								x	x		ZN501AJ Plessey		
	20			x									x		x	AD575K AD	(2416, 2462)	35
	12.5			x				x		x	x				x	LTC1090C LinearTech		
				x				x		x	x				x	LTC1090M † LinearTech		
				x				x		x	x				x	LTC1091C LinearTech		
				x				x		x	x				x	LTC1091M † LinearTech		
				x				x			x				x	LTC1092AC LinearTech		40
				x				x			x				x	LTC1092AM † LinearTech		
				x				x			x				x	LTC1092C LinearTech		
				x				x			x				x	LTC1092M † LinearTech		
	350 *			x	x								x	x	x	ZN432BJ-10 Plessey		45
				x	x								x	x	x	ZN432CJ-10 Plessey		
				x	x								x	x	x	ZN432E-10 Plessey		
				x	x								x	x	x	ZN432J-10 † Plessey		
	380			x		x	x	x					x	x	x	ZN503AJ † Plessey		
				x		x	x	x					x	x	x	ZN504CJ Plessey		
				x		x	x	x					x	x	x	ZN504E Plessey		50
	770			x		x	x	x					x	x	x	TL503 † TI		

(Continued)

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INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
10	1/2	20	8000	x									x	x		THC1070	† TRWLSI	
		21	15	x				x	x		x	x			x	TLC1540M	† TI (3325)	
			800				x	x	x				x	x	x	ADADC80-15	AD (2417)	
							x	x	x				x	x	x	ADADC80Z-10	† AD (2417)	
		25	400	x						x			x	x		MB4051	Fujitsu	5
		30	300	x	x								x	x		AD571K	AD (2416, 2460, 2462)	
		40	300	x	x									x	x	μ A571KC	National	
		50	875	x										x		ADC1005	National	
		80 *												x		AD7573K	AD	
														x		AD7573T	† AD	10
		5000	20 *	x	x									x		4144	TeledyneP	
		6000	20	x	x							x		x		ADCEK10B	Datel (2595)	
			25	x								x		x		TSC8701	TeledyneS	
				x								x		x		TSC8704	TeledyneS	
			50	x										x		ADCET10BC	Datel	15
		40 MSPS		x									x			CAV1040	AD (2419)	
1		0.05	460	x									x	x		CX20220A-1	Sony	
		0.105	1300		x						x		x	x		4194	TeledyneP	
		1	15	x						x				x		μ PD7004	NEC	
			3275	x	x				x				x	x	x	4131	TeledyneP	20
		6	1100				x	x	x				x	x	x	ADADC84-10	AD (2417)	
		13	15													CA3310	GE/RCA	
		15	—	x									x			AD573J	AD (2416, 2460, 2462)	
			360	x	x								x	x		ZN502CJ	Plessey	
				x	x								x	x		ZN502E	Plessey	25
			770	x	x								x	x		TL502	TI	
		18.5	100	x							x			x		AD7579	† AD (2414, 2416, 2462)	
			100	x							x			x		AD7580	† AD (2414, 2416, 2462)	
		20		x									x		x	AD575J	AD (2416, 2462)	
				x									x		x	AD575S	† AD (2416, 2462)	30
		21	15	x				x	x		x	x			x	TLC1541M	† TI	
		30	300	x	x								x	x		AD571J	AD (2416, 2460, 2462)	
				x	x								x	x		AD571S	† AD (2416, 2460, 2462)	
		40	300	x	x									x	x	μ A571JC	National	
				x	x									x	x	μ A571SM	National	35
		80 *												x		AD7573J	AD	
														x		AD7573S	† AD	
		200	—	x										x		ADC1001C	National	
				x										x		ADC1021C	National	
		15000	300													μ PD7002C-1	NEC	40
13/4		0.05	360	x	x									x		ADC310	Datel (2595)	
		0.08	8550	x	x						x			x		ADCB310E	Datel	
		12 MSPS		x												ADCB10E	Datel (2595)	
2		14		x											x	CDP68HC8A2	GE/RCA (2644, 2653)	
10 Plus Sign																		
1/2		80	—	x	x			x						x	x	AD7571K	AD	45
				x	x			x						x	x	AD7571T	† AD	
1		80	—	x	x			x						x	x	AD7571J	AD	
				x	x			x						x	x	AD7571S	† AD	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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Bin.—Binary Comp
Off.—Offset Map

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Bin.—Binary	Compl.—Complementary	CTC—Compl. 2's Compl.	Mux. In—Multiplexed Inputs	Par. Out—Parallel Output
Off.—Offset	Magn.—Magnitude	Int. Ref.—Internal Reference	S&H—Sample and Hold	Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time $\pm \frac{1}{2}$ LSB μ s	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
12	1/2	0.5	1800	x	x								x	x		ADC500MC	Datel (2595)	5
				x	x	x	x						x	x		ADC500MM †	Datel (2595)	
				x	x	x							x	x		4192	† TeledyneP	
			2000	x									x	x		SP9548	† HybridSys	10
0.55			1800	x	x	x	x						x	x		ADC505MC	Datel (2595)	
				x	x								x	x		ADC505MM †	Datel (2595)	
0.6			3000	x									x	x	x	ADC6012	† Adv Analog (2401)	15
					x								x	x	x	ADC6013	† Adv Analog (2401)	
0.7			1800	x	x	x	x						x	x		ADC508MC	Datel (2595)	
				x	x	x	x						x	x		ADC508MM †	Datel (2595)	20
0.77			2700	x	x	x	x				x		x	x		ADS21AC	Datel (2595)	
0.8			1900	x	x	x	x						x	x		ADC520MC	Datel (2595)	25
				x	x	x	x						x	x		ADC520MM	Datel (2595)	
				x	x	x	x						x	x		ADC521MC	Datel (2595)	
				x	x	x	x						x	x		ADC521MM †	Datel (2595)	30
1				x												MN5246	† MicroNet	
			850	x	x						x			x		CSZ5412	Crystal	
			1500			x	x	x					x	x	x	MN5245A	MicroNet	35
			2200	x							x			x		AD9003	† AD (2414, 2416)	
			2700		x								x	x	x	ADC5246	‡ Adv Analog (2401)	
				x		x					x		x	x		ADS105MC	Datel (2595)	40
				x		x					x		x	x		ADS105MM †	Datel (2595)	
					x		x				x		x	x		ADS106MC	Datel (2595)	
					x		x				x		x	x		ADS106MM †	Datel (2595)	45
				x	x	x	x				x		x	x		ADS22AC	Datel (2595)	
			2700	x									x	x	x	ADC5245	‡ Adv Analog (2401)	
1 MHz													x	x		AD375	AD	50
			3000	x	x			x			x			x		HAS1201K	AD (2414, 2416)	
				x	x			x			x			x		HAS1201S	† AD (2414, 2416)	
1.1 MSPS				x												ADCB505	Datel (2595)	55
1.25 MSPS				x												ADCB500	Datel (2595)	
1.4			1800	x	x	x	x	x			x		x			ADS125MC	Datel (2595)	
				x	x	x	x	x			x		x			ADS125MM †	Datel (2595)	60
			2700	x	x	x	x	x			x		x	x		ADS126MC	Datel (2595)	
				x	x	x	x	x			x		x	x		ADS126MM †	Datel (2595)	
1.5			1800	x				x						x		HS9520B	HybridSys	65
			2350 *		x	x							x	x	x	ADC803B	Burr-Brown (2558)	
					x	x							x	x	x	ADC803S	Burr-Brown (2558)	
1.56			1800			x	x						x			HAS1202A	AD (2416)	70
2				x												ADCEH12B3	Datel (2595)	
			1000	x	x									x		VC594J	VTC (3384)	
				x	x									x		VC594S	† VTC (3384)	75
			1800 *	x	x			x					x	x	x	ADH8516-12	ILC-DDC	
			2200	x	x			x					x	x	x	ADC817AMC	Datel (2595)	
				x	x			x					x	x	x	ADC817AMM †	Datel (2595)	80
				x	x			x					x	x	x	ADC817MC	Datel (2595)	
				x	x			x					x	x	x	ADC817MM †	Datel (2595)	
			2700			x	x	x						x	x	ADC810MC	Datel (2595)	85
						x	x	x						x	x	ADC810MM †	Datel (2595)	
																	(Continued)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time $\pm$ $\frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
12	1/2	2	2850	x							x				x	HAS1204	AD (2414, 2416)	
			3050			x	x	x	x					x	x	ADC00404-102	$\uparrow$ ILC-DDC	
2.2		1800 *				x	x						x			HAS1202	AD (2416)	
3		215		x									x	x		MAX162AC	Maxim	5
				x									x	x		MAX162AI	Maxim	
				x									x	x		MAX162AM	$\uparrow$ Maxim	
		775		x	x								x	x	x	AD578T	$\uparrow$ Maxim	
		775 *		x	x								x	x		AD578L	AD (2416, 2462)	
				x	x								x	x	x	AD578L	Maxim	
		2200		x	x			x					x	x	x	ADC827AMC	Datel (2595)	10
				x	x			x					x	x	x	ADC827AMM	$\uparrow$ Datel (2595)	
				x	x			x					x	x	x	ADC827MC	Datel (2595)	
				x	x			x					x	x	x	ADC827MM	$\uparrow$ Datel (2595)	
4				x												ADCEH12B2	Datel (2595)	
		1550				x	x	x			x		x	x	x	ADC6010	$\uparrow$ Adv Analog (2401)	15
		2700				x	x	x						x	x	ADC811MC	Datel (2595)	
						x	x	x						x	x	ADC811MM	$\uparrow$ Datel (2595)	
4.5		755 *		x	x								x	x	x	AD578K	AD (2416, 2462)	
		775		x	x								x	x	x	AD578S	$\uparrow$ Maxim	20
		775 *		x	x								x	x	x	AD578K	Maxim	
		875 *		x		x	x	x							x	AD578T	$\uparrow$ AD (2416, 2462)	
5		100 *											x			AD7572K	AD (2417, 2460, 2462)	
													x			AD7572T	$\uparrow$ AD (2417, 2460, 2462)	
		110		x										x		MX7672	$\diamond^{\circ}\uparrow$ Micronix	25
		135		x									x	x		MX7572	$\diamond^{\circ}\uparrow$ Micronix	
		215		x									x	x		AD7572	$\uparrow$ Maxim	
				x									x	x		AD7572C05	Maxim	
				x									x	x		AD7572L05	$\diamond$ Maxim	
				x									x	x		AD7572U05	$\uparrow$ Maxim	
				x									x		x	MAX170A	$\diamond^{\circ}\uparrow$ Maxim	30
		1100				x	x	x					x	x	x	AD5240K	AD (2417, 2462)	
						x	x	x					x	x	x	AD5240S	AD (2417, 2462)	
						x	x	x					x	x	x	AD5240ZK	AD (2417, 2462)	
						x	x	x					x	x	x	AD5240ZS	$\uparrow$ AD (2417, 2462)	
		1120			x								x	x		HS9342B	$\uparrow$ HybridSys	35
					x								x	x		HS9342C	HybridSys	
6		775 *		x	x								x	x	x	AD578J	AD (2416, 2462)	
				x	x								x	x	x	AD578J	Maxim	
		875 *		x		x	x	x							x	AD578S	$\uparrow$ AD (2416, 2462)	
6.5		2275		x	x					x	x		x	x		ADAM812	Analogic	40
7													x	x		HI774AKD-5	Harris (2758)	
													x	x		HI774ALD-5	Harris (2758)	
7.2		250		x	x						x			x	x	CSZ5112	Crystal	45
				x	x						x			x	x	CS5012	Crystal	
8				x												ADCEH12B1	Datel (2595)	
		1400 *				x	x	x					x	x	x	MNADC84-12	MicroNet	
						x	x	x					x	x	x	MNADC85-12	MicroNet	
						x	x	x					x	x	x	MNADC87	MicroNet	
		1500			x						x		x	x		AD1332	AD (2414, 2417)	(Continued)

Bin.—Binary
Off.—Offset

Compl.—Complementary
Magn.—Magnitude

CTC—Compl. 2's Compl.
Int. Ref.—Internal Reference

Mux. In—Multiplexed Inputs
S&H—Sample and Hold

Par. Out—Parallel Output
Ser. Out—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
12	1/2	8	1500			x	x	x					x	x	x	ADC87/883B $\dagger$ Burr-Brown (2557)		
						x	x	x					x	x	x	ADC87U Burr-Brown (2557)		
			1700				x	x	x				x	x	x	ADC-HZ/883B $\dagger$ Datel		
8.5		450		x	x								x	x		ADC774KH Burr-Brown (2557)		
													x	x		ADC774KP Burr-Brown (2557)		5
													x	x		ADC774TH $\dagger$ Burr-Brown (2557)		
9 *		1750		x	x					x	x		x	x		HDAS16MC Datel (2597)		
				x	x					x	x		x	x		HDAS8MC Datel (2597)		
10				x		x	x	x						x	x	AD7672 AD (2416, 2462)		
		215		x									x	x		MAX172A $\diamond \dagger$ Maxim		10
		725				x	x	x					x	x	x	ADC84K-12 Burr-Brown (2557)		
						x	x	x					x	x	x	ADC85H-12 Burr-Brown (2557)		
		1100				x	x	x					x	x	x	ADADC84-12 AD (2417)		
						x	x	x					x	x	x	ADC85-12 Datel		
		1200				x	x	x					x	x	x	HSADC85B $\dagger$ HybridSys		15
						x	x	x					x	x	x	HSADC85C HybridSys		
		1800				x	x	x					x	x	x	ADADC85-12 AD (2417, 2462)		
						x	x	x					x	x	x	ADC87H Burr-Brown (2557)		
		2000		x	x					x	x		x	x		HS9403B $\dagger$ HybridSys		
				x	x					x	x		x	x		HS9403C HybridSys		20
		5000		x							x		x	x		THC1201 $\dagger$ TRWLSI		
				x							x		x	x		THC1202 $\dagger$ TRWLSI		
		9000		x							x		x	x		THC1200 $\dagger$ TRWLSI		
12		85		x		x	x	x								ADC912A $\dagger$ PMI (3001)		
				x		x	x	x								ADC912B $\dagger$ PMI (3001)		25
				x		x	x	x								ADC912E PMI (3001)		
				x		x	x	x								ADC912G PMI (3001)		
		150		x	x								x	x		SP674 $\dagger$ HybridSys		
		215		x									x	x		AD7572C12 Maxim		
				x									x	x		AD7572L12 $\diamond$ Maxim		30
				x									x	x		AD7572U12 $\dagger$ Maxim		
		720		x	x								x	x	x	ADC674A $\dagger$ Adv Analog (2401)		
		1450		x	x					x	x		x	x		SP9415 $\dagger$ HybridSys		
13		560				x	x						x	x	x	5210 $\dagger$ TeledyneP		
		744				x	x							x	x	ADC5214 Datel (2595)		35
						x	x							x	x	ADC5214H $\dagger$ Datel (2595)		
						x	x							x	x	ADC5215 Datel (2595)		
						x	x							x	x	ADC5215H $\dagger$ Datel (2595)		
		745		x										x	x	MN5213 MicroNet		
				x										x	x	MN5213H $\dagger$ MicroNet		40
							x							x	x	MN5214 MicroNet		
							x							x	x	MN5214H $\dagger$ MicroNet		
							x							x	x	MN5215 MicroNet		
							x							x	x	MN5215H $\dagger$ MicroNet		
		913				x	x	x						x	x	MN5610 $\diamond \dagger$ MicroNet		45
		915				x	x						x	x	x	ADC5211 Datel (2595)		
						x	x						x	x	x	ADC5211H $\dagger$ Datel (2595)		

(Continued)

 $\dagger$ Military Temperature Range (-55° to 125°C) $\ddagger$ High Radiation Resistance

*Typical Value

*Macrocell

 $\diamond$ Available in Surface Mount Package

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INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conver-sion Time ± ½LSB µS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Inte-gra-ting	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
12	1/2	13	915			x	x						x	x	x	ADC5212	Datel (2595)	(Cont'd)
						x	x						x	x	x	ADC5212H	† Datel (2595)	
						x	x						x	x	x	ADC5216	Datel (2595)	
						x	x							x	x	ADC5216H	† Datel (2595)	
						x	x						x	x	x	MN5210	MicroNet	5
						x	x						x	x	x	MN5210H	† MicroNet	
						x	x						x	x	x	MN5211	MicroNet	
						x	x						x	x	x	MN5211H	† MicroNet	
						x	x						x	x	x	MN5212	MicroNet	
						x	x						x	x	x	MN5212H	† MicroNet	10
						x	x						x	x	x	MN5216	MicroNet	
						x	x						x	x	x	MN5216H	† MicroNet	
						x	x						x			TP5210	TeledyneP	
						x	x						x			TP5211	TeledyneP	
						x	x						x			TP5211-HR	† TeledyneP	15
						x	x						x			TP5212	TeledyneP	
						x	x						x			TP5212-HR	† TeledyneP	
						x	x									TP5213	TeledyneP	
						x	x									TP5213-HR	† TeledyneP	
						x	x									TP5214	TeledyneP	20
						x	x									TP5214-HR	† TeledyneP	
						x	x									TP5215	TeledyneP	
						x	x									TP5215-HR	† TeledyneP	
						x	x						x			TP5216	TeledyneP	
						x	x						x			TP5216-HR	† TeledyneP	25
						x	x									TP5217	TeledyneP	
						x	x									TP5217-HR	† TeledyneP	
			1000				x						x	x	x	AD5211B	AD (2462)	
							x						x	x	x	AD5211T	† AD (2462)	
							x						x	x	x	AD5212B	AD (2462)	30
							x						x	x	x	AD5212T	† AD (2462)	
							x							x	x	AD5214B	AD (2462)	
							x							x	x	AD5214T	† AD (2462)	
							x							x	x	AD5215B	AD (2462)	
							x							x	x	AD5215T	AD (2462)	35
15				x	x		x	x					x	x	x	AD674S	† AD (2460, 2462)	
				x	x		x	x					x	x	x	AD674T	† AD (2460, 2462)	
				x	x		x	x					x	x	x	AD674U	† AD (2460, 2462)	
			150	x	x				x		x	x	x	x		HADC674Z	† Honeywell SPT	
			450	x	x								x	x		ADC674AK	Burr-Brown (2557)	40
				x	x								x	x		ADC674AT	† Burr-Brown (2557)	
			720	x	x								x	x		HI674AKD-5	Harris (2757)	
				x	x								x	x		HI674AL	Harris (2757)	
				x	x								x	x		HI674ATD-2	† Harris (2757)	
				x	x								x	x		HI674ATD/883	† Harris (2757)	45
			1095	x	x					x			x	x		MN6231K	MicroNet	
				x	x					x			x	x		MN6231T	† MicroNet	
					x					x			x	x		MN6232K	MicroNet	
					x					x			x	x		MN6232T	† MicroNet	
20															x	ADC804	Burr-Brown (2557)	50
			3/4			x	x	x					x	x	x	ADCHX12BMM	† Datel (2595)	(Continued)

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Par. Out—Parallel Output
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INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conversion Time ± ½LSB μs	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line	
Binary Output																		(Cont'd)	
12	1/2	20																(Cont'd)	
		20		x						x	x				x		SDA0812	Siemens	
		595													x		ADC804S	† Burr-Brown	
																	(2557)		
		720		x	x								x	x			ADC574A	† Adv Analog	
																	(2401)		
25		72		x	x								x	x			4188	† TeledyneP	
		150		x	x				x		x	x	x	x			HADC574Z	† Honeywell SPT	5
		595				x	x	x					x	x	x		ADC80A-12	Burr-Brown	
																	(2557)		
		720		x	x								x	x			ADC574ZA	Datel	(2595)
				x	x								x	x			ADC574ZB	Datel	(2595)
				x	x								x	x			HI574AKD-5	Harris	(2756)
				x	x								x	x			HI574ALD-5	Harris	(2756)
				x	x								x	x			HI574ATD-2	† Harris	(2756)
				x	x								x	x			HI574ATD/883	† Harris	(2756)
				x	x								x	x			HI574AUD-2	† Harris	(2756)
				x	x								x	x			HI574AUD-8	† Harris	(2756)
				x	x								x	x			TP574AK	TeledyneP	15
				x	x								x	x			TP574AT	† TeledyneP	
				x	x								x	x			TP574AU	† TeledyneP	
725				x	x								x		x		AD574AK	◊ AD	(2460)
				x	x								x	x			ADC574AK	Burr-Brown	
																	(2557)		
				x	x								x	x			ADC574AS	† Burr-Brown	
																	(2557)		20
				x	x								x	x			MN574A	† MicroNet	
750				x	x								x	x			MP574K	MicroPwr	
				x	x								x	x			MP574L	MicroPwr	
				x	x								x	x			MP574T	† MicroPwr	
				x	x								x	x			MP574U	† MicroPwr	25
				x	x								x	x			MX574	◊† Micronix	
800						x	x	x					x	x	x		ADADC80-12	AD	(2417)
						x	x	x					x	x	x		ADADC80Z-12	† AD	(2417)
925				x	x			x					x	x	x		AD572A	AD	(2417, 2462)
				x	x			x					x	x	x		AD572B	AD	(2417, 2462)
				x	x			x					x	x	x		AD572S	† AD	(2417, 2462)
950						x	x	x					x	x	x		MNADC80	MicroNet	
				x						x	x		x	x			MN7145K	MicroNet	
				x						x	x		x	x			MN7145T	† MicroNet	
				x						x	x		x	x			MN7145T/B	† MicroNet	35
					x					x	x		x	x			MN7146K	MicroNet	
					x					x	x		x	x			MN7146T	† MicroNet	
					x					x	x		x	x			MN7146T/B	† MicroNet	
					x					x	x		x	x			MN7147K	MicroNet	
					x					x	x		x	x			MN7147T	† MicroNet	40
					x					x	x		x	x			MN7147T/B	† MicroNet	
1095				x	x						x		x	x			MN6227K	MicroNet	
				x	x						x		x	x			MN6227T	† MicroNet	
					x						x		x	x			MN6228K	MicroNet	
					x						x		x	x			MN6228T	† MicroNet	45
1300				x	x					x	x		x	x			HS9414	† HybridSys	
27.5		300						x	x	x	x		x	x			ML2200B	MicroLinear	
								x	x		x				x		ML2230B	MicroLinear	
30		750		x	x								x	x			HS574AK	HybridSys	
				x	x								x	x			HS574AL	HybridSys	50
(Continued)																			

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linearity Error $\pm$ LSB	Conversion Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
12	1/2	30	750	x	x								x	x		HS574ATB	† HybridSys	
				x	x								x	x		HS574AUB	† HybridSys	
			780	x	x								x		x	AD574AT	◊† AD (2460)	5
				x	x								x		x	AD574K	◊ AD (2460)	
				x									x		x	AD574L	◊ AD (2460)	
				x	x								x		x	AD574S	◊† AD (2460)	
				x	x								x		x	AD574T	◊† AD (2460)	
				x									x		x	AD574U	◊† AD (2460)	
			800	x	x						x		x	x		HS9474K	HybridSys	10
				x	x						x		x	x		HS9474TB	† HybridSys	
			1100	x	x					x	x		x	x		HS9410K	HybridSys	
				x	x					x	x		x	x		HS9410TB	† HybridSys	
			1340	x	x					x	x		x	x		HS9408K	HybridSys	
				x	x					x	x		x	x		HS9408TB	† HybridSys	
			1520	x	x					x	x		x	x		HS9404K	HybridSys	15
				x	x					x	x		x	x		HS9404TB	† HybridSys	
35		620		x	x								x		x	AD574ZL	◊ AD (2460)	
				x	x								x		x	AD574ZS	◊† AD (2460)	
				x	x								x		x	AD574ZT	◊† AD (2460)	20
				x	x								x		x	AD574ZU	◊† AD (2460)	
50		725		x									x	x	x	AD5201B	AD (2462)	
				x									x	x	x	AD5201T	† AD (2462)	
				x									x	x	x	AD5202B	AD (2462)	
				x									x	x	x	AD5202T	† AD (2462)	
				x										x	x	AD5204T	† AD (2462)	25
				x										x	x	AD5205B	AD (2462)	
				x										x	x	AD5205T	† AD (2462)	
			745	x										x	x	MN5203	MicroNet	
				x										x	x	MN5203H	† MicroNet	
							x							x	x	MN5204	MicroNet	
							x							x	x	MN5204H	† MicroNet	30
							x							x	x	MN5205	MicroNet	
							x							x	x	MN5205H	† MicroNet	
			755	x	x			x					x	x	x	ADC10HT	† Burr-Brown	
			915	x									x	x	x	MN5200	MicroNet	35
				x									x	x	x	MN5200H	† MicroNet	
							x						x	x	x	MN5201	MicroNet	
							x						x	x	x	MN5201H	† MicroNet	
							x						x	x	x	MN5202	MicroNet	
							x						x	x	x	MN5202H	† MicroNet	
						x							x	x	x	MN5206	MicroNet	40
						x							x	x	x	MN5206H	† MicroNet	
175		80					x						x	x		HS5251C	HybridSys	
				x									x	x	x	MN5250	MicroNet	
				x									x	x	x	MN5250H	† MicroNet	45
							x						x	x	x	MN5251	MicroNet	
							x						x	x	x	MN5251H	† MicroNet	
							x						x	x	x	MN5252	MicroNet	
							x						x	x	x	MN5252H	† MicroNet	
						x							x	x	x	MN5253	MicroNet	
						x							x	x	x	MN5253H	† MicroNet	50
250		311														MN5700	MicroNet	
300		112		x	x			x					x	x	x	ADCHC12BMC	Datel	

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conver- sion Time ± ½LSB μS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Inte- gra- ting	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
12	1/2	300		x	x			x					x	x	x	ADCHC12BMM † Datal		
		5000	15	x										x		μPD7002	NEC	
		20000	20	x	x									x		4145	TeledyneP	
		24000	20	x	x							x		x		ADCEK12B	Datal (2595)	
			25	x								x		x		TSC8702	TeledyneS	5
				x								x		x		TSC8705	TeledyneS	
		100000	20	x					x			x	x	x		ICL7109	GE/Intersil (2669)	
				x					x			x	x	x		ICL7109	◊† Maxim	
				x								x	x	x	x	TSC7109BC	◊ TeledyneS	10
				x					x			x	x	x	x	TSC7109C	◊ TeledyneS	
				x					x			x	x	x	x	TSC7109M	◊† TeledyneS	
3/4	1	1200		x	x	x	x	x					x	x		ADC511MC	Datal (2595)	
				x	x	x	x	x					x	x		ADC511MM	† Datal (2595)	
	1.5	2350 *			x	x								x	x	ADC803C	Burr-Brown (2558)	
	2	1750		x	x	x	x	x			x		x	x		ADS111MC	Datal (2595)	15
				x	x	x	x	x			x		x	x		ADS111MM	† Datal (2595)	
	8	2000				x	x	x						x	x	ADCHZ12BMC	Datal (2595)	
						x	x	x						x	x	ADCHZ12BMM	† Datal (2595)	
	9	2150				x	x							x	x	ADCHS12BMC	Datal (2595)	
						x	x							x	x	ADCHS12BMM	† Datal (2595)	20
	15	1700				x	x	x			x			x	x	ADC-HS/883B	† Datal	
	20	1450		x	x					x	x			x	x	HDAS16/883B	† Datal (2597)	
				x	x					x	x			x	x	HDAS8/883B	† Datal (2597)	
		1700				x	x	x						x	x	ADC-HX/883B	† Datal	
		2000				x	x	x						x	x	ADCHX12BGC	Datal (2595)	25
	25	705		x		x	x	x			x				x	ADC80MAH-12	Burr-Brown (2557)	
	200	210		x											x	ADC1210	† National	
				x											x	ADC1210C	National	
1	—	500							x			x			x	ADC7109	Datal (2595)	
	0.1			x										x		AD9005	AD (2414, 2416, 2447)	30
				x												ADC603	Burr-Brown (2558)	
	0.2			x												CAV1205	AD (2414, 2416)	
	0.4	1095		x	x						x			x	x	MN6231S	† MicroNet	
		2500 *			x									x	x	MN5249	MicroNet	
					x									x	x	MN5249H	† MicroNet	35
	0.5			x										x		MOD1205	AD (2414, 2416)	
		2100		x	x									x	x	4193	† TeledyneP	
				x	x									x	x	4195	† TeledyneP	
		4300		x	x			x	x	x		x	x			ADC00300	† ILC-DDC	
	1			x												ADC601	Burr-Brown (2558)	40
	1.5	3050				x	x	x						x	x	ADC00403-103	† ILC-DDC	
						x	x	x						x	x	ADC00403-203	ILC-DDC	
						x	x	x						x	x	ADC00404-103	† ILC-DDC	
						x	x	x						x	x	ADC00404-203	ILC-DDC	
	2	2700		x	x			x						x	x	ADH8516-11	ILC-DDC	45
	2.5	3275		x	x									x	x	4133	TeledyneP	
	3	215		x										x	x	MAX162BC	◊ Maxim	
(Continued)																		

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conversion Time ± ½LSB μS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output (Cont'd)																		
12	1	3	215	x									x	x		MAX162BI	Maxim	(Cont'd)
				x									x	x		MAX162BM	† Maxim	
				x									x	x		MAX162CC	◊ Maxim	
				x									x	x		MAX162CI	Maxim	
				x									x	x		MAX162CM	† Maxim	5
3.5		3275		x	x			x					x	x	x	4132	TeledyneP	
4				x									x			AD1678	AD (2414, 2417, 2448)	
				x									x			AD678	AD (2414, 2416)	
5		100 *											x			AD7572I	AD (2417, 2460, 2462)	
													x			AD7572S	† AD (2417, 2460, 2462)	10
			215	x									x	x		AD7572A05	Maxim	
				x									x	x		AD7572B05	Maxim	
				x									x	x		AD7572J05	◊ Maxim	
				x									x	x		AD7572K05	◊ Maxim	
				x									x	x		AD7572S05	† Maxim	15
				x									x	x		AD7572T05	† Maxim	
				x									x		x	MAX170B	◊† Maxim	
7													x	x		HI774AJD-5	Harris (2758)	
													x	x		HI774ASD-2	Harris (2758)	
													x	x		HI774ATD-2	Harris (2758)	20
			215	x							x		x	x		MAX163B	◊† Maxim	
				x							x		x	x		MAX164B	◊† Maxim	
				x							x		x	x		MAX167B	◊† Maxim	
8				x									x			AD7870	AD (2414, 2417)	
				x									x			AD7878	AD (2414, 2417)	25
8.5		450		x	x								x	x		ADC774JH	Burr-Brown (2557)	
													x	x		ADC774JP	Burr-Brown (2557)	
													x	x		ADC774SH	† Burr-Brown (2557)	
10				x									x			ADADC85	AD (2417, 2462)	
				x									x			AD7772	AD (2417, 2448)	30
				x												ADS807	Burr-Brown (2557)	
				x												ADS808	Burr-Brown (2557)	
			215	x									x	x		MAX172B	◊† Maxim	
			600	x				x					x	x		AM6112	AMD	
12		85		x		x	x	x								ADC912F	PMI (3001)	35
				x		x	x	x								ADC912H	PMI (3001)	
			215	x									x	x		AD7572A12	Maxim	
				x									x	x		AD7572B12	Maxim	
				x									x	x		AD7572J12	◊ Maxim	
				x									x	x		AD7572K12	◊ Maxim	40
				x									x	x		AD7572S12	† Maxim	
				x									x	x		AD7572T12	† Maxim	
13				x									x			AD5210	AD (2417)	
15				x									x			AD1334	AD (2414, 2417, 2447)	
				x									x			AD674A	AD (2417, 2460, 2462)	45
			150	x	x						x		x	x		ADC674ZA	Datel (2595)	

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linearity Error ± LSB	Conversion Time ± ½LSB μs	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
12	1	15	150															(Cont'd)
				x	x						x		x	x			ADC6742B Datel	(2595)
				x	x						x		x	x			ADC6742C Datel	(2595)
			450	x	x								x	x			ADC674AJ Burr-Brown	(2557)
				x	x								x	x			ADC674AS † Burr-Brown	(2557)
			720	x	x								x	x			HI674AJD-5 Harris	(2757)
				x	x								x	x			HI674ASD-2 † Harris	(2757)
				x	x								x	x			HI674ASD/883 † Harris	(2757)
			1095	x	x						x		x	x			MN6231J MicroNet	
					x						x		x	x			MN6232J MicroNet	
					x						x		x	x			MN6232S † MicroNet	
25			150	x	x								x	x			ADC574AJ Datel	(2595)
			450	x	x								x	x			ADC574AJ Burr-Brown	(2557)
				x	x								x	x			ADC574AT † Burr-Brown	(2557)
			720	x	x								x	x			HI574AJD-5 Harris	(2756)
				x	x								x	x			HI574ASD-2 † Harris	(2756)
				x	x								x	x			HI574ASD/883 † Harris	(2756)
				x	x								x	x			TP574AJ TeledyneP	
				x	x								x	x			TP574AS † TeledyneP	
			725	x	x								x				AD574AJ ◊ AD	(2460)
				x	x								x				AD574AS ◊† AD	(2460)
			750	x	x								x	x			MP574J MicroPwr	
				x	x								x	x			MP574S † MicroPwr	
			950	x							x	x	x	x			MN7145J MicroNet	
				x							x	x	x	x			MN7145S † MicroNet	
				x							x	x	x	x			MN7145S/B † MicroNet	
					x						x	x	x	x			MN7146J MicroNet	
					x						x	x	x	x			MN7146S † MicroNet	
					x						x	x	x	x			MN7146S/B † MicroNet	
					x						x	x	x	x			MN7147J MicroNet	
					x						x	x	x	x			MN7147S † MicroNet	
					x						x	x	x	x			MN7147S/B † MicroNet	
			1095	x	x						x		x	x			MN6227J MicroNet	
				x	x						x		x	x			MN6227S † MicroNet	
					x						x		x	x			MN6228J MicroNet	
					x						x		x	x			MN6228S † MicroNet	
27.5			300					x	x	x	x		x	x			ML2200C MicroLinear	
								x	x		x			x			ML2230C MicroLinear	
								x	x		x			x			ML2233C MicroLinear	
30				x									x				ADADC80 AD	(2417)
			750	x	x								x	x			HS574AJ HybridSys	
				x	x								x	x			HS574ASB † HybridSys	
			780	x	x								x		x		AD574J ◊ AD	(2460)
			800	x	x						x		x	x			HS9474J HybridSys	
				x	x						x		x	x			HS9474S † HybridSys	
				x	x						x		x	x			HS9474SB † HybridSys	
				x	x						x		x	x			HS9474T † HybridSys	
			1100	x	x						x	x	x	x			HS9410J HybridSys	
				x	x						x	x	x	x			HS9410SB † HybridSys	
			1340	x	x						x	x	x	x			HS9408J HybridSys	
				x	x						x	x	x	x			HS9408SB † HybridSys	
(Continued)																		

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time $\pm$ 1/2 LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
12	1	30	1520	x	x					x	x		x	x		HS9404J	HybridSys	5
				x	x					x	x		x	x		HS9404SB	† HybridSys	
		35		x									x			AD574A	AD (2417, 2460, 2462)	5
			620	x	x								x		x	AD574ZJ	◊ AD (2460)	
				x	x								x		x	AD574ZK	◊ AD (2460)	5
		45												x		μPD650D	NEC	
		50		x									x			AD5200	AD (2417)	5
			725	x										x	x	AD5204B	AD (2462)	
		100											x			AD7578K	AD (2417, 2462)	10
													x			AD7578T	† AD (2417, 2462)	
		175	80				x						x	x		HS5251B	† HybridSys	10
		1 1/2	2400	50	x									x		ADCET12BC	Datel (2595)	
		2	200	210	x									x	x	ADC1211	† National	15
					x									x	x	ADC1211C	National	
		4	10	1500			x	x	x				x	x	x	ADC84K-10	Burr-Brown (2557)	15
			1800		x	x	x	x					x	x	x	ADC85-10	Burr-Brown (2557)	
			21	595			x	x	x				x	x	x	ADC80AG-12	Burr-Brown (2557)	15
12 Plus Sign		—	160 ms	—	x											AD7552	AD (2470)	20
		1/2	100 *	15 *				x						x		ADC1205BC	National	
								x						x		ADC1205BC-1	National	20
								x						x		ADC1225BC	National	
								x						x		ADC1225BC-1	National	20
								x						x		TLC1205M	† TI	
								x						x		TLC1225M	† TI	25
		1	100 *	15 *				x						x		ADC1205CC	National	
								x						x		ADC1205CC-1	National	25
								x						x		ADC1225CC	National	
								x						x		ADC1225CC-1	National	25
12 (2 device set)		1/2	15	785	x								x	x	x	HS5210B	† HybridSys	30
					x								x	x	x	HS5210C	HybridSys	
					x								x	x	x	HS5211B	† HybridSys	30
					x								x	x	x	HS5211C	HybridSys	
					x								x	x	x	HS5212B	† HybridSys	30
					x								x	x	x	HS5212C	HybridSys	
					x									x	x	HS5213B	† HybridSys	35
					x									x	x	HS5213C	HybridSys	
					x									x	x	HS5214B	† HybridSys	35
					x									x	x	HS5214C	HybridSys	
					x									x	x	HS5215B	† HybridSys	40
					x									x	x	HS5215C	HybridSys	
					x								x	x	x	HS5216B	† HybridSys	40
					x								x	x	x	HS5216C	HybridSys	
			250000	40	x				x			x	x	x		ICL7104-12	GE/Intersil (2669)	45
				360	x				x			x	x	x		ICL8052A	GE/Intersil (2669)	
12 (3-Digit BCD)		1/4	1200	20								x		x		ADCEK12DC	Datel (2595)	45
		1	6000 *	50								x	x		x	AD2020	AD (2470)	
13	1/2	40000 *	64					x						x		MP7550B	MicroPwr (Continued)	

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time $\pm$ 1/2LSB μ S	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output (Cont'd)																		
		72						x				x		x	x	AD7550B	AD (2470)	
13 (D/A, A/D)		1/2	30	x												MC145402	Motorola (2971)	
14	1/2	2735		x	x			x		x	x		x	x		DAS5714	Adv Analog (2401)	
		—	—	x	x								x		x	TDA1534	Signetics	
		7	2000	x				x					x	x		MP2734	Analogic	5
		10	2400	x				x					x	x	x	ADC2714	Adv Analog (2401)	
		3000		x	x			x					x	x	x	MP8014	Analogic	
		14.25	250	x	x						x		x	x		ADC3201	Analogic	
				x	x						x		x	x		ADC3202	Analogic	
				x	x						x			x	x	CSZ5114	Crystal	10
				x	x						x			x	x	CS5014	Crystal	
		40		x										x		ICL7115	GE/Intersil (2669)	
		44	900	x	x			x			x		x	x		ADAM-824A	Analogic	
		50	900	x	x			x			x		x	x		ADAM-834A	Analogic	
		125 kHz									x					HAS1409	AD (2415, 2417)	15
		250	300				x						x	x	x	MN5260	MicroNet	
1		2	3000	x									x	x		SP9588	† HybridSys	
		10		x									x			AD1679	AD (2415, 2418, 2448)	
				x									x			AD679	AD (2415, 2417)	
				x									x			AD7871	AD (2415, 2417, 2449)	20
		12		x									x			ADC1131	AD (2418)	
		25		x									x			ADC1130	AD (2418)	
		40		x									x			DAS1152	AD (2415, 2418)	
		55		x									x			DAS1157	AD (2415, 2418)	
14 (2 device set)		1/2	250000	40	x				x			x	x	x		ICL7104-14	GE/Intersil (2669)	25
			360	x					x			x	x	x		ICL8052A	GE/Intersil (2669)	
14 (3 1/2-Digit BCD)		1/2	10000	20										x		4146	TeledyneP	
15	1/4	5	1675					x					x	x		MP2735A-2	Analogic	
			1975					x			x		x	x		MP2735A-1	Analogic	
	1/2	6.8	1750					x			x		x	x		ADC2735	Adv Analog	30
		15	3000	x	x			x					x	x	x	MP8015	Analogic	
		50	900	x	x			x			x		x	x		ADAM-835A	Analogic	
		25000	20	x					x			x		x		TSC850	TeledyneS (3270)	
		33000	20	x					x	x		x	x	x		TSC804	TeledyneS (3271)	
	3/4	50	900	x	x			x					x	x		ADAM-825A	Analogic	35
1		50		x									x			DAS1153	AD (2415, 2418)	
		55		x									x			DAS1158	AD (2415, 2418)	
		400 ms	20	x				x	x							ADC800	Datel (2595)	
	2	400000	20	x					x						x	TSC800C	♦ TeledyneS	
16	1/4	1.5	2800	x	x			x					x	x		AB3XX16	Analogic	40
			3925	x	x			x			x		x	x		AB4XX16	Analogic	
		1.8	4300	x	x			x			x		x	x		AB40216	Analogic	
				x	x			x			x		x	x		AB40316	Analogic	
				x	x			x			x		x	x		ADAM-846	Analogic	
		5	1675					x					x	x		AM30516	Analogic	45
			1975					x			x		x	x		AM40516	Analogic	

(Continued)

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‡ High Radiation Resistance

*Typical Value

°Macrocell

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INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conversion Time ± ½LSB μs	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output (Cont'd)																		
16	1/2	2735		x	x			x		x	x		x	x		DAS5716	Adv Analog (2401)	(Cont'd)
	1.5			x												ADC701	Burr-Brown (2558)	
	2				x		x			x	x			x		ADC-1600-2	Adv Analog	
	3	2450		x	x			x			x		x	x		AM40416	Analogic	
	8.1	300		x	x			x		x	x				x	CSZ5126	† Crystal	5
	10	1400 *		x						x					x	HS9588	HybridSys	
	15	1520				x	x	x			x		x	x		HS9476	† HybridSys	
	16	1500				x	x				x		x	x	x	MN6295K	MicroNet	
						x	x				x		x	x	x	MN6295T	† MicroNet	
						x	x				x		x	x	x	MN6295T/B	† MicroNet	10
							x				x		x	x	x	MN6296K	MicroNet	
							x				x		x	x	x	MN6296T	† MicroNet	
							x				x		x	x	x	MN6296T/B	† MicroNet	
		3000		x	x			x					x	x	x	A8016-16	Adv Analog	
	16.25	250		x	x						x			x	x	CSZ5116	Crystal	15
				x	x						x			x	x	CS7820	Crystal	
	17			x												ADC700	Burr-Brown (2557)	
		250		x	x						x		x	x		ADC4201	Analogic	
				x	x						x		x	x		ADC4202	Analogic	
				x	x						x		x	x		ADC4203	Analogic	20
	20	3000		x	x			x					x	x	x	A8016	Adv Analog	
	32	3000		x	x			x					x	x	x	MP8016	Analogic	
	100	1200		x	x			x						x		HS9516-4	HybridSys	
				x				x					x	x		HS9516B-6	† HybridSys	
				x				x					x	x		HS9516C-6	HybridSys	25
	3/4	1.5	4000	x	x			x			x		x	x		AB40416	Analogic	
				x	x			x			x		x	x		AB40516	Analogic	
				x	x			x			x		x	x		AM40016	Analogic	
				x	x			x			x		x	x		AM40116	Analogic	
	65	900						x			x		x	x		ADC4110	Analogic	30
								x			x		x	x		ADC4111	Analogic	
	1	2 MSPS	200 *	x	x									x		CS5316	Crystal	
		10		x	x			x	x	x			x	x	x	AD1337	AD	
				x									x			AD1377	AD (2418, 2447)	
		16	1500			x	x				x		x	x	x	MN6295J	MicroNet	35
						x	x				x		x	x	x	MN6295S	† MicroNet	
						x	x				x		x	x	x	MN6295S/B	† MicroNet	
							x				x		x	x	x	MN6296J	MicroNet	
							x				x		x	x	x	MN6296S	† MicroNet	
							x				x		x	x	x	MN6296S/B	† MicroNet	40
	16.25	250		x	x						x			x	x	CS5016	Crystal	
	1 *	17	1550			x	x	x					x	x	x	PCM75K	Burr-Brown (2558)	
	1	20		x									x			AD1380	AD (2415, 2418)	
		35		x									x			ADC1140	AD (2418)	
		1000		x	x								x	x	x	ADC5290	† Adv Analog	45
				x	x								x	x	x	ADC5291	† Adv Analog	
	50			x									x			ADADC71	AD (2418)	
				x									x			ADADC72	AD (2418)	
				x		x	x	x						x	x	ADADC71K	AD (2418)	
				x		x	x	x						x	x	ADADC72K	AD (2418)	50

(Continued)

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Conversion Time μ s	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output																		(Cont'd)
16	1	55			x								x				DAS1159 AD (2415, 2418)	
		70		x									x				ADC1143 AD (2418, 2470)	
		100	1200	x	x			x						x			HS9516-5 HybridSys	
				x				x					x	x			HS9516B-5 † HybridSys	
				x				x					x	x			HS9516C-5 HybridSys	
		250	100	x	x						x	x				x	CS5501 † Crystal	
2	5	20		x		x		x								x	PCM78P Burr-Brown (2558)	
		9	720					x				x	x			x	CXA1144S † Sony	
								x				x	x			x	CX20018 Sony	
		14	645	x	x	x	x	x					x	x	x		AD1376 AD (2418)	
		15 (14B)		x									x	x	x		AD376K AD (2418, 2462)	
		17	525			x	x						x	x	x		ADC76K Burr-Brown (2557)	
2*	17	525				x	x	x					x	x	x		PCM75J Burr-Brown (2558)	
2	17	1000		x		x	x	x					x	x	x		HS9576K HybridSys	
				x		x	x	x					x	x	x		HS9576T/B HybridSys	
		1200		x	x								x	x	x		MN5295 MicroNet	
				x	x								x	x	x		MN5295H † MicroNet	
				x	x								x	x	x		MN5296 MicroNet	
				x	x								x	x	x		MN5296H † MicroNet	
		35	1600	x	x			x					x				ADC1140 Adv Analog (2401)	
		40	1000			x	x	x					x	x	x		MN5290 † MicroNet	
						x	x	x					x	x	x		MN5291 † MicroNet	
		1500		x	x						x		x	x	x		MN6290K MicroNet	
				x	x						x		x	x	x		MN6290T † MicroNet	
					x						x		x	x	x		MN6291K MicroNet	
					x						x		x	x	x		MN6291T † MicroNet	
		50	—	x		x	x	x						x	x		ADADC71J AD (2418)	
				x		x	x	x						x	x		ADADC72J AD (2418)	
		550				x	x	x					x	x	x		ADC71K Burr-Brown (2557)	
						x	x	x					x	x			ADC72B Burr-Brown (2557)	
		60	200			x	x	x					x	x	x		MN5284 MicroNet	
		100	1200	x	x			x						x			HS9516-6 HybridSys	
				x				x					x	x			HS9516B-4 † HybridSys	
				x				x					x	x			HS9516C-4 HybridSys	
4	2.5	8000						x					x	x			ADC974 Datel (2595)	
		15 (14B)		x									x	x	x		AD376J AD (2418, 2462)	
		17	900			x	x						x	x	x		ADC76J Burr-Brown (2557)	
		1000		x		x	x	x					x	x	x		HS9576J HybridSys	
				x		x	x	x					x	x	x		HS9576S/B † HybridSys	
		40	1500	x	x						x		x	x	x		MN6290J MicroNet	
				x	x						x		x	x	x		MN6290S † MicroNet	
					x						x		x	x	x		MN6291J MicroNet	
					x						x		x	x	x		MN6291S † MicroNet	
		50	525			x	x	x					x	x			ADC72A Burr-Brown (2557)	
						x	x	x					x	x			ADC72J Burr-Brown (2557)	
						x	x	x					x	x			ADC72K Burr-Brown (2557)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

(Continued)

INTERFACE—Analog to Digital Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Conversion Time ± ½LSB μS	Power Dis. mW (max.)	Bin. Output	Off. Bin. Output	Compl. Bin. Output	Compl. Off. Bin. Output	CTC or 2's Compl. Output	Sign. Magn. Output	Mux. In.	S&H	Integrating	Int. Ref.	Par. Out	Ser. Out	Device	Source	Line
Binary Output (Cont'd)																		
16	4	50				x	x	x					x	x	x	ADC71J	Burr-Brown (2557)	5
			550															
			1440			x	x	x					x	x	x	MN5282	MicroNet	
		100	1440			x	x	x					x	x	x	MN5280	MicroNet	
	12	20		x							x		x	x		MB87020	♦ Fujitsu	
16 (2 device set)	1/2	250000	40	x					x			x	x	x		ICL7104-16	GE/Intersil (2669)	5
			360	x					x			x	x	x		ICL8052A	GE/Intersil (2669)	
17	1/16	3333	600		x			x	x			x	x	x		AH30217	Analogic	
	1/2	400	1550						x			x	x	x		MP8037	Analogic	10
20 Floating Point	512	3														MN5420	MicroNet	
22	1/2	50 ms		x								x	x	x		AD1175	AD (2418)	
	6				x							x		x		ADC100C	Thaler	

Bin.—Binary
Off.—OffsetCompl.—Complementary
Magn.—MagnitudeCTC—Compl. 2's Compl.
Int. Ref.—Internal ReferenceMux. In.—Multiplexed Inputs
S&H—Sample and HoldPar. Out.—Parallel Output
Ser. Out.—Serial Output

INTERFACE—Analog to Digital Converters (Cont'd)

Digits	Device	Source	Line	Digits	Device	Source	Line
Decimal Output				(Cont'd)			
LCD Bargraph Output, 2.5% Resolution	TSC826	◊ TeledyneS		3 1/2 Digits, Integrating	TSC7136C	TeledyneS (3279)	50
Dual Slope, Integrating, Analog Subsystem	TSC500	TeledyneS			TSC810C	TeledyneS (3277, 3279)	
3 3/4 Digits, Autoranging, LCD Drive	ICL7139	GE/Intersil (2667)			TSC810C/BI	TeledyneS (3277, 3279)	
	ICL7149	GE/Intersil (2667)			TSC811C	TeledyneS (3277, 3279)	
3 Digits, Integrating	TSC827C	TeledyneS (3276)	5		TSC811C/BI	TeledyneS (3277, 3279)	
3 Digits, Dual Slope, 2 Device Sets	CA3161	GE/RCA (2653, 2656, 2658)			TSC816C	TeledyneS	55
	CA3162	GE/RCA		3 1/2 Digits, Integrating, LCD Drive, Low Power, Low Noise, Data Hold	MAX136	Maxim	
	CA3162A	GE/RCA		3 1/2 Digits, Integrating, LED Drive, Low Power, Low Noise	ICL7137	◊ Maxim	
3 1/2	MAX140C	Maxim		3 1/2 Digits, Integrating, 2 Device Sets	ICL8052	GE/Intersil (2669)	
	MAX140E	Maxim	10		ICL8053	GE/Intersil	
3 1/2 Digit, Integrating	MAX130	◊ Maxim			ICL8068	GE/Intersil (2669)	60
	MAX131	◊ Maxim			LD110C	Siliconix	
	MAX138	◊ Maxim			LD111AC	Siliconix	
	MAX139	◊ Maxim		3 1/2 Digits, Dual Slope	TSC8750	TeledyneS	
3 1/2 Digit LDC Display Drive, Autoranging	TSC815	◊ TeledyneS	15	3 3/4 Digits, Integrating	ADC3711	National	
3 1/2 Digits, Auto-Ranging	TSC805	◊ TeledyneS			ADD3701	National	65
3 1/2 Digits, Drives LCD DVM Display	ZN450	Plessey			ZNA216E	Plessey	
	ZN451	Plessey			ZNA216J	† Plessey	
3 1/2 Digits, Integrating	ICL7106	◊ GE/Intersil (2667)		4 1/2 Digits, Integrating	TSC500C	TeledyneS	
	ICL7107	GE/Intersil (2667)			TSC7129C	TeledyneS	
	ICL7116	◊ GE/Intersil (2667)	20	4 1/2 Digits, Integrating, for microprocessor or UART systems	ICL7135	GE/Intersil (2667, 2669)	70
	ICL7117	GE/Intersil (2667)			SI7135	Siliconix	
	ICL7126	GE/Intersil (2667)			TSC7135	◊ TeledyneS	
	ICL7136	GE/Intersil		4 1/2 Digits, Integrating, LCD Drive	ICL7129A	◊ Maxim	
	ICL7137	GE/Intersil (2667)	25		MAX7129	◊ Maxim	
	ICL7106	◊ Maxim		4 1/2 Digits, Integrating, BCD Output	ICL7135	◊ Maxim	75
	ICL7107	◊ Maxim		4 1/2 Digits, Successive Integration	ICL7129	GE/Intersil (2667)	
	ICL7116	◊ Maxim		4 1/2 Digits, Dual Slope, 2 Device Sets	ICL8053A	GE/Intersil	
	ICL7117	◊ Maxim			ICL8068A	GE/Intersil (2669)	
	ICL7126	◊ Maxim	30		LD120C	Siliconix	
	ICL7136	◊ Maxim			LD121AC	Siliconix	80
	MC14433	Motorola (2970, 2991)			LD122C	Siliconix	
	ADC3511	National		7	TL507	TI	
	ADD3501	National		10	TL505	TI	
	KS7126	Samsung (3040)	35	10-13	TL501	TI	
	TSC14433	◊ TeledyneS		13 Digits, Integrating	TSC7109AC	TeledyneS	85
	TSC14433A	◊ TeledyneS			TSC7109AM	TeledyneS	
	TSC14433B	◊ TeledyneS			TSC7109AM/883	† TeledyneS	
	TSC7106	◊ TeledyneS (3279)			TL500	TI	
	TSC7106A	◊ TeledyneS (3279)	40	14	TSC500AC	TeledyneS	
	TSC7107	TeledyneS (3279)		16 Digits, Integrating	ICL7182	GE/Intersil (2667)	90
	TSC7107A	TeledyneS (3279)		101 Segment LCD Bargraph			
	TSC7116	◊ TeledyneS (3279)					
	TSC7116A	◊ TeledyneS (3279)					
	TSC7117	◊ TeledyneS (3279)	45				
	TSC7126	◊ TeledyneS (3279)					
	TSC7126A	◊ TeledyneS (3279)					
	TSC7136AC	TeledyneS (3279)					
	TSC7136AC/BI	TeledyneS (3279)					
	(Continued)						

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ s	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
3	1/2		450							x			x			4026	TeledyneP	
			750							x			x			4027	TeledyneP	
4	1/16	0.01	1050	x									x		x	NE5152	Signetics (3169)	5
	1/8	0.025	1000	x						x	x				x	BT456	Brooktree	
		100		x	x			x		x						416BCD	Adv Analog	
	1/4	0.3	85		x					x	x		x			ZN434E	Plessey	
	1/2	0.005	1000	x								x			x	AH8304EC	Analogic	
			1250	x						x					x	AH8304TC	Analogic	
				x						x					x	AH8304TM	† Analogic	
		0.02	500	x						x					x	AH8404TC	Analogic	
				x						x					x	AH8404TM	† Analogic	
	0.020	430		x						x					x	MB40874	Fujitsu	
4 (triple)	1/2	0.005	1500	x						x		x				AD9702	AD (2412)	
		0.008	1000 *	x						x					x	IDT75C451	† IDT	
4 (triple color video RAM/DAC)	1/8	0.0012 *																15
		500 *		x						x	x		x		x	BT103	† Brooktree	
	1/2	0.0012 *	500 *	x						x	x				x	BT102	† Brooktree	
4 (triple video)	1/8	0.005	1500	x								x	x			TDC1334	TRWLSI	
	1/4	0.008				x				x			x			ZN454CJ	Plessey	
4 (triple video DAC)	1/2	0.0004	2100	x								x	x		x	HDAC34010	Honeywell SPT	20
				x						x	x		x		x	HDAC34020	Honeywell SPT	
4 (triple video 16x12 RAM DAC)	1/2	0.0003 *	1000	x						x	x		x	x	x	BT454	Brooktree	
	1/2	0.0012 *	1000	x						x						FVG450	National	
4 (triple video 16x12 RAMDAC)	1/2	0.0012 *	1000	x						x								
4 (triple video 256x12 RAMDAC)	1/2	0.0003 *	1500	x						x	x			x	x	BT451	Brooktree	25
				x						x						FVG451	National	
4 (video)	1/2	0.007	1250	x	x					x					x	AH8304T	Analogic	
			1500	x	x					x					x	AH8304T	† Analogic	
		0.05	800	x	x					x					x	AH8404T	† Analogic	
	6.4	1125		x						x			x			HDG0407	AD (2412)	
4 (video DAC)	1/2	0.004		x	x					x		x				VDAC0405H	Adv Analog	
4 (video digital converter)	0.01			x						x					x	TMS34070	TI	30
	1/8	125 MHz	400	x								x			x	TDC1034	TRWLSI	
	1/2	0.004				x						x			x	DAC0405	Datel	
		0.004 *	1040				x					x			x	HDG0405	AD (2412)	
		0.005	2200		x							x			x	VDAC444E	Adv Analog	
4 (Triple color RAM/DAC)	1/2	125 MHz	x													MC10320	Motorola (2971)	35
4 (Triple color video)	1/2	0.01		x						x	x				x	RGBDAC3404A	† Adv Analog	
				x						x	x				x	RGBDAC3408	† Adv Analog	
				x						x	x				x	RGBDAC3405S	† Adv Analog	
	0.012			x						x	x				x	VDAC3400S	† Adv Analog	

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error $\pm$ LSB	Settling Time μ S	Power Dis. $\pm \frac{1}{2}$ LSB mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
4 (Triple color video DAC)	1/2	150 MHz		x						x		x	x			NE5151	Signetics (3169)	
4 (Triple color video RAMDAC)	1/2	80 MHz		x						x		x	x			NE5150	Signetics (3169)	
4 1/2	1/8	100		x	x			x		x						418BCD	Adv Analog	
6	—	2	120	x							x				x	MC144111	Motorola (2932, 2971, 2991)	
			185	x							x				x	MC144110	Motorola (2932, 2971, 2991)	5
	1/8	0.004	500	x								x		x	x	TKDA10A	Tektronix	
				x								x		x	x	TKDA10B	Tektronix	
		3	250			x	x			x			x			DAC01A	† PMI	
	1/4	3	250			x	x									μ PC603	NEC	
						x	x			x			x			DAC01	† PMI	10
						x	x			x			x			DAC01B	† PMI	
						x	x			x			x			DAC01C	PMI	
						x	x			x			x			DAC01F	† PMI	
						x	x			x			x			DAC01H	PMI	
	1/2	0.03	130	x						x	x				x	HA19508	◊ Hitachi	15
		0.04	110	x						x	x					μ PD6901C	NEC	
		0.05	225	x						x	x				x	HA19503	◊ Hitachi	
				x						x	x				x	HA19507	◊ Hitachi	
		1.0	25 *	x						x						ZN436E	Plessey	
				x						x						ZN436J	† Plessey	20
		3	250			x	x			x			x			DAC01D	PMI	
	1	-	800	x						x	x				x	BT471	Brooktree	
		0.05	300	x						x					x	MB40176	◊ Fujitsu	
		30 MSPS	220							x						MB40776	Fujitsu	
	2		60	x						x	x			x	x	TDA8444	Signetics	25
	3			x						x	x				x	TDA8442	Signetics	
6 (triple color video RAM/DAC)	1/2	20 MHz		x						x					x	IMSG178	Inmos (2799)	
		35 MHz		x						x					x	IMSG175-25	Inmos	
		50 MHz		x						x					x	IMSG170-35	Inmos	
		80 MHz		x						x						IMSG170-50	Inmos	
			800	x						x						VDA176	VDA	30
6 (triple RAMDAC)	1/2	13	1000	x							x					ADV471	◊ AD (2412, 2444)	
6 (triple video)	1/2	0.02	1000	x			x	x		x	x					DAC0630	National	
				x			x	x		x	x					DAC0631	National	
	1	0.004	500	x							x		x			USC1863	◊‡ Universal	
6 (video DAC)	1/2	0.006		x	x					x		x				VDAC0605H	Adv Analog	35
6 (video digital converter)	1/2	0.006				x						x			x	DAC0605	Datel	
		0.006 *				x									x	HDG0605	AD (2412)	
			1350			x						x						
6/8	1	-	800	x						x	x				x	BT478	Brooktree	
6/12-Binary Serial	1/2	—	5							x	x			x	x	μ A9706C	National	
8	—	0.005	—	x								x	x	x		AD9768	◊‡ AD (2411)	40
		0.008		x								x	x		x	AD9700B	◊ AD (2412)	
				x								x	x		x	AD9700S	◊‡ AD (2412)	
	1/16			x							x			x		IXDP610	IXYS	
	1/8	0.08	15	x	x	x	x			x	x			x	x	MP7528XQ	MicroPwr	
		0.1	5	x						x	x			x	x	AD7524	† Maxim	45
			30	x						x	x				x	AD7524C	Maxim	

(Continued)

† Military Temperature Range (-55° to 125° C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm$ 1/2LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/8	0.1	30	x						x	x				x	AD7524L $\diamond$ Maxim	(Cont'd)	
				x						x	x				x	AD7524U $\dagger$ Maxim		
		0.1 *	10 *	x	x	x	x				x			x	x	MP7524L MicroPwr		
				x	x	x	x				x			x	x	MP7524U $\dagger$ MicroPwr		
		0.15	1.0 *	x	x	x	x				x			x		MP7523L MicroPwr		5
			1.5	x	x	x	x				x			x		AD7523L Maxim		
				x	x	x	x				x			x		AD7523U $\dagger$ Maxim		
			1.5 *	x	x	x	x				x			x		AD7523L $\diamond$ AD (2470)		
				x	x	x	x				x			x		AD7523L GE/Intersil (2666)		
				x	x	x	x				x			x		AD7523U $\dagger$ GE/Intersil (2666)		10
		0.15 *	20 *	x	x					x	x			x	x	AD7524C $\diamond$ AD (2411, 2460, 2462)		
				x	x	x	x				x			x	x	AD7524L $\diamond$ AD (2411, 2460, 2462)		
				x	x	x	x			x	x			x	x	AD7524U $\diamond$ $\dagger$ AD (2411, 2460, 2462)		
			670	x	x	x	x				x			x		AD7523J GE/Intersil (2666)		
				x	x	x	x				x			x		AD7523S $\dagger$ GE/Intersil (2666)		15
		0.35	450	x						x	x			x	x	PM7524A $\dagger$ PMI (3019)		
				x						x	x			x	x	PM7524E PMI (3019)		
				x						x	x			x	x	PM7524G PMI (3019)		
		0.8 *	15 *	x						x	x			x	x	MP7628L MicroPwr		
				x						x	x			x	x	MP7628U $\dagger$ MicroPwr		20
		1	30	x						x	x			x		DAC0830 National		
		10 *	20	x	x	x	x				x			x	x	MP7524C MicroPwr		
1/4	0.01	850		x								x				HDS0810E AD (2470)		
				x								x				HDS0810EM $\dagger$ AD		
				x								x				MC10318-9 Motorola (2971)		25
		0.045	700	x							x	x				HI5618A-2 $\dagger$ Harris		
				x							x	x				HI5618A-5 Harris		
		0.08	15	x	x	x	x			x	x			x	x	MP7528XC MicroPwr		
				x	x	x	x			x	x			x	x	MP7528XL MicroPwr		
				x	x	x	x			x	x			x	x	MP7528XU $\dagger$ MicroPwr		30
		0.085	33	x	x	x	x			x	x	x		x		IR9K08 Sharp		
		0.1	30	x						x	x				x	AD7524B Maxim		
				x						x	x				x	AD7524K $\diamond$ Maxim		
				x						x	x				x	AD7524T $\dagger$ Maxim		
		0.135	174	x	x	x	x			x	x	x		x		ADDAC08A $\dagger$ AD (2470)		35
					x	x	x			x	x	x		x		ADDAC08H AD (2470)		
				x	x	x	x			x	x	x		x		DAC08A $\dagger$ Motorola (2971, 2989)		
				x	x	x	x			x	x	x		x		DAC08H Motorola (2971, 2989)		
				x	x	x	x			x				x		DAC0802 $\dagger$ National		
				x	x	x	x			x				x		DAC0802C National		40
				x	x	x	x			x	x	x		x		DAC08A $\diamond$ $\dagger$ PMI (3017)		
				x	x	x	x			x	x	x		x		DAC08H $\diamond$ PMI (3017)		
				x	x	x	x			x	x	x		x		DAC08A $\dagger$ Raytheon (3025)		
				x	x	x	x			x	x	x		x		DAC08H Raytheon (3025)		
				x	x	x	x			x	x	x		x		DAC08A $\diamond$ $\dagger$ Signetics		45
				x	x	x	x			x	x	x		x		DAC08H $\diamond$ Signetics		
		0.15	1 *	x	x	x	x				x			x		MP7523K MicroPwr		
			1.5	x	x	x	x				x			x		AD7523K Maxim		
				x	x	x	x				x			x		AD7523T $\dagger$ Maxim		

(Continued)

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/4	0.15	1.5 *	x	x	x	x				x			x		AD7523K $\diamond$ AD (2470)	(Cont'd)	
				x	x	x	x				x			x		AD7523K GE/Intersil (2666)		
				x	x	x	x				x			x		AD7523T $\dagger$ GE/Intersil (2666)		
			10 *	x	x	x	x				x			x	x	MP7524B MicroPwr		
			330	x	x	x	x			x	x		x		x	DAC4888 Raytheon (3025)	5	
				x	x	x	x			x	x		x		x	DAC4888B $\dagger$ Raytheon (3025)		
		0.15 *	10 *	x	x	x	x				x			x	x	MP7524K MicroPwr		
				x	x	x	x				x			x	x	MP7524T $\dagger$ MicroPwr		
			20 *	x	x					x	x			x	x	AD7524B $\diamond$ AD (2411, 2460, 2462)		
				x	x	x	x			x	x			x	x	AD7524K $\diamond$ AD (2411, 2460, 2462)	10	
				x	x	x	x			x	x			x	x	AD7524T $\diamond$ $\dagger$ AD (2411, 2460, 2462)		
		0.2 *	255 *	x						x	x	x	x	x	x	NE5119 Signetics		
				x						x	x	x	x	x	x	SE5119 $\dagger$ Signetics		
			1300 *			x	x				x	x		x		HDH0802 AD (2470)	15	
						x	x				x	x		x		HDH0802M $\dagger$ AD (2470)		
		0.25	5	x						x	x			x	x	DAC8408A $\dagger$ PMI		
				x						x	x			x	x	DAC8408E $\diamond$ PMI		
				x						x	x			x	x	DAC8408G PMI		
			170	x	x					x				x	x	DAC888A $\dagger$ PMI	20	
				x	x					x				x	x	DAC888E PMI		
		0.25 *	265	x	x					x	x			x		AD1408-9 AD (2471)		
				x	x					x	x			x		AD1508-9 $\dagger$ AD (2471)		
		0.27	450	x	x					x	x			x	x	HS7528L HybridSys		
				x	x					x	x			x	x	HS7528U $\dagger$ HybridSys		
		0.35	50	x						x	x			x	x	PM7524B $\dagger$ PMI (3019)	25	
				x						x	x			x	x	PM7524F PMI (3019)		
				x						x	x			x	x	PM7524H $\diamond$ PMI (3019)		
			450	x						x	x			x	x	TLC7524M $\dagger$ TI (3325)		
		0.8 *	15 *	x						x	x			x	x	MP7628K MicroPwr	30	
				x						x	x			x	x	MP7628T $\dagger$ MicroPwr		
		1	30	x						x	x			x		DAC0831 National		
		1.5	375	x						x	x		x		x	AD558K AD (2410, 2461)		
		2 *	255	x						x	x	x	x	x	x	NE5019 Signetics		
				x						x	x	x	x	x	x	SE5019 $\dagger$ Signetics		
		2.5	330	x	x	x	x	x	x	x	x		x	x	x	DAC4888F Raytheon (3025)	35	
		20 *	735 *	x	x						x	x				HDS0820 AD (2470)		
				x	x						x	x				HDS0820M $\dagger$ AD (2470)		
1/3	2.5	330		x	x	x	x	x	x	x	x		x	x	x	DAC4888D Raytheon (3025)		
3/8	1.5	375		x						x	x		x		x	AD558T $\dagger$ AD (2410, 2461)	40	
1/2				x						x	x				x	MAX500A $\diamond$ $\dagger$ Maxim		
		400		x						x	x					μ PD6902C NEC		
	.007	495		x								x				SDA8005 Siemens		
	0.0003 *																	
		800 *		x						x		x		x	x	BT108 Brooktree		
				x						x		x		x	x	FVG108 National		
	0.002	1000		x								x	x	x	x	BT107 Brooktree	45	
	0.003	3500		x						x		x	x		x	BT492 Brooktree		
	0.004	450		x								x		x	x	CX20201A-3 $\diamond$ Sony		
		500		x								x		x	x	CX20202A-3 Sony		
	0.007	1150		x						x					x	AH50008 Analogic		
	0.0075			x												DAC8303 Datel (2596)	50	
		2250		x						x					x	DAC8308 Datel		

(Continued)

$\dagger$ Military Temperature Range (-55° to 125° C)

$\ddagger$ High Radiation Resistance

*Typical Value

$\diamond$ Macrocell

$\diamond$ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error $\pm$ LSB	Settling Time $\pm$ 1/2 LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/2	0.008		x	x					x		x				VDAC0805H	Adv Analog	(Cont'd)
		400 *		x								x		x	x	IDT75C18 $\diamond$ $\uparrow$ IDT		
		1000 *		x						x					x	IDT75C457 $\diamond$ $\uparrow$ IDT		
		2000		x								x			x	AH8308EC	Analogic	
		2500		x						x					x	AH8308TC	Analogic	5
		3750		x								x	x		x	HDAM51100	Honeywell SPT	
	0.01 *	675		x								x				MC10318	Motorola (2971)	
	0.016	240		x						x			x		x	CXA1106P	Sony	
		250		x						x			x		x	CXA1106M $\diamond$ Sony		
		400		x						x			x		x	CXA1260Q-Z $\diamond$ Sony		10
	0.02	225		x						x	x		x		x	HA19510 $\diamond$ Hitachi		
	0.025	250 *			x	x	x	x	x			x				IR3K07	Sharp	
		600		x		x				x					x	IR3K02	Sharp	
		630		x	x					x			x			DACHF88MC	Datel (2596)	15
				x	x					x			x			DACHF88MM $\uparrow$ Datel (2596)		
	0.045	700		x						x	x					HI5618B-2 $\uparrow$ Harris		
				x						x	x					HI5618B-5	Harris	
	0.08	15		x	x	x	x			x	x			x	x	MP7528XB	MicroPwr	
				x	x	x	x			x	x			x	x	MP7528XK	MicroPwr	
				x	x	x	x			x	x			x	x	MP7528XT $\uparrow$ MicroPwr		20
	0.1	5		x				x	x		x				x	TLC7524C	TI (3325)	
				x				x	x		x				x	TLC7524I	TI (3325)	
		30		x						x	x				x	AD7524A	Maxim	
				x						x	x				x	AD7524J $\diamond$ Maxim		
				x						x	x				x	AD7524S $\uparrow$ Maxim		25
	0.1 *	10 *		x	x	x	x				x			x	x	MP7524A	MicroPwr	
				x	x	x	x				x			x	x	MP7524J	MicroPwr	
				x	x	x	x				x			x	x	MP7524S $\uparrow$ MicroPwr		
	0.12	255		x						x	x	x	x	x	x	NE5118	Signetics	
				x						x	x	x	x	x	x	SE5118 $\uparrow$ Signetics		30
	0.13	305		x						x	x			x		μ A0802AC	National	
				x						x	x			x		μ A0802M $\uparrow$ National		
	0.135	174		x	x	x	x			x	x	x		x		ADDAC08 $\uparrow$ AD (2470)		
				x	x	x	x			x	x	x		x		DAC08 $\uparrow$ Motorola (2971, 2989)		
				x	x	x				x	x	x		x		DAC08M $\uparrow$ National		35
				x	x	x	x			x	x	x		x		DAC08 $\diamond$ $\pm$ PMI (3017)		
				x	x	x	x			x	x	x		x		DAC08 $\uparrow$ Raytheon (3025)		
				x	x	x	x			x	x	x		x		DAC08 $\diamond$ $\uparrow$ Signetics		
	0.15	1 *		x	x	x	x				x			x		MP7523J	MicroPwr	
		1.5		x	x	x	x				x			x		AD7523J	Maxim	
				x	x	x	x				x			x		AD7523S $\uparrow$ Maxim		40
		1.5 *		x	x	x	x				x			x		AD7523J $\diamond$ AD (2470)		
				x	x	x	x				x			x		AD7523S $\diamond$ $\uparrow$ AD (2470)		
		136		x	x					x	x	x		x		DAC08BC	Datel (2596)	
				x	x					x	x	x		x		DAC08BM $\uparrow$ Datel (2596)		45
		174		x	x	x	x			x	x	x		x		ADDAC08E	AD (2470)	
				x	x	x	x			x	x	x		x		HA17008R	Hitachi	
				x	x	x	x			x	x	x		x		DAC08E	Motorola (2971, 2989)	
				x	x	x	x			x	x	x		x		DAC08EC	National	
				x	x	x				x				x		μ PC624	NEC	50
				x	x	x	x			x	x	x		x		DAC08E $\diamond$ PMI (3017)		
				x	x	x	x			x	x	x		x		DAC08E	Raytheon (3025)	
				x	x	x	x			x	x	x		x		DAC08E $\diamond$ Signetics		

(Continued)

Bin.—Binary
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CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm$ $\frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/2	0.15 *	20 *	x	x					x	x			x	x	AD7524A $\diamond$ AD (2411, 2460, 2462)	(Cont'd)	
				x	x	x	x				x			x	x	AD7524J $\diamond$ AD (2411, 2460, 2462)		
				x	x	x	x				x			x	x	AD7524S $\diamond$ $\uparrow$ AD (2411, 2460, 2462)		
		305		x						x	x			x		DAC0808 $\uparrow$ National		5
				x						x	x			x		DAC0808C National		
		0.16 *	222	x	x	x	x	x		x	x			x	x	AM6080C AMD		
				x	x	x	x	x		x	x			x	x	AM6080M $\uparrow$ AMD		
		0.18	15	x						x	x				x	AD7528B Maxim		10
				x						x	x				x	AD7528C Maxim		
				x						x	x				x	AD7528K $\diamond$ Maxim		
				x						x	x				x	AD7528L $\diamond$ Maxim		
				x						x	x				x	AD7528T $\uparrow$ Maxim		
				x						x	x				x	AD7528U $\uparrow$ Maxim		
		0.2	670	x	x					x	x			x		DAC7523 Datel (2596)		15
		0.25	5	x						x	x			x	x	DAC8408B $\uparrow$ PMI		
				x						x	x			x	x	DAC8408F PMI		
				x						x	x			x	x	DAC8408H $\diamond$ PMI		
		38		x						x					x	MAX7624C $\diamond$ Maxim		20
				x						x					x	MAX7624E Maxim		
				x						x					x	MAX7624M $\uparrow$ Maxim		
		170		x	x					x				x	x	DAC888B $\uparrow$ PMI		
				x	x					x				x	x	DAC888F PMI		
		0.25 *	265	x	x					x	x			x		AD1408-8 AD (2471)		25
				x	x					x	x			x		AD1508-8 $\uparrow$ AD (2471)		
				x						x	x			x		HA17408 Hitachi		
				x	x					x	x			x		DAC1408A-8 $\diamond$ PMI		
				x	x					x	x			x		DAC1508A-8 $\uparrow$ PMI		
		0.27	20	x	x					x	x			x	x	HS7528K HybridSys		30
				x	x					x	x			x	x	HS7528T $\uparrow$ HybridSys		
		0.3	450	x	x					x			x			4020 TeledyneP		
		0.3 *	305	x	x					x	x			x		DACIC88C Datel (2596)		35
				x	x					x	x			x		DACIC88M $\uparrow$ Datel		
				x										x		MC1408-8 Motorola (2971)		
				x										x		MC1508-8 $\uparrow$ Motorola (2971)		
				x						x	x			x		DAC1408 $\uparrow$ National		
				x						x	x			x		DAC1408AC National		
				x						x				x		MC1408-8 National		
				x						x				x		MC1508-8 $\uparrow$ National		
				x						x				x		MC1408-8 Signetics		
				x						x				x		MC1508-8 $\uparrow$ Signetics		40
		0.35	30	x						x					x	AD7628B Maxim		
				x						x					x	AD7628K $\diamond$ Maxim		
				x						x					x	AD7628T $\uparrow$ Maxim		
		0.5	15 *	x						x	x			x	x	MP7628J MicroPwr		45
				x						x	x			x	x	MP7628S $\uparrow$ MicroPwr		
		0.6 *	500	x		x				x			x		x	XR9201 Exar		
		0.8	100	x						x	x		x		x	ZN558E-8 Plessey		50
				x						x	x		x		x	ZN558J-8 $\uparrow$ Plessey		
			100 *	x	x					x	x		x		x	ZN428E-8 Plessey		
				x	x					x	x		x		x	ZN428J-8 $\uparrow$ Plessey		
		1												x	x	DAC608C Datel (2596)		
		30		x						x	x			x		DAC0832 National		
		45 *		x						x	x		x			ZN426E-8 Plessey	(Continued)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◇ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time μ s	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/2	1	45 *														(Cont'd)	
				x						x	x		x			ZN426J-8	† Plessey	
				x						x	x					ZN429E-8	Plessey	
				x						x	x					ZN429J-8	† Plessey	
		75		x						x	x		x		x	AD557	◊ AD (2410)	5
		750		x						x			x			MN3008	MicroNet	
				x						x			x			MN3008H	† MicroNet	
					x					x			x			MN3009	MicroNet	
					x					x			x			MN3009H	† MicroNet	
		1.25			x					x	x		x		x	ZN438E	Plessey	10
					x					x	x		x		x	ZN438J	† Plessey	
		1.5		x						x	x			x		AD7548K	AD (2411, 2462)	
				x						x	x			x		AD7548T	† AD (2411, 2462)	
		75 *		x						x	x		x		x	AD558J	AD (2410, 2461)	
		300		x	x					x	x			x		DAC331B-8	† HybridSys	15
				x	x					x	x			x		DAC331C-8	HybridSys	
		2 *	255	x	x					x			x			DACUP88C	Datel (2596)	
				x	x					x			x			DACUP88M	† Datel (2596)	
		255 *		x						x	x	x	x	x	x	NE5018	Signetics (3171)	
				x						x	x	x	x	x	x	SE5018	† Signetics	
		2 ns	3500 *	x								x			x	TQ6112	◊ TriQuint	20
		2.5	570	x	x	x				x			x			MN3014	MicroNet	
				x	x	x				x			x			MN3014H	† MicroNet	
		3		x								x	x	x		HDAC51600	Honeywell SPT	
		15		x						x	x			x	x	TDA1721	Signetics	
		680		x	x								x			HS3020B	† HybridSys	25
				x	x								x			HS3020C	HybridSys	
		830		x	x	x				x			x		x	MN3020	MicroNet	
				x	x	x				x			x		x	MN3020H	† MicroNet	
		4	195	x						x					x	AD7225C	Maxim	30
				x						x					x	AD7225L	◊ Maxim	
		230		x						x					x	AD7225U	† Maxim	
		1080		x	x		x			x	x		x		x	DAC336B-8	† HybridSys	
				x	x		x			x	x		x		x	DAC336C-8	HybridSys	
		5		x						x	x		x			AD7225L	AD (2413, 2462)	
		75		x						x	x			x	x	AD7224	† Maxim	35
				x						x					x	AD7224C	Maxim	
				x						x					x	AD7224L	◊ Maxim	
				x						x					x	AD7224U	† Maxim	
		310		x						x	x				x	AD7228C	Maxim	40
				x						x	x				x	AD7228L	◊ Maxim	
				x						x	x				x	AD7228U	† Maxim	
		450		x			x	x		x						PM7224A	† PMI (3019)	
				x			x	x		x						PM7224E	PMI (3019)	
				x			x	x		x						PM7224G	PMI (3019)	
		6		x									x			AD9703	AD (2412)	45
		20	285	x						x	x		x			DAC336B-1	† HybridSys	
				x						x	x		x			DAC337B-0	† HybridSys	
				x						x	x		x			DAC337B-2	† HybridSys	
				x						x	x		x			DAC337C-0	HybridSys	
				x						x	x		x			DAC337C-1	HybridSys	50
				x						x	x		x			DAC337C-2	HybridSys	
		23 *	585			x				x	x		x			MN3000	MicroNet	
						x				x	x		x			MN3000H	† MicroNet	
					x					x	x		x			MN3001	MicroNet	
					x					x	x		x			MN3001H	† MicroNet	55

(Continued)

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1/2	23 *	585	x						x	x		x			MN3002	MicroNet	(Cont'd)
				x						x	x		x			MN3002H	† MicroNet	
					x					x	x		x			MN3006	MicroNet	
					x					x	x		x			MN3006H	† MicroNet	
		25	600	x	x					x			x			4021	TeledyneP	5
		30	570	x	x	x				x			x			MN3013	MicroNet	
				x	x	x				x			x			MN3013H	† MicroNet	
		40	300		x					x	x		x			DAC337B-6	† HybridSys	
					x					x	x		x			DAC337C-6	HybridSys	
		100	5	x							x			x	x	TLC7528C	TI (3325)	10
				x							x			x	x	TLC7528I	TI (3325)	
		200 MSPS	3820	x									x	x	x	HDAM51200	Honeywell SPT	
				x									x	x	x	HDAM51210	Honeywell SPT	
		250	5	x						x	x					ALD1801	o† AdvLinear	
		250 MSPS		x				x					x			AD9701S	† AD (2412)	15
		350	20	x	x					x	x			x	x	AD7628	AD (2413)	
3/4	1.5	375		x						x	x		x		x	AD558S	† AD (2410, 2461)	
1				x						x	x					BT457KG100	Brooktree	
				x						x	x					BT457KG125	Brooktree	
				x						x	x					BT457KG75	Brooktree	20
				x						x	x				x	MAX500B	o† Maxim	
		0.002 *	250 *	x						x					x	BT106	Brooktree	
		0.005	800	x								x			x	TDC1018-1	TRWLSI	
		0.008	1800	x						x	x				x	BT461	Brooktree	
			2000	x							x					BT459	Brooktree	25
		0.01	200	x		x					x		x		x	SC11401	Sierra	
				x							x		x		x	SC11402	Sierra	
			250	x		x					x		x		x	SC11403	Sierra	
				x							x		x		x	SC11404	Sierra	
		0.01 *	675	x								x		x		MC10318C-7	Motorola (2971)	30
		0.013	900	x							x					BT473	Brooktree	
		0.07	305	x						x	x			x		MC1408-7	Signetics	
		0.08	15	x	x	x	x			x	x			x	x	MP7528XA	MicroPwr	
				x	x	x	x			x	x			x	x	MP7528XJ	MicroPwr	
				x	x	x	x			x	x			x	x	MP7528XS	† MicroPwr	35
		0.085	33							x	x	x				MB4072	Fujitsu	
		0.13	305	x						x	x			x		μ A0802BC	National	
				x						x	x			x		μ A0802CC	National	
		0.15	174	x	x	x	x			x	x	x		x		ADDAC08C	AD (2470)	
				x	x	x	x			x	x	x		x		DAC08C	Motorola (2971, 2989)	40
				x	x	x	x			x	x	x		x		DAC08C	National	
				x	x	x				x				x		DAC0801C	National	
				x	x	x	x			x	x	x		x		DAC08C	o‡ PMI (3017)	
				x	x	x	x			x	x	x		x		DAC08C	Raytheon (3025)	
				x	x	x	x			x	x	x		x		DAC08C	o Signetics	45
		0.18	15	x						x	x				x	AD7528A	Maxim	
				x						x	x				x	AD7528J	o Maxim	
				x						x	x				x	AD7528S	† Maxim	
		0.25 *	265	x	x					x	x			x		AD1408-7	AD (2471)	50
				x	x					x	x			x		DAC1408BC	National	
				x	x					x	x			x		DAC1408A-7	PMI	
		0.27	20	x	x					x	x			x	x	HS7528S	† HybridSys	
		0.3 *	305	x										x		MC1408-7	Motorola (2971)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

o Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8	1	0.3 *	305	x						x				x		DAC0807C	National	(Cont'd)
				x						x				x		MC1408-7	National	
	0.8	100		x	x					x	x		x		x	ZN559E	‡ Plessey	
				x	x					x	x		x		x	ZN559J	† Plessey	
	1	60		x						x	x		x		x	AD7569	◊† AD (2410, 2414, 2416)	5
	1.5									x				x		AD7548J	AD (2411, 2462)	
										x				x		AD7548S	† AD (2411, 2462)	
	3	300		x				x		x						μPD7011	NEC	
	4	195		x						x					x	AD7225B	Maxim	
				x						x					x	AD7225K	◊ Maxim	10
		230		x						x					x	AD7225T	† Maxim	
	5			x						x	x			x	x	AD7224C	AD (2410, 2462)	
				x						x	x			x	x	AD7224L	AD (2410, 2462)	
				x						x	x		x			AD7225K	AD (2413, 2462)	
	75			x						x					x	AD7224B	Maxim	15
				x						x					x	AD7224K	◊ Maxim	
				x						x					x	AD7224T	† Maxim	
	240			x						x	x			x	x	AD7228	◊† AD (2413, 2461)	
	310			x						x	x				x	AD7228B	Maxim	20
				x						x	x				x	AD7228K	◊ Maxim	
				x						x	x				x	AD7228T	† Maxim	
	450			x			x	x		x						PM7224B	† PMI (3019)	
				x			x	x		x						PM7224F	PMI (3019)	
				x			x	x		x						PM7224H	◊ PMI (3019)	
	30 MSPS																	
	250									x						MB40778	Fujitsu	25
2	0.01 *	675		x								x		x		MC10318C-6	Motorola (2971)	
	0.25 *	265		x	x					x	x			x		DAC1408CC	National	
				x	x					x	x			x		DAC1408A-6	PMI	
	0.3 *	305		x										x		MC1408-6	Motorola (2971)	
				x						x				x		DAC0806C	National	30
				x						x				x		MC1408-6	National	
	5			x						x	x			x	x	AD7224B	AD (2410, 2462)	
				x						x	x			x	x	AD7224K	AD (2410, 2462)	
		200		x						x	x			x	x	AD7226B	Maxim	35
				x						x	x			x	x	AD7226K	Maxim	
				x						x	x			x	x	AD7226T	† Maxim	
8 (A/D, D/A, with counter)	1/2	2	175	x						x	x		x			ZN425E-8	Plessey	
	1	2	175	x						x	x		x			ZN425J-8	† Plessey	
8 (D/A, with counter/clock)	1/2	0.8	—	x						x	x		x			ZN435E	Plessey	
				x						x	x		x			ZN435J	† Plessey	40
8 (dual)	1/2	0.18	5	x						x	x			x	x	AD7528	† Maxim	
		0.35	120	x			x	x								AD7628C	Maxim	
	1 *			x							x					AD7669	AD (2413, 2416, 2440)	
	1	0.35	120	x			x	x								AD7628A	Maxim	45
				x			x	x								AD7628J	Maxim	
				x			x	x								AD7628S	† Maxim	
8 (dual matched)	1/2	0.35	5	x						x	x			x	x	PM7528A	◊† PMI (3019)	
				x						x	x			x	x	PM7528B	† PMI (3019)	
				x						x	x			x	x	PM7528E	PMI (3019)	
				x						x	x			x	x	PM7528F	PMI (3019)	50

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Settling Time ± ½LSB μS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
8 (dual matched) 1/2 0.35 5				x						x	x			x	x	PM7528G PMI	(Cont'd) (3019)	5
				x						x	x			x	x	PM7528H ♦ PMI	(3019)	
8 (octal) 1/2 50 1000				x						x					x	BT110	Brooktree	10
8, (quad) 1/2 5 144				x						x	x				x	PM7226A † PMI	(3019)	
				x						x	x				x	PM7226E PMI	(3019)	
				x						x	x				x	PM7226G PMI	(3019)	
				195	x					x	x			x	x	AD7225 † Maxim		
				1 3 300	x						x		x			USC1841 ♦‡ Universal		
				5 144	x					x	x				x	PM7226B † PMI	(3019)	10
					x					x	x				x	PM7226F PMI	(3019)	
				500	x			x	x	x	x					PM7226H ♦ PMI	(3019)	15
8 (triple) 1/2 0.008 1000 *				x						x					x	IDT75C458 ♦† IDT	(2857)	
				1200 *	x							x	x	x	x	IDT75MB38	IDT	
				0.016 400	x					x			x		x	CX20206	Sony	
				0.03 200	x					x					x	HD49304 ♦° Hitachi		
8 (triple color video RAM/DAC) 1/2 0.008 *				8000	x							x			x	RGBDAC8E	Adv Analog	20
				1 0.002 500 *	x					x	x				x	BT101 † Brooktree		
					x					x					x	FVG101 † National		
8 (triple RAMDAC) 1/2				x							x					ADV453	AD (2412, 2444)	20
				13 1000	x						x				x	ADV478 ♦ AD	(2412, 2444)	
8 (triple video) 1/2 0.004 2000				x								x	x	x	x	SCD6038	STC	25
				0.005 2000	x							x	x			TDC1318	TRWLSI	
8 (triple video RAM/DAC) 1.0 0.01				x						x	x				x	RGBDAC3800	† Adv Analog	25
					x					x	x				x	RGBDAC3808	† Adv Analog	
8 (triple video 256x24 RAM/DAC) 1/2 0.0012 *				1000	x					x						FVG453	National	25
				1 0.0003 *	x					x						BT458	Brooktree	
				2000	x					x						BT453	Brooktree	
				0.0012 *	x					x								30
8 (video) 1/2 0.02 100				x							x		x			USC1850 ♦‡ Universal		
				0.4 1125	x					x			x			HG0807	AD (2412)	
8 (video DAC) 1/2 0.008				x						x	x				x	VDAC1850	Adv Analog (2404)	
					x					x	x				x	VDAC1852	Adv Analog (2404)	35
				0.015	x					x	x				x	VDAC1840	Adv Analog (2404)	
					x					x	x				x	VDAC1842	Adv Analog (2404)	
				1.0 .0075	x					x	x				x	VDAC8308TH † Adv Analog		
8 (video digital converter) 1/4 0.01 1976				x								x				HDD0810	AD	40
					x							x				HDD0810M † AD		
				2028	x							x				HDD0810C	AD	
					x							x				HDD0810CM † AD		
				1/2 0.005 —								x		x		SP9768	Plessey	40
				0.008				x				x			x	DAC0805	Datel (2596)	

† Military Temperature Range (–55° to 125°C)

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INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error ± LSB	Settling Time ± ½LSB μS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line	
8 (video digital converter)																			
1/2	0.008	800		x								x			x	TDC1018	TRWLSI	(Cont'd)	
		1660				x						x				HDG0805	AD	(2412)	
0.05				x						x						μPD6900	NEC		
0.07	1000			x								x			x	AH8308E	Analogic		
				x						x					x	AH8308T	Analogic	5	
165 MSPS				x								x			x	HDAC10180B	Honeywell SPT		
				x								x	x		x	HDAC10181B	Honeywell SPT		
275 MSPS				x								x			x	HDAC10180A	Honeywell SPT		
				x								x	x		x	HDAC10181A	Honeywell SPT		
400 MSPS				x								x	x		x	HDAC51400	Honeywell SPT	10	
200 MSPS																			
0.0004	2100			x								x	x		x	HDAC97000 †	Honeywell SPT		
8 (Dual, Matched)																			
1/2	0.2			x						x	x				x	x	AD7528B	◊ AD (2413, 2461)	
				x						x	x				x	x	AD7528C	◊† AD (2413, 2461)	
				x						x	x				x	x	AD7528K	◊ AD (2413, 2461)	
				x						x	x				x	x	AD7528L	◊ AD (2413, 2461)	15
				x						x	x				x	x	AD7528T	◊† AD (2413, 2461)	
				x						x	x				x	x	AD7528U	◊† AD (2413, 2461)	
1	0.2			x						x	x				x	x	AD7528A	◊ AD (2413, 2461)	
				x						x	x				x	x	AD7528J	◊ AD (2413, 2461)	
				x						x	x				x	x	AD7528S	◊† AD (2413, 2461)	20
				x						x	x				x	x	TLC7528M †	TI (3325)	
8 (Quad)																			
2	5			x						x	x				x	x	AD7226B	AD (2413, 2461)	
				x						x	x				x	x	AD7226K	AD (2413, 2461)	
				x						x	x				x	x	AD7226T	† AD (2413, 2461)	
8 (3 channel)																			
1	0.015	350		x						x			x	x	x	MB40978	Fujitsu	25	
8 (7-Bits plus Sign) Companding																			
—	0.5 *	192								x							AM6072C	AMD	
										x							AM6072M †	AMD	
1/2 step	0.5	192								x	x	x			x		DAC86E	PMI	
		207								x	x	x			x		DAC88E	PMI	
		500								x	x	x			x		DAC89E	PMI	30
1 step	0.5	192								x							AM6070C	AMD	
										x							AM6070M †	AMD	
	0.5 *	192								x	x	x			x		DAC86C	PMI	
8-2 Digit BCD																			
1/2	0.15	194								x	x	x			x		DAC20C	PMI	
9																			
1/2	0.005	450		x								x			x	x	CX20101A-2	◊ Sony	35
		500		x								x			x	x	CX20202A-2	Sony	
	0.008	400 *		x								x			x	x	IDT75C19	◊† IDT	
10																			
4/5	0.014	660		x								x			x		CX20051A	Sony	
1/8	0.6 *	30 *		x	x	x	x			x	x				x		MP7533R	MicroPwr	
				x	x	x	x			x	x				x		MP7533Y †	MicroPwr	40
				x	x	x	x			x	x				x		MP7633E	MicroPwr	
				x	x	x	x			x	x				x		MP7633N	MicroPwr	
				x	x	x	x			x	x				x		MP7633W †	MicroPwr	
1/4	0.025 *	735		x	x					x	x						HDS1025	AD (2470)	45
				x	x					x	x						HDS1025M †	AD (2470)	
	0.25 *	275		x	x					x	x		x				AD561K	AD (2411, 2462)	
				x	x					x	x		x				AD561T †	AD (2411, 2462)	
	0.3 *	1300				x	x			x	x		x				HDH1003	AD (2470)	
(Continued)																			

(Continued)

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INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error $\pm$ LSB	Settling Time $\pm$ 1/2 LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
10	1/4	0.6 *	30 *	x	x	x	x			x	x			x		MP7533Q	MicroPwr	(Cont'd)
				x	x	x	x			x	x			x		MP7533W	† MicroPwr	
	1	450		x	x	x	x			x	x			x		MP7633D	MicroPwr	
				x	x	x	x			x	x			x		MP7633M	MicroPwr	
				x	x	x	x			x	x			x		MP7633V	† MicroPwr	5
	1/2	0.005	450	x								x			x	CX20201A-1	◊ Sony	
			500	x								x		x	x	CX20202A-1	Sony	
		0.01	700	x		x		x		x		x			x	TDC1016-10	TRWLSI	
			990	x								x				HDS1015E	AD	(2470)
				x								x				HDS1015EM	† AD	10
		0.012		x								x	x	x		SP9770	Plessey	
		0.02	225	x						x	x		x		x	HA19505	◊ Hitachi	
		0.025	705	x	x					x			x			DACHF10BMC	Datel	(2596)
				x	x					x			x			DACHF10BMM	† Datel	(2596)
		0.135	276	x		x				x	x			x		DAC10B	Raytheon	(3025)
				x		x				x	x			x		DAC10C	Raytheon	(3025)
		0.15	450	x	x	x	x			x	x	x		x		DAC10B	† PMI	
				x	x	x	x			x	x	x		x		DAC10C	† PMI	
				x	x	x	x			x	x	x		x		DAC10F	PMI	
				x	x	x	x			x	x	x		x		DAC10G	PMI	20
		0.25	380	x							x			x		MC3410	Signetics	
				x						x	x			x		MC3510	Signetics	
			390	x	x					x	x					DAC1C10BM	† Datel	(2596)
		0.25 *	275	x	x					x	x		x			AD561J	AD	(2411, 2462)
				x	x					x	x		x			AD561S	AD	(2411, 2462)
			300	x						x	x		x	x		NE5410	Signetics	25
				x						x	x		x	x		SE5410	Signetics	
		0.250		x												DAC1C10	Datel	(2596)
		0.3	—	x	x						x			x		AD7527C	AD	(2471)
				x	x						x			x		AD7527GC	AD	(2471)
				x	x						x			x		AD7527L	AD	(2471)
				x	x						x			x		AD7527U	† AD	(2471)
			450	x	x					x			x			4022	TeledyneP	
		0.3 *	1300			x	x			x	x		x			HDH1003M	† AD	(2470)
		0.375	250			x	x	x		x			x			ADDAC100K	AD	(2471)
						x	x	x		x			x			ADDAC100L	AD	(2471)
						x	x	x		x			x			ADDAC100T	† AD	(2471)
			300			x	x			x			x			DAC100A	‡ PMI	
		0.5												x	x	DAC610C	Datel	(2596)
			20	x	x	x	x			x	x			x		AD7520U	† Maxim	40
				x	x	x	x			x	x			x		AD75206	Maxim	
				x	x	x	x			x	x			x		AD7530L	Maxim	
				x	x	x	x			x	x			x		MP7520R	MicroPwr	
				x	x	x	x			x	x			x		MP7520Y	† MicroPwr	
		0.5 *	20 *	x	x	x	x			x	x			x		AD7520L	◊ AD	(2462, 2470)
				x	x	x	x			x	x			x		AD7520U	◊† AD	(2462, 2470)
				x	x	x	x			x	x			x		AD7530L	◊ AD	(2470)
				x	x	x	x							x		AD7520L	GE/Intersil	(2666)
				x	x	x	x							x		AD7520U	† GE/Intersil	(2666)
				x	x	x	x			x	x			x		AD7530L	GE/Intersil	(2666)
				x	x	x	x			x	x			x		MP7520L	MicroPwr	
				x	x	x	x			x	x			x		MP7520U	† MicroPwr	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ s	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
10	1/2	0.5 *	20 *	x	x					x	x			x	x	MP7522L	MicroPwr	(Cont'd)
				x	x	x	x			x	x			x	x	MP7522U	† MicroPwr	
				x						x	x			x	x	DAC1000	† National	
				x						x	x			x	x	DAC1000C	National	
				x	x	x	X			x	x			x	x	DAC1006	† National	5
				x	x	x	X			x	x			x	x	DAC1006C	National	
			40	x	x	x	X			x	x			x	x	AD7522L	◊ AD (2462, 2470)	
				x	x	x	X			x	x			x	x	AD7522U	◊† AD (2462, 2470)	
	0.6	10		x	x					x	x			x		PM7533A	† PMI (3019)	10
				x	x					x	x			x		PM7533E	PMI (3019)	
				x	x					x	x			x		PM7533G	PMI (3019)	
			30	x	x	x	x			x	x			x		AD7533C	◊ AD (2411, 2462)	
				x	x	x	x			x	x			x		AD7533L	◊ AD (2411, 2462)	
				x	x	x	x			x	x			x		AD7533U	◊† AD (2411, 2462)	
			30	x	x	x	x			x	x			x		AD7533C	Maxim	15
				x	x	x	x			x	x			x		AD7533L	Maxim	
				x	x	x	x			x	x			x		AD7533U	† Maxim	
	0.6 *	30 *		x	x	x	x			x	x			x		MP7533L	MicroPwr	
				x	x	x	x			x	x			x		MP7533U	† MicroPwr	
	0.8	670		x	x					x	x			x		DAC7533	Datel (2596)	20
	0.8 *	30 *		x	x	x	x			x	x			x		AD7533L	GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7533U	† GE/Intersil (2666)	
	1	450		x	x	x	x			x	x			x		MP7633C	MicroPwr	
				x	x	x	x			x	x			x		MP7633L	MicroPwr	
				x	x	x	x			x	x			x		MP7633U	† MicroPwr	25
	1.5	30		x	x					x	x			x		DAC331B-10	† HybridSys	
				x	x					x	x			x		DAC331C-10	HybridSys	
	4 *	255		x						x	x	x	x	x	x	NE5020	Signetics	
	10	715				x	x			x			x			MN3040	MicroNet	30
						x	x			x			x			MN3040H	† MicroNet	
	20	150				x	x			x	x		x			DAC347LPB-10B	† HybridSys	
						x				x	x		x			DAC347LPB-10U	† HybridSys	
						x	x			x	x		x			DAC347LPC-10B	HybridSys	
						x				x	x		x			DAC347LPC-10U	HybridSys	
			285		x					x	x		x			DAC337B-4	† HybridSys	35
				x						x	x		x			DAC337B-5	† HybridSys	
					x					x	x		x			DAC337C-4	HybridSys	
				x						x	x		x			DAC337C-5	HybridSys	
	23 *	585				x				x			x			MN3003	MicroNet	
						x				x			x			MN3003H	† MicroNet	40
					x					x			x			MN3004	† MicroNet	
					x					x			x			MN3004H	† MicroNet	
				x						x			x			MN3005	MicroNet	
				x						x			x			MN3005H	† MicroNet	
					x					x			x			MN3007	MicroNet	45
					x					x			x			MN3007H	† MicroNet	
	25	600		x	x					x			x			4023	TeledyneP	
	30	—			x					x				x		M/D2005-1	HyComp	
		195										x		x	x	MDAC6003	Adv Analog	(Continued)

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Setting Time $\pm$ 1/2LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
10	1/2	30 MSPS															(Cont'd)	
		300										x				MB40748-9	Fujitsu	
	40	300				x				x	x		x			DAC337B-3	† HybridSys	
				x						x	x		x			DAC337B-7	† HybridSys	
						x				x	x		x			DAC337C-3	HybridSys	
				x						x	x		x			DAC337C-7	HybridSys	5
	500 *	24		x						x	x			x		AD7520L	National	
				x						x	x			x		AD7520U	† National	
				x						x	x			x		DAC1020	† National	
				x						x	x			x		DAC1020C	National	
1	0.01	700		x		x				x					x	TDC1016-9	TRWLSI	10
	0.21	1480		x								x				DAC330	Datel (2596)	
	0.25	380		x						x	x				x	MC3410C	Signetics	
		390		x	x					x	x				x	DAC1C108C	Datel (2596)	
	0.3	—		x	x						x				x	AD7527B	AD (2471)	
				x	x						x				x	AD7527K	AD (2471)	15
				x	x						x				x	AD7527T	† AD (2471)	
		300				x	x			x			x			DAC100B	‡ PMI	
	0.375	250				x	x	x		x			x			ADDAC100J	AD (2471)	
						x	x	x		x			x			ADDAC100S	† AD (2471)	
	0.5	20		x	x	x	x			x	x			x		AD7520K	† Maxim	20
				x	x	x	x			x	x			x		AD7520T	† Maxim	
				x	x	x	x			x	x			x		AD7530K	Maxim	
				x	x	x	x			x	x			x		MP7520Q	MicroPwr	
				x	x	x	x			x	x			x		MP7520W	† MicroPwr	
	0.5 *	20 *		x	x	x	x			x	x			x		AD7520K	◊ AD (2462, 2470)	25
				x	x	x	x			x	x			x		AD7520T	◊† AD (2462, 2470)	
				x	x	x	x			x	x			x		AD7530K	◊ AD (2470)	
				x	x	x	x			x	x			x		AD7520K	GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7520T	† GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7530K	GE/Intersil (2666)	30
				x	x	x	x			x	x			x		MP7520K	MicroPwr	
				x	x	x	x			x	x			x		MP7520T	† MicroPwr	
				x	x	x	x			x	x			x	x	MP7522K	MicroPwr	
				x	x	x	x			x	x			x		MP7530K	MicroPwr	
				x	x	x	x			x	x			x	x	DAC1001	† National	35
				x	x	x	x			x	x			x	x	DAC1001C	National	
				x	x	x	x			x	x			x	x	DAC1007	† National	
				x	x	x	x			x	x			x	x	DAC1007C	National	
	40			x	x	x	x			x	x			x	x	AD7522K	◊ AD (2462, 2470)	40
				x	x	x	x			x	x			x	x	AD7522T	◊† AD (2462, 2470)	
	40 *			x	x	x	x			x	x			x	x	MP7522T	† MicroPwr	
	0.6	10		x	x					x	x			x		PM7533B	† PMI (3019)	
				x	x					x	x			x		PM7533F	PMI (3019)	
				x	x					x	x			x		PM7533H	◊ PMI (3019)	
		30		x	x	x	x			x	x			x		AD7533B	◊ AD (2411, 2462)	45
				x	x	x	x			x	x			x		AD7533K	◊ AD (2411, 2462)	
				x	x	x	x			x	x			x		AD7533T	◊† AD (2411, 2462)	
				x	x	x	x			x	x			x		AD7533B	Maxim	
				x	x	x	x			x	x			x		AD7533K	Maxim	
				x	x	x	x			x	x			x		AD7533T	† Maxim	50
	0.6 *	30 *		x	x	x	x			x	x			x		MP7533K	MicroPwr	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error $\pm$ LSB	Settling Time $\pm 1/2$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
10	1	0.8 *	30 *	x	x	x	x			x	x			x		AD7533K	GE/Intersil (2666)	(Cont'd)
				x	x	x	x			x	x			x		AD7533T	† GE/Intersil (2666)	
	1	450		x	x	x	x			x	x			x		MP7633B	MicroPwr	5
				x	x	x	x			x	x			x		MP7633K	MicroPwr	
				x	x	x	x			x	x			x		MP7633T	† MicroPwr	
	1.5 *	300			x			x		x	x		x			DAC06E	PMI	10
				x						x	x		x			DAC03AD	PMI	
				x						x	x		x			DAC03BD	PMI	
	5	435		x	x								x			DACUP10B	Datel	15
	30 MSPS	300										x				MB40748-8	Fujitsu	
												x				MB40788	Fujitsu	20
	500 *	24		x						x	x			x		AD7520K	National	
				x						x	x			x		AD7520T	National	
				x						x	x			x		DAC1021	† National	
				x						x	x			x		DAC1021C	National	
2	0.01	700		x		x		x		x		x			x	TDC1016-8	TRWLSI	25
	0.225	300				x	x			x			x			DAC100C	‡ PMI	
	0.5	20		x	x	x	x			x	x			x		AD7520J	Maxim	30
				x	x	x	x			x	x			x		AD7520S	† Maxim	
				x	x	x	x			x	x			x		AD7530J	Maxim	
	0.5 *	20 *		x	x	x	x			x	x			x		AD7520J	◊ AD (2462, 2470)	35
				x	x	x	x			x	x			x		AD7520S	◊† AD (2462, 2470)	
				x	x	x	x			x	x			x		AD7530J	◊ AD (2470)	
				x	x	x	x			x	x			x		AD7520J	GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7520S	† GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7530J	GE/Intersil (2666)	
				x	x	x	x			x	x			x		MP7520J	MicroPwr	
				x	x	x	x			x	x			x		MP7520S	MicroPwr	
				x	x	x	x			x	x			x	x	MP7522J	MicroPwr	
				x	x	x	x			x	x			x	x	MP7522S	† MicroPwr	
	0.6	30		x	x	x	x			x	x			x		MP7530J	MicroPwr	40
				x	x	x	x			x	x			x		DAC1002	† National	
				x	x	x	x			x	x			x	x	DAC1002C	National	
							x			x	x					DAC1008	† National	
							x			x	x			x	x	DAC1008C	National	
				x	x	x	x			x	x			x	x	AD7522J	◊ AD (2462, 2470)	
				x	x	x	x			x	x			x	x	AD7522S	◊† AD (2462, 2470)	
				x	x	x	x			x	x			x		AD7533A	◊ AD (2411, 2462)	
				x	x	x	x			x	x			x		AD7533J	◊ AD (2411, 2462)	
				x	x	x	x			x	x			x		AD7533S	◊† AD (2411, 2462)	
	0.8 *	30 *		x	x	x	x			x	x			x		AD7533A	Maxim	45
				x	x	x	x			x	x			x		AD7533J	Maxim	
				x	x	x	x			x	x			x		AD7533S	† Maxim	
				x	x	x	x			x	x			x		AD7533J	GE/Intersil (2666)	
				x	x	x				x	x			x		AD7533S	† GE/Intersil (2666)	
				x	x	x	x			x	x			x		MP7533S	† MicroPwr	
				x	x	x	x			x	x			x		MP7533T	† MicroPwr	
				x	x	x	x			x	x			x		MP7533T	MicroPwr	
				x	x	x	x			x	x			x		MP7633A	MicroPwr	
	1	450		x	x	x	x			x	x			x		MP7633A	MicroPwr	(Continued)

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
10	2	1	450	x	x	x	x			x	x			x		MP7633J	MicroPwr	(Cont'd)
				x	x	x	x			x	x			x		MP7633S	† MicroPwr	
		1.5 *	300		x			x		x	x		x			DAC06F	PMI	
			350	x						x	x		x			DAC03CD	PMI	
		500 *	24	x						x	x			x		AD7520J	National	5
				x						x	x			x		AD7520S	† National	
				x						x	x			x		DAC1022	† National	
				x						x	x			x		DAC1022C	National	
	3	0.225	300			x	x			x			x			DAC100D	‡ PMI	
		1.5 *	350		x			x		x	x		x			DAC06B	PMI	10
	4	0.2	—		x	x				x	x		x			DAC10G	PMI	
		1.5 *	300		x			x		x	x		x			DAC06G	PMI	
			350	x						x	x		x			DAC03DD	PMI	
	5	1.5 *	350					x		x	x		x			DAC06C	† PMI	
10 (D/A and 8 A/D Video)				x									x	x		KSV3100A	Samsung (3040)	15
10 Plus Sign 1/2 38.5 MHz																		
		1.5 *	350	x					x	x	x		x			DAC05E	PMI	
			500	x					x	x	x		x			DAC210A	† PMI	
				x					x	x	x		x			DAC210B	† PMI	
				x					x	x	x		x			DAC210E	PMI	
	6	300		x												μ PC610	NEC	20
	1	1.5 *	300	x					x	x	x		x			DAC210G	PMI	
			350	x					x	x	x		x			DAC02AC	PMI	
				x					x	x	x		x			DAC02BC	PMI	
			500	x					x	x	x		x			DAC210F	PMI	
	2	1.5 *	300	x					x	x	x		x			DAC02CC	PMI	25
			350	x					x	x	x		x			DAC05A	† PMI	
	3	1.5 *	350	x					x	x	x		x			DAC05C	PMI	
	4	1.5 *	300	x					x	x	x		x			DAC05G	PMI	
		2.5 *	350	x					x	x	x		x			DAC02DD	PMI	
10 Video Digital Converter 1/2 0.015 2340				x									x			HDD1015	AD	30
				x									x			HDD1015C	AD	
				x									x			HDD1015M	† AD	
			75 MHz	x								x	x	x		SP9770	Plessey	
11 Plus Sign Dynamic Range (7-Bit plus sign format) 1/2 step																		
		0.5	207							x	x	x		x		DAC88E	PMI	
										x	x	x		x		DAC89E	PMI	35
		0.5 *	207							x	x	x		x		DAC86E	PMI	
	1 step	0.5	207							x	x	x		x		DAC86C	PMI	
12	2/3	6 *	360 *	x		x	x			x	x					HSDAC87AT	† HybridSys	
	1/4	0.01								x	x				x	AD667K	◊ AD (2410, 2460, 2462)	
		0.25	345	x	x					x	x		x			AD565AK	AD (2411, 2462)	40
				x	x					x	x		x			AD565AT	† AD (2411, 2462)	
				x	x					x	x		x			AD565AK	Maxim	
				x	x					x	x		x			AD565AT	† Maxim	
				x	x					x	x		x			MN565AK	MicroNet	
				x	x					x	x		x			MN565AT	† MicroNet	45
	0.3	270		x						x	x			x		DAC1266A	National	
				x						x	x			x		DAC1266AC	National	
		345		x						x	x		x	x		DAC1265A	National	
				x						x	x		x	x		DAC1265AC	National	
		800				x	x	x		x	x					TPDAC80I	TeledyneP	50

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/4	0.35	300	x	x					x	x			x		AD566AK	Maxim	(Cont'd)
				x	x					x	x			x		AD566AT	† Maxim	
		0.4	300	x	x					x	x		x	x		AD566AK	AD (2411, 2462)	5
				x	x					x	x		x	x		AD566AT	† AD (2411, 2462)	
				x	x					x	x		x			AD566K	AD (2411, 2462)	
				x	x					x	x		x			AD566T	† AD (2411, 2462)	
				x	x					x	x		x			MCE566AK	MCE	
				x	x					x	x		x	x		MCE566AT	† MCE	
				x	x					x	x		x	x		MCE566K	MCE	
				x	x					x	x		x			MCE566T	† MCE	10
		345		x	x					x	x		x			AD565K	AD (2411, 2462)	
				x	x					x	x		x			AD565T	† AD (2411, 2462)	
				x	x					x	x		x			MCE565K	MCE	
				x	x					x	x		x			MCE565T	† MCE	
				x	x					x	x		x			μ A565KC	National	15
				x	x					x	x		x			μ A565TM	† National	
		780		x						x	x			x		HI562A-2	† Harris	
				x						x	x			x		HI562A/883	Harris	
		0.5	312 *	x	x	x	x	x		x	x	x		x		AM6012C	AMD	20
			375	x	x					x	x		x			HI565AKD-5	Harris	
				x	x					x	x		x			HI565ATD-5	† Harris	
			495	x	x					x	x		x		x	AD567K	AD (2462, 2470)	
				x	x					x	x		x		x	MN567K	MicroNet	
		1	64 *	x	x					x	x			x		HI754ITD-2	† Harris	25
		1 *	500	x	x						x					MP1210H	MicroPwr	
				x	x						x					MP1210R	† MicroPwr	
				x	x						x					MP1210Z	MicroPwr	
		1.5	465	x	x					x	x			x		AD562S/BIN	AD (2411, 2462)	30
			475	x	x					x	x		x			AD563K/BIN	AD (2411, 2462)	
				x	x					x	x		x			AD563S/BIN	† AD (2411, 2462)	
				x	x					x	x		x			AD563T/BIN	† AD (2411, 2462)	
			800			x	x	x		x	x					TPDAC80V	TeledyneP	
		1.5 *		x	x					x	x			x		PM562A	† PMI	
		4	800	x	x					x	x		x		x	DAC811B	◊ Burr-Brown (2552)	35
				x	x					x	x		x		x	DAC811K	◊ Burr-Brown (2552)	
				x	x					x	x		x		x	DAC811S	◊† Burr-Brown (2552)	
		6	450			x	x			x	x		x		x	HSDAC87AUB	† HybridSys	
		1/3	6 *	360 *	x		x	x		x	x					HSDAC87AU	† HybridSys	
		1/2			x	x		x		x				x		AD664	AD (2413)	40
					x	x		x		x						AD7245	AD (2410)	
			35		x			x	x	x					x	AD7545C	◊ AD (2411, 2460, 2462)	
					x			x	x	x					x	AD7545GC	◊ AD (2411, 2460, 2462)	
					x			x	x	x					x	AD7545GL	◊ AD (2411, 2460, 2462)	
					x			x	x	x					x	AD7545GU	◊ AD (2411, 2460, 2462)	
					x			x	x	x					x	AD7545L	◊ AD (2411, 2460, 2462)	45
					x			x	x	x					x	AD7545U	◊ AD (2411, 2460, 2462)	
		1/2	20	x	x	x	x			x	x			x		MP7541T	† MicroPwr	(Continued)

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	0.003 *		x						x			x			BT104	† Brooktree	(Cont'd)
				x						x			x		x	BT105	† Brooktree	
		0.01								x	x				x	AD667J	◊ AD (2410, 2460, 2462)	
										x	x				x	AD667S	◊† AD (2410, 2460, 2462)	
		0.02	1200	x						x						TDC1112	† TRWLSI	5
		0.020	1000	x								x		x	x	TKDA20H	Tektronix	
		0.035								x	x					AD568J	AD (2411)	
										x	x					AD568K	AD (2411)	
										x	x					AD568S	† AD (2411)	
		855		x	x					x	x					HDS1250	AD (2411, 2462, 2470)	10
				x	x					x	x					HDS1250M	† AD (2411, 2462, 2470)	
		0.04	1160	x	x							x	x			DAC63BM	Burr-Brown (2553)	
				x	x							x	x			DAC63CG	Burr-Brown (2553)	
				x	x							x	x			DAC63CM	Burr-Brown (2553)	
				x	x							x	x			DAC63T	† Burr-Brown (2553)	15
		0.045	1160	x	x							x	x			DAC63BG	Burr-Brown (2553)	
		0.05		x												DACDG12B1	Datel (2596)	
				x												DACDG12B2	Datel (2596)	
				x												DACHF12B	Datel (2596)	
						x	x			x		x	x			ADH030H-12	ILC-DDC	20
		780		x	x					x			x			DACHF12BMC	Datel (2596)	
				x	x					x			x			DACHF12BMM	† Datel (2596)	
		800		x	x					x	x					HS9393B	† HybridSys	
				x	x					x	x					HS9393C	HybridSys	
				x	x					x	x					HS9394B	† HybridSys	25
				x	x					x	x					HS9394C	HybridSys	
		1485				x	x					x	x			HC4000	HyComp	
						x	x					x	x			HC4000-883	† HyComp	
		0.06	395	x	x					x			x			4065	† TeledyneP	30
				x	x					x			x			4065HR	† TeledyneP	
		0.06/1	675			x	x			x			x			DAC8528-12	† ILC-DDC	
		0.065	1600			x	x			x			x			DAC812C	Burr-Brown (2553)	
				x	x					x			x			DAC812C	MicroNet	
				x	x					x			x			DAC812C/B	MicroNet	
		0.1	645	x	x					x						4065HR	† TeledyneP	35
		0.18	—	x	x					x	x			x		AD7544BG	AD (2471)	
				x	x					x	x			x		AD7544GK	AD (2471)	
				x	x					x	x			x		AD7544GT	† AD (2471)	
				x	x					x	x			x		AD7544T	† AD (2471)	
		0.2	430 *	x	x			x		x	x					DAC10HT	† Burr-Brown	40
		0.25	345	x	x					x	x		x			AD565AJ	AD (2411, 2462)	
				x	x					x	x		x			AD565AS	† AD (2411, 2462)	
				x	x					x	x		x			AD565AJ	Maxim	
				x	x					x	x		x			AD565AS	† Maxim	
				x	x					x	x		x			MCE565AJ	MCE	45
				x	x					x	x		x			MCE565AS	† MCE	
				x	x					x	x		x			MN565AJ	MicroNet	
				x	x					x	x		x			MN565AS	† MicroNet	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm$ 1/2LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	0.25	900			x	x			x			x			4080	(Cont'd) $\uparrow$ TeledyneP	5
						x	x			x			x			4080HR	$\uparrow$ TeledyneP	
						x	x			x			x			4081	TeledyneP	
						x	x			x			x			4081HR	$\uparrow$ TeledyneP	
						x	x			x			x			4082	TeledyneP	
						x	x			x			x			4082HR	$\uparrow$ TeledyneP	10
	0.3	270		x						x	x			x		DAC1266L	National	
				x						x	x			x		DAC1266LC	National	
		345		x						x	x		x	x		DAC1265L	National	
				x						x	x		x	x		DAC1265LC	National	
		450		x	x					x			x			4024	TeledyneP	15
		1000				x				x			x			HI5680I	Harris	
						x				x	x		x			HI5685I	Harris	
						x	x			x			x			HI5687I	$\uparrow$ Harris	
						x	x	x			x		x			4087	TeledyneP	
		1200				x	x	x			x		x			DAC80Z-CBI-I	Burr-Brown (2553)	20
	0.3 *					x	x			x			x			DAC85H-CBI-I	Burr-Brown (2553)	
						x	x			x			x			DAC87H-CBI-I	$\uparrow$ Burr-Brown (2553)	
		605				x	x	x		x			x			DAC850-CBI-I	$\diamond$ Burr-Brown	
	0.3/1.5 *					x	x	x		x			x			DAC851-CBI-I	$\uparrow$ Burr-Brown	
		605				x	x	x		x			x			DAC800-CBI-I	Burr-Brown	25
		800 *				x	x	x		x			x			DAC800-CBI-V	Burr-Brown	
						x	x	x		x			x			DAC800P-I	Burr-Brown	
						x	x	x		x			x			DAC800P-V	Burr-Brown	
	0.3/3 *					x	x	x		x			x			DAC80-CBI-I	Burr-Brown (2553)	
		480				x	x	x		x			x			ADDAC87/CBI	$\uparrow$ AD (2410, 2460, 2462)	30
		850				x	x	x		x			x			DAC85-CBI	MicroNet	
						x	x	x		x			x			ADDAC80/CBI	AD (2410)	
		925				x	x	x		x			x			ADDAC85/CBI	$\uparrow$ AD (2410)	
						x	x	x		x			x			ADDAC85C/CBI	AD (2410)	
	0.35	300		x	x					x	x			x		AD566AJ	Maxim	35
				x	x					x	x			x		AD566AS	$\uparrow$ Maxim	
	0.4	—		x	x					x	x					DAC562C	Datel (2596)	
						x	x	x		x						HIDAC801	Harris	
		225											x			DAC4565	Raytheon	
		300		x	x					x	x		x	x		AD566AJ	AD (2411, 2462)	40
				x	x					x	x		x	x		AD566AS	$\uparrow$ AD (2411, 2462)	
				x	x					x	x		x			AD566J	AD (2411, 2462)	
				x	x					x	x		x			AD566S	$\uparrow$ AD (2411, 2462)	
				x	x					x	x		x			MCE565J	MCE	
				x	x					x	x		x			MCE565S	$\uparrow$ MCE	45
				x	x					x	x		x	x		MCE566AJ	MCE	
				x	x					x	x		x	x		MCE566AS	$\uparrow$ MCE	
				x	x					x	x		x			MCE566J	MCE	
				x	x					x	x		x			MCE566S	$\uparrow$ MCE	
		345		x	x					x	x		x			AD565J	AD (2411, 2462)	
				x	x					x	x		x			AD565S	$\uparrow$ AD (2411, 2462)	
				x	x					x	x		x			μ A565JC	National	
				x	x					x	x		x			μ A565SM	$\uparrow$ National	
																	(Continued)	

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	0.4	400	x	x	x	x			x	x	x		x		μ PC6012	NEC	(Cont'd)
				x	x	x	x			x	x	x		x		μ PC648	NEC	
			465	x	x					x						4068	† TeledyneP	
			780	x						x	x			x		HI562A-5	Harris	
		0.5												x		HDAC50500AC	Honeywell SPT	5
														x		HDAC50500AI	Honeywell SPT	
														x		HDAC50500AM	† Honeywell SPT	
										x	x			x		HDAC7541ZAC	Honeywell SPT	
										x	x			x		HDAC7541ZAI	Honeywell SPT	
										x	x			x		HDAC7541ZAM	† Honeywell SPT	10
														x		HDAC7542AAC	Honeywell SPT	
														x		HDAC7542AAI	Honeywell SPT	
														x		HDAC7542AAM	† Honeywell SPT	
														x		HDAC7543AAC	Honeywell SPT	15
														x		HDAC7543AAI	Honeywell SPT	
														x		HDAC7543AAM	† Honeywell SPT	
														x		HDAC7545AAC	Honeywell SPT	
														x		HDAC7545AAI	Honeywell SPT	
														x		HDAC7545AAM	† Honeywell SPT	
			312 *	x	x	x	x	x		x	x	x		x		AM6012M	† AMD	20
				x	x	x	x	x		x	x	x		x		MCE6012C	MCE	
				x	x	x	x	x		x	x	x		x		MCE6012M	† MCE	
			330	x						x	x			x		HI5660-2	† Harris	
				x						x	x			x		HI5660-5	Harris	
				x						x	x			x		HI5660A-2	† Harris	25
				x						x	x			x		HI5660A-5	Harris	
			375	x	x					x	x		x			HI565AJD-5	Harris	
				x	x					x	x		x			HI565ASD-5	† Harris	
			495	x	x					x	x		x		x	AD567J	AD (2462, 2470)	
				x	x					x	x		x		x	AD567S	† AD (2460, 2462, 2470)	30
				x	x					x	x		x		x	MN567J	MicroNet	
				x	x					x	x		x		x	MN567S	† MicroNet	
		0.5 *	1300			x	x			x	x					HDH1205	AD (2470)	
						x	x			x	x					HDH1205M	† AD (2470)	
		0.6	1.5	x	x	x	x	x		x	x			x		DAC7541AB	Burr-Brown (2552)	35
				x	x	x	x	x		x	x			x		DAC7541AK	Burr-Brown (2552)	
				x	x	x	x	x		x	x			x		DAC7541AT	† Burr-Brown (2552)	
		0.6 *	470	x			x			x	x			x		Si7541AK	Siliconix	
				x			x			x	x			x		Si7541K	Siliconix	
			900	x			x			x	x			x		Si7541AT	† Siliconix	40
				x			x			x	x			x		Si7541T	† Siliconix	
		0.65	1500		x					x			x			4072	TeledyneP	
		0.75 *	555	x	x	x				x	x		x			HI5690V	Harris (2755)	
				x	x	x				x	x		x			HI5695V	Harris (2755)	
				x	x	x				x	x		x			HI5697V	† Harris (2755)	45
		1		x			x	x			x			x	x	DAC8012	Burr-Brown (2553)	
														x	x	DAC612C	Datel (2596)	(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Setting Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	1	1.5	x	x					x	x			x	x	DAC8012B $\diamond$ Burr-Brown (2553)	(Cont'd)	
				x	x					x	x			x	x	DAC8012K $\diamond$ Burr-Brown (2553)		
				x	x					x	x			x	x	DAC8012T $\diamond$ Burr-Brown (2553)		
			10	x						x	x			x	x	MAX543A $\diamond$ Maxim		5
				x			x	x					x			DAC8221 PMI (3003)		
			20	x	x	x	x			x	x			x		AD7541AB Maxim		
				x	x	x	x			x	x			x		AD7541AK Maxim		
				x	x	x	x			x	x			x		AD7541AT $\dagger$ Maxim		
				x	x	x	x			x	x			x		AD7541B Maxim		
				x	x	x	x			x	x			x		AD7541K Maxim		10
				x	x	x	x			x	x			x		AD7541T $\dagger$ Maxim		
				x	x	x	x			x	x			x		MP7541B MicroPwr		
				x	x	x	x			x	x			x		MP7541K MicroPwr		
			20 *	x	x	x	x			x	x			x		AD7541B $\diamond$ AD (2411, 2462, 2470)		
				x	x	x	x			x	x			x		AD7541K $\diamond$ AD (2411, 2462, 2470)		15
				x	x	x	x			x	x			x		AD7541T $\diamond$ AD (2411, 2462, 2470)		
				x	x	x	x			x	x			x		AD7541B GE/Intersil (2666)		
				x	x	x	x			x	x			x		AD7541K GE/Intersil (2666)		
				x	x	x	x			x	x			x		AD7541T GE/Intersil (2666)		
				x	x	x	x			x	x			x		MP7621B MicroPwr		20
				x	x	x	x			x	x			x		MP7621K MicroPwr		
				x	x	x	x			x	x			x		MP7621T $\dagger$ MicroPwr		
				x	x	x	x			x	x			x		MP7623B MicroPwr		
			30	x	x					x	x			x		HS7541B-2 $\dagger$ HybridSys		
				x	x					x	x			x		HS7541C-2 HybridSys		25
				x						x	x				x	AD7545AB Maxim		
				x						x	x				x	AD7545AC Maxim		
				x						x	x				x	AD7545AK $\diamond$ Maxim		
				x						x	x				x	AD7545AL $\diamond$ Maxim		
				x						x	x				x	AD7545AT $\dagger$ Maxim		30
				x						x	x				x	AD7545AU $\dagger$ Maxim		
				x						x	x			x	x	DAC8212A $\diamond$ Maxim		
				x						x	x			x	x	DAC8212E Maxim		
				x						x	x			x	x	DAC8212G $\dagger$ Maxim		
				x						x	x			x	x	MAX7645AC $\diamond$ Maxim		35
				x						x	x			x	x	MAX7645AE Maxim		
				x						x	x			x	x	MAX7645AM $\dagger$ Maxim		
				x						x	x			x		DAC1208 National		
				x						x	x			x		DAC1218 National		
				x						x	x			x		DAC1230 National		40
				x	x					x	x				x	PM7541A $\diamond$ PMI (3019)		
				x	x					x	x				x	PM7541E PMI (3019)		
				x	x					x	x				x	PM7541G PMI (3019)		
			30 *	x	x					x	x			x		HS7541-4 HybridSys		
			45	x						x	x			x	x	AD7548B Maxim		45
				x						x	x			x	x	AD7548K $\diamond$ Maxim		
				x						x	x			x	x	AD7548T $\dagger$ Maxim		
				x	x					x	x			x	x	PM7548A $\dagger$ PMI (3019)		
				x	x					x	x			x	x	PM7548B $\dagger$ PMI (3019)		

(Continued)

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INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error $\pm$ LSB	Settling Time $\pm$ 1/2 LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	1	45															(Cont'd)
				x	x					x	x			x	x	PM7548E	PMI (3019)	
				x	x					x	x			x	x	PM7548F	PMI (3019)	
				x	x					x	x			x	x	PM7548G	PMI (3019)	
				x	x					x	x			x	x	PM7548H	PMI (3019)	
			50	x	x					x	x			x		DAC8012A	† PMI	5
				x	x					x	x			x		DAC8012E	PMI	
				x	x					x	x			x		DAC8012G	PMI	
				x	x					x	x			x		DAC8212A	† PMI (3019)	
				x	x					x	x			x		DAC8212E	PMI (3019)	
				x	x					x	x			x		DAC8212G	PMI (3019)	10
			450	x	x					x	x			x		DAC7541	Datel (2596)	
				x	x	x	x			x	x			x		MP7623K	MicroPwr	
				x	x	x	x			x	x			x		MP7623T	† MicroPwr	
				x		x	x				x			x		DAC8043	PMI (3002)	
				x		x	x			x	x			x		PM7542A	† PMI (3019)	15
				x		x	x			x	x			x		PM7542B	† PMI (3019)	
				x		x	x			x	x			x		PM7542E	PMI (3019)	
				x		x	x			x	x			x		PM7542F	PMI (3019)	
				x		x	x			x	x			x		PM7542G	PMI (3019)	
				x		x	x			x	x			x		PM7542H	PMI (3019)	20
				x		x	x			x	x			x		PM7543A	† PMI (3019)	
				x		x	x			x	x			x		PM7543B	† PMI (3019)	
				x		x	x			x	x			x		PM7543E	PMI (3019)	
				x		x	x			x	x			x		PM7543F	PMI (3019)	
				x		x	x			x	x			x		PM7543G	PMI (3019)	25
				x		x	x			x	x			x		PM7543H	PMI (3019)	
				x	x					x	x					TP7541B	TeledyneP	
				x	x					x	x			x		TP7541K	TeledyneP	
				x	x			x		x	x			x		TP7541T	† TeledyneP	
				x	x						x					4085	† TeledyneP	30
			470	x		x	x	x	x		x			x	x	Si7545L	Siliconix	
			900	x		x	x	x	x		x			x	x	Si7545U	† Siliconix	
1 *			11 *	x	x	x	x			x	x			x	x	MP7622K	MicroPwr	
			20 *	x	x						x					MP1208B	MicroPwr	
				x	x						x					MP1208K	MicroPwr	35
				x	x						x					MP1208T	† MicroPwr	
				x	x						x				x	MP1230B	MicroPwr	
				x	x						x				x	MP1230K	MicroPwr	
				x	x						x				x	MP1230T	† MicroPwr	40
				x	x						x			x		MP7542B	MicroPwr	
				x	x						x			x		MP7542K	MicroPwr	
				x	x						x			x		MP7542T	† MicroPwr	
				x	x						x			x	x	MP7543B	MicroPwr	
				x	x						x			x	x	MP7543K	MicroPwr	
				x	x						x			x	x	MP7543T	† MicroPwr	45
			40 *	x	x	x	x			x	x			x	x	MP7622B	MicroPwr	
			800	x	x					x	x		x		x	DAC811A	◊ Burr-Brown (2552)	
				x	x					x	x		x		x	DAC811R	◊ † Burr-Brown (2552)	
			1000	x	x	x	x			x	x			x	x	MP7622T	† MicroPwr	
1.0			30	x	x					x	x			x	x	PM7545A	† PMI (3019)	50
				x	x					x	x			x	x	PM7545E	PMI (3019)	
				x	x					x	x			x	x	PM7545G	PMI (3019)	
				x	x					x	x			x	x	PM7645A	† PMI (3019)	
				x	x					x	x			x	x	PM7645G	PMI (3019)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	1.2	800	x	x					x	x		x		x	HI5811J-5	Harris	(Cont'd)
		1.5								x	x					AD7549K	◊ AD (2413, 2462)	
		30		x						x	x			x	x	AD7537B	Maxim	5
				x						x	x			x	x	AD7537C	Maxim	
				x						x	x			x	x	AD7537K	◊ Maxim	
				x						x	x			x	x	AD7537L	◊ Maxim	
				x						x	x			x	x	AD7537T	† Maxim	
				x						x	x			x	x	AD7537U	† Maxim	
				x						x	x			x	x	AD7547B	Maxim	10
				x						x	x			x	x	AD7547C	Maxim	
				x						x	x			x	x	AD7547K	◊ Maxim	
				x						x	x			x	x	AD7547L	◊ Maxim	
				x						x	x			x	x	AD7547T	† Maxim	
				x						x	x			x	x	AD7547U	† Maxim	
		75		x						x	x			x	x	AD7549B	Maxim	15
				x						x	x			x	x	AD7549K	◊ Maxim	
				x						x	x			x	x	AD7549T	† Maxim	
		1000				x	x	x			x		x			4086	TeledyneP	
	1.5 *			x	x					x	x			x		PM562B	† PMI	20
				x	x					x	x			x		PM562F	PMI	
				x	x					x	x			x		PM562H	PMI	
		465		x	x					x	x			x		AD562K/BIN	AD (2411, 2462)	
		475		x	x					x	x		x			AD563J/BIN	AD (2411, 2462)	
		605				x	x	x		x			x			DAC850-CBI-V	◊ Burr-Brown	25
						x	x	x		x			x			DAC851-CBI-V	Burr-Brown	
2	1.5			x			x	x			x			x	x	DAC7545	Burr-Brown (2552)	
	20									x	x			x	x	HS7542K	HybridSys	30
										x	x			x	x	HS7542T	† HybridSys	
										x	x			x	x	HS7543K	HybridSys	
										x	x			x	x	HS7543T	† HybridSys	
										x	x			x	x	HS7545K	HybridSys	
				x	x					x	x			x	x	HS7545T	† HybridSys	
	30			x	x					x	x			x	x	AD7545C	Maxim	35
				x	x				x	x				x	x	AD7545GC	Maxim	
				x	x					x	x			x	x	AD7545GL	Maxim	
				x	x					x	x			x	x	AD7545GU	† Maxim	
				x	x					x	x			x	x	AD7545L	Maxim	
				x	x					x	x			x	x	AD7545U	† Maxim	
	40			x	x					x	x			x		AD7542B	◊ AD (2411, 2462)	40
				x	x					x	x			x		AD7542K	◊ AD (2411, 2462)	
				x	x					x	x			x		AD7542T	◊† AD (2411, 2462)	
				x						x				x		AD7543B	◊ AD (2411, 2462)	
				x						x				x		AD7543K	◊ AD (2411, 2462)	
				x	x					x	x			x		AD7542B	Maxim	45
				x	x					x	x			x		AD7542GB	Maxim	
				x	x					x	x			x		AD7542GK	Maxim	
				x	x					x	x			x		AD7542GT	† Maxim	
				x	x					x	x			x		AD7542K	Maxim	
				x	x					x	x			x		AD7542T	† Maxim	
				x	x					x				x		AD7543B	Maxim	50
				x	x					x				x		AD7543GB	Maxim	
				x	x					x				x		AD7543GK	Maxim	
				x	x					x				x		AD7543GT	† Maxim	

(Continued)

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm$ 1/2 LSB μ s	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	2	40														(Cont'd)	
				x	x					x				x		AD7543K	Maxim	
				x	x					x				x		AD7543T	† Maxim	
		375		x	x					x			x			4058	† TeledyneP	
		375 *		x	x	x				x	x			x		HS3120B-2	† HybridSys	
				x	x	x				x	x			x		HS3120C-2	HybridSys	5
		450		x	x			x	x	x				x	x	MP7545C	MicroPwr	
				x	x			x	x	x				x	x	MP7545L	MicroPwr	
				x	x			x	x	x				x	x	MP7545U	† MicroPwr	
				x	x	x	x			x	x			x		MP7645C	MicroPwr	
				x	x	x	x			x	x			x		MP7645L	MicroPwr	10
				x	x	x	x			x	x			x		MP7645U	† MicroPwr	
		630		x	x					x						DACHK-12	Adv Analog (2404)	
		1900				x	x			x						HDD1206J	AD (2410)	
						x	x			x						HDD1206S	† AD (2410)	
2.5	—			x	x					x	x		x			DAC338B-12-2	HybridSys	15
		645		x	x					x			x			4058HR	† TeledyneP	
3		30		x	x					x	x			x		DAC331B-12	† HybridSys	
				x	x					x	x			x		DAC331C-12	HybridSys	
		380				x		x		x			x			DAC-HZB/883B	† Datel	
						x	x	x		x			x			DAC-HZ12BMC	Datel	20
		500		x				x		x	x					DAC7134BJ	Datel (2596)	
				x				x		x	x					DAC7134UJ	Datel (2596)	
		630		x	x					x			x			DACHK12BGC	Adv Analog	
				x	x					x			x			DACHK12BMM	† Adv Analog	
		675				x	x			x			x			DAC870U	◊ Burr-Brown	25
						x	x			x			x			DAC870V	◊† Burr-Brown	
		700		x	x					x			x		x	DAC-HKB/883B	† Datel	
								x		x			x		x	DAC-HKB2/883B	† Datel	
		850				x	x			x			x			DAC80	MicroNet	
						x	x	x		x			x			MNDAC87	† MicroNet	30
		900		x	x					x			x		x	DACHK12BGC	Datel (2596)	
								x		x			x		x	DACHK12BGC-2	Datel (2596)	
				x	x					x			x		x	DACHK12BMM	† Datel (2596)	
								x		x			x		x	DACHK12BMM-2	† Datel (2596)	
		1000				x				x			x			HI5680V	Harris	35
						x				x	x		x			HI5685V	Harris	
						x	x			x			x			HI5687V	Harris	
		1050				x	x			x			x			DACHZ12BGC	Datel (2596)	
						x	x			x			x			DACHZ12BMM	† Datel (2596)	
3.5		465		x	x					x	x			x		AD562A/BCD	AD (2411, 2462)	40
				x	x					x	x			x		AD562A/BIN	AD (2411, 2462)	
4		300		x	x					x	x		x		x	DAC336B-12	† HybridSys	
				x	x					x	x		x		x	DAC336C-12	HybridSys	
		480				x	x	x			x		x			DAC80-CBI-V	Burr-Brown (2553)	
						x	x	x			x		x			DAC80Z-CBI-V	Burr-Brown (2553)	45
						x	x			x			x			DAC85H-CBI-V	Burr-Brown (2553)	
						x	x	x		x			x			DAC87/CBI	† Burr-Brown (2553)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm$ 1/2LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	4	480			x	x			x			x			DAC87H-CBI-V $\dagger$ Burr-Brown (2553)		
			975			x	x			x			x		x	DACHK $\dagger$ MicroNet		
			1955	x	x					x	x			x	x	AD392 AD (2413)		
5			400							x	x			x	x	HS33806 $\dagger$ HybridSys		
			450 *	x	x					x	x		x			HS9338-2 HybridSys		5
			750	x	x					x			x			4025 TeledyneP		
			1000		x	x							x			HS3860B $\dagger$ HybridSys		
5 *		525 *			x	x							x			HS3860C HybridSys		
						x	x			x	x		x			MN3850 $\dagger$ MicroNet		
						x	x			x	x		x			MN3850H MicroNet		10
			675 *			x	x			x			x		x	MN3860 MicroNet		
6						x	x			x			x		x	MN3860H $\dagger$ MicroNet		
			450			x	x			x	x		x		x	HSDAC87ATB $\dagger$ HybridSys		
			630	x	x					x	x		x		x	DAC88 $\dagger$ Adv Analog (2404)		
						x	x			x			x		x	AD3860K AD (2462, 2470)		15
7		1000				x	x			x			x		x	AD3860S $\dagger$ AD (2462, 2470)		
						x	x			x			x			AD390K AD (2413, 2460, 2462)		
						x	x			x			x			MN3348 MicroNet		
						x	x			x			x			MN3348H $\dagger$ MicroNet		
8				x						x	x					DAC390 $\dagger$ Adv Analog (2404)		20
			375			x	x			x			x			MN3349 MicroNet		
						x	x			x			x			MN3349H $\dagger$ MicroNet		
			1050		x					x	x		x		x	DAC394T AD (2413, 2460, 2462)		
10		375				x	x			x			x			DAC394K AD (2413, 2460, 2462)		
						x	x			x			x			DAC394T AD (2413, 2460, 2462)		
						x	x			x			x			DAC394T AD (2413, 2460, 2462)		
						x	x			x			x			DAC394T AD (2413, 2460, 2462)		
15				x						x	x			x		AD395 AD (2413, 2460, 2462)		30
					x					x	x			x		AD395K AD (2413, 2460, 2462)		
					x					x	x			x		AD395K AD (2413, 2460, 2462)		
					x					x	x			x		AD395K AD (2413, 2460, 2462)		
20		300		x	x					x	x		x			DAC349B-12 $\dagger$ HybridSys		
				x	x					x	x		x			DAC349C-12 HybridSys		
				x	x					x	x		x			DAC9349-12 HybridSys		
						x	x			x	x		x			HAC347LPB-12B $\dagger$ HybridSys		
25		150				x	x			x	x		x			DAC347LPB-12U $\dagger$ HybridSys		35
						x	x			x	x		x			DAC347LPC-12B HybridSys		
						x	x			x	x		x			DAC347LPC-12U HybridSys		
						x	x			x	x		x			HAC347LPB-12B $\dagger$ HybridSys		
30			355			x				x				x		MN3412 MicroNet		
										x	x		x		x	DAC02701 ILC-DDC		40
			175 *			x				x	x		x			DAC9356 HybridSys		
				x		x				x				x		M/DA2000 HyComp		
35		90				x				x			x			MN371 MicroNet		
						x				x			x			MN371H $\dagger$ MicroNet		
										x	x		x			AD370J AD (2470)		45
			150							x	x		x			AD370K AD (2470)		

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Off.—Offset

Magn.—Magnitude

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CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm$ 1/2 LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1/2	35	150					X		X	X		X			AD370S $\uparrow$ AD (2470)	(Cont'd)	
						X				X	X		X			AD371J	AD	
	35 *	—	—	X	X					X	X		X			DDC1250-12-1	ILC-DDC	
				X	X					X	X		X			DDC1250-12-3	ILC-DDC	
	50	265						X		X	X		X			DAC356B-12	$\uparrow$ HybridSys	5
								X		X	X		X			DAC356C-12	HybridSys	
		908						X		X	X		X			DAC356LPB-12	$\uparrow$ HybridSys	
								X		X	X		X			DAC356LPC-12	HybridSys	
		1653				X	X					X	X			HDS1240E AD (2470)		
						X	X					X	X			HDS1240EM	$\uparrow$ AD	10
	70	90						X		X	X		X			MN370	MicroNet	
								X		X	X		X			MN370H	$\uparrow$ MicroNet	
3/4	0.08	1600								X			X			DAC812B Burr-Brown (2553)		
	0.080	1600		X	X					X			X			DAC812B	MicroNet	
				X	X					X			X			DAC812B/B	MicroNet	15
	6	450				X	X			X	X		X		X	HSDAC87ASB	$\uparrow$ HybridSys	
	7	605				X	X	X		X			X			DAC1200K-V Burr-Brown (2553)		
		975		X	X					X	X		X		X	DAC1201K-V Burr-Brown (2552)		
	8	—		X						X	X					AD390J AD (2413, 2460, 2462)		
				X						X	X					AD390S $\uparrow$ AD (2413, 2460, 2462)		20
				X						X	X					AD390T $\uparrow$ AD (2413, 2460, 2462)		
1	—	35			X			X	X	X					X	AD7545B $\diamond$ AD (2411, 2460, 2462)		
					X			X	X	X					X	AD7545K $\diamond$ $\uparrow$ AD (2411, 2460, 2462)		
					X			X	X	X					X	AD7545T $\diamond$ AD (2411, 2460, 2462)		
	0.035	300		X						X	X		X			AD568 $\uparrow$ AD (2411)		25
	0.05			X										X		AD668 AD (2411)		
	0.06/1	675				X	X			X			X			DAC8528-11	$\uparrow$ ILC-DDC	
	0.085			X									X	X		HDM1210 AD (2411)		
	0.18	—		X	X					X	X			X		AD7544S AD (2471)		
	0.25	375		X		X				X	X	X		X		DAC312E	PMI	30
	0.5													X		HDAC50500BC	Honeywell SPT	
														X		HDAC50500BI	Honeywell SPT	
														X		HDAC50500BM	$\uparrow$ Honeywell SPT	
										X	X			X		HDAC7541ZBC	Honeywell SPT	
										X	X			X		HDAC7541ZBI	Honeywell SPT	35
										X	X			X		HDAC7541ZBM	$\uparrow$ Honeywell SPT	
													X		X	HDAC7542ABC	Honeywell SPT	
													X		X	HDAC7542ABI	Honeywell SPT	
													X		X	HDAC7542ABM	$\uparrow$ Honeywell SPT	
													X		X	HDAC7543ABC	Honeywell SPT	40
													X		X	HDAC7543ABI	Honeywell SPT	
													X		X	HDAC7543ABM	$\uparrow$ Honeywell SPT	
													X		X	HDAC7545ABC	Honeywell SPT	
													X		X	HDAC7545ABI	Honeywell SPT	
													X		X	HDAC7545ABM	$\uparrow$ Honeywell SPT	45

(Continued)

 $\uparrow$ Military Temperature Range (-55° to 125° C) $\ddagger$ High Radiation Resistance

*Typical Value

*Macrocell

 $\diamond$ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1	0.6	1.5	x	x	x	x	x		x	x			x		DAC7541AA	Burr-Brown (2552)	(Cont'd)
				x	x	x	x	x		x	x			x		DAC7541AJ	Burr-Brown (2552)	
				x	x	x	x	x		x	x			x		DAC7541AS	† Burr-Brown (2552)	
		0.6 *	470	x			x			x	x			x		Si7541AJ	Siliconix	5
				x			x			x	x			x		Si7541J	Siliconix	
			900	x			x			x	x			x		Si7541AS	† Siliconix	
				x			x			x	x			x		Si7541S	† Siliconix	
		1	1.5	x	x					x	x			x	x	DAC8012A	◊ Burr-Brown (2553)	10
				x	x					x	x			x	x	DAC8012J	◊ Burr-Brown (2553)	
				x	x					x	x			x	x	DAC8012S	◊† Burr-Brown (2553)	
		10		x						x	x			x	x	MAX543B	◊† Maxim	15
		20		x	x	x	x			x	x			x		AD7541A	Maxim	
				x	x	x	x			x	x			x		AD7541AA	Maxim	
				x	x	x	x			x	x			x		AD7541AJ	Maxim	
				x	x	x	x			x	x			x		AD7541AS	† Maxim	
				x	x	x	x			x	x			x		AD7541J	Maxim	
				x	x	x	x			x	x			x		AD7541S	† Maxim	
				x	x	x	x			x	x			x		MP7541A	MicroPwr	20
				x	x	x	x			x	x			x		MP7541J	MicroPwr	
				x	x	x	x			x	x			x		MP7541S	† MicroPwr	
		20 *		x	x	x	x			x	x			x		AD7541A	◊ AD (2411, 2462, 2470)	25
				x	x	x	x			x	x			x		AD7541J	◊ AD (2411, 2462, 2470)	
				x	x	x	x			x	x			x		AD7541A	GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7541J	GE/Intersil (2666)	
				x	x	x	x			x	x			x		MP7621A	MicroPwr	30
				x	x	x	x			x	x			x		MP7621J	MicroPwr	
				x	x	x	x			x	x			x		MP7621S	† MicroPwr	
				x	x	x	x			x	x			x		MP7623A	MicroPwr	
				x	x	x	x			x	x			x		MP7623J	MicroPwr	
				x	x	x	x			x	x			x		MP7623S	† MicroPwr	
		30		x	x					x	x			x		HS7541B-1	† HybridSys	35
				x	x					x	x			x		HS7541C-1	HybridSys	
				x						x	x			x	x	DAC8212B	◊ Maxim	
				x						x	x			x	x	DAC8212F	Maxim	
				x						x	x			x	x	DAC8212H	† Maxim	
				x						x	x			x	x	MAX7645BC	◊ Maxim	
				x						x	x			x	x	MAX7645BE	Maxim	
				x						x	x			x	x	MAX7645BM	† Maxim	
				x						x	x			x		DAC1209	National	40
				x						x	x			x		DAC1219	National	
				x						x	x			x		DAC1231	National	
				x	x					x	x			x	x	DAC8012B	† PMI	45
				x	x					x	x			x	x	DAC8012F	PMI	
				x	x					x	x			x	x	DAC8012H	◊ PMI	
				x	x					x	x			x	x	DAC8212B	† PMI (3019)	
				x	x					x	x			x	x	DAC8212F	PMI (3019)	
				x	x					x	x			x	x	DAC8212H	PMI (3019)	
				x	x					x	x			x		PM7541B	† PMI (3019)	
																	(Continued)	

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ s	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1	1	30	x	x					x	x			x		PM7541F	PMI (3019)	(Cont'd)
				x	x					x	x			x		PM7541H	PMI (3019)	
		40 *		x	x	x	x			x	x			x	x	MP7622A	MicroPwr	5
				x	x	x	x			x	x			x	x	MP7622J	MicroPwr	
				x	x	x	x			x	x			x	x	MP7622S	† MicroPwr	
		45		x						x	x			x	x	AD7548A	Maxim	
				x						x	x			x	x	AD7548J	◊ Maxim	
				x						x	x			x	x	AD7548S	† Maxim	
		50 *		x	x	x	x			x	x			x		AD7541S	◊† AD (2411, 2462, 2470)	
				x	x	x	x			x	x			x		AD7541L	GE/Intersil (2666)	10
				x	x	x	x			x	x			x		AD7541S	† GE/Intersil (2666)	
		450		x	x					x	x					TP7541A	TeledyneP	
				x	x					x	x			x		TP7541J	TeledyneP	
				x	x					x	x			x		TP7541S	† TeledyneP	
		470		x		x	x	x	x		x			x	x	Si7545K	Siliconix	15
				x		x	x	x	x	x				x	x	Si8045K	Siliconix	
		700						x		x					x	IR3K12	Sharp	
		900		x		x	x	x	x		x			x	x	Si7545T	† Siliconix	
				x		x	x	x	x	x				x	x	Si8045T	† Siliconix	
	1 *	20 *		x	x						x			x		MP7542A	MicroPwr	20
				x	x						x			x		MP7542J	MicroPwr	
				x	x						x			x	x	MP7543A	MicroPwr	
				x	x						x			x	x	MP7543J	MicroPwr	
				x	x						x			x	x	MP7543S	† MicroPwr	
		500		x	x						x					MP1209A	MicroPwr	25
				x	x						x					MP1209J	MicroPwr	
				x	x						x					MP1209S	† MicroPwr	
				x	x						x				x	MP1231A	MicroPwr	
				x	x						x				x	MP1231J	MicroPwr	
				x	x						x				x	MP1231S	† MicroPwr	30
				x	x						x				x	MP1232H	MicroPwr	
				x	x						x				x	MP1232R	† MicroPwr	
				x	x						x				x	MP1232Z	MicroPwr	
		1.5								x	x					AD7537	AD (2413, 2460, 2462)	
										x	x			x		AD7547J	AD (2413, 2462)	35
										x	x			x		AD7547K	AD (2413, 2462)	
										x	x			x		AD7547S	AD (2413, 2462)	
										x	x					AD7549J	◊ AD (2413, 2462)	
										x	x			x		AD757J	AD (2433)	
		30		x						x	x			x	x	AD7537A	Maxim	40
				x						x	x			x	x	AD7537J	◊ Maxim	
				x						x	x			x	x	AD7537S	† Maxim	
				x						x	x			x	x	AD7547A	Maxim	
				x						x	x			x	x	AD7547J	◊ Maxim	
				x						x	x			x	x	AD7547S	† Maxim	45
		75		x						x	x			x	x	AD7549A	Maxim	
				x						x	x			x	x	AD7549J	◊ Maxim	
				x						x	x			x	x	AD7549S	† Maxim	
		2	2	x	x					x	x			x	x	HS7584B	◊† HybridSys	50
				x	x					x	x			x	x	HS7584C	◊ HybridSys	
		20								x	x			x	x	HS7542J	HybridSys	
										x	x			x	x	HS7542S	† HybridSys	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	1	2	20							x	x			x	x	HS7543J	HybridSys	(Cont'd)
										x	x			x	x	HS7543S	† HybridSys	
										x	x			x	x	HS7545J	HybridSys	
										x	x			x	x	HS7545S	† HybridSys	
		30		x	x					x	x			x	x	AD7545B	Maxim	5
				x	x					x	x			x	x	AD7545K	Maxim	
				x	x					x	x			x	x	AD7545T	† Maxim	
		40		x	x					x	x			x		AD7542A	◊ AD (2411, 2462)	
				x	x					x	x			x		AD7542J	◊ AD (2411, 2462)	
				x	x					x	x			x		AD7542S	◊† AD (2411, 2462)	10
				x	x					x				x		AD7543A	◊ AD (2411, 2462)	
				x	x					x				x		AD7543J	◊ AD (2411, 2462)	
				x	x					x	x			x		AD7542A	Maxim	
				x	x					x	x			x		AD7542J	Maxim	
				x	x					x	x			x		AD7542S	† Maxim	15
				x	x					x				x		AD7543A	Maxim	
				x	x					x				x		AD7543J	Maxim	
				x	x					x				x		AD7543S	† Maxim	
				x	x	x	x			x	x			x	x	SI8021A	† Siliconix	
				x	x	x	x			x	x			x	x	SI8021C	Siiconix	20
		450		x	x						x			x		MP7542S	† Harris	
				x	x			x	x	x				x	x	MP7545B	MicroPwr	
				x	x			x	x	x				x	x	MP7545K	MicroPwr	
				x	x			x	x	x				x	x	MP7545T	† MicroPwr	
				x	x	x	x			x	x			x		MP7645B	MicroPwr	25
				x	x	x	x			x	x			x		MP7645K	MicroPwr	
				x	x	x	x			x	x			x		MP7645T	† MicroPwr	
2.5	—	—	—	x	x					x	x		x			DAC338B-12-1	HybridSys	
4				x							x					AD7848	AD (2410, 2443)	
	300			x	x					x	x		x	x	x	AD767	† AD (2410)	30
	800			x	x								x		x	DAC811J	◊ Burr-Brown (2552)	
5				x							x					AD7845	AD (2410)	
	450 *			x	x					x	x		x			HS9338-1	HybridSys	
6 *	360 *			x		x	x			x	x					HSDAC87AS	† HybridSys	
10	65			x	x				x	x	x		x	x	x	AD6245	† AD	35
				x	x				x	x	x		x	x	x	AD7248	† AD (2410)	
20 *	500			x	x					x	x		x		x	DAC9377-16-5	HybridSys	
30	—			x		x				x				x		M/DA2005	HyComp	
35	150					x				x	x		x			AD371K	AD	
						x				x	x		x			AD371S	† AD	40
550 *	30			x	x					x	x					AD7240K	AD	
				x	x					x	x					AD7240T	† AD	
1 1/4	0.1	10000			x			x			x		x	x		ADC600K	Burr-Brown	
1 1/2	550 *	30		x	x					x	x					AD7240J	AD	
				x	x					x	x					AD7240S	† AD	45
2	—	35			x			x	x	x					x	AD7545A	◊ AD (2411, 2460, 2462)	
					x			x	x	x					x	AD7545J	◊ AD (2411, 2460, 2462)	
					x			x	x	x					x	AD7545S	◊† AD (2411, 2460, 2462)	
0.04	—			x	x							x	x			DA4000	HyComp	
0.05	—					x	x			x		x	x			ADH030II-10	ILC-DDC	50
0.25				x	x	x	x			x	x		x	x		DAC6012AC	Raytheon	
				x	x	x	x			x	x		x	x		DAC6012AM	Raytheon	

(Continued)

Bin.—Binary

Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.

Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linearity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ s	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	2	0.25		x	X	x	x			x	x		x	x		DAC6012C	Raytheon	(Cont'd)
				x	X	x	x			x	x		x	x		DAC6012M	Raytheon	
		375		x		x				x	x	x		x		DAC312B	† PMI	5
				x		x				x	x	x		x		DAC312F	PMI	
	0.25 *	473		x	x	x		x		x	x			x		HA17012B	Hitachi	
	0.5	10 *		x						x	x			x		DAC1220	† National	
				x						x	x			x		DAC1220C	National	
		20		x	x	x	x			x	x			x		AD7521L	Maxim	10
				x	x	x	x			x	x			x		AD7521U	† Maxim	
				x	x	x	x			x	x			x		AD7531L	Maxim	
		397		x	x	x		x		x	x	x		x		AM6012	Signetics	
	0.5 *	20 *		x	x	x	x			x	x			x		AD7521L	◊ AD (2462, 2470)	
				x	x	x	x			x	x			x		AD7521U	◊† AD (2462, 2470)	
				x	x	x	x			x	x			x		AD7521L	GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7521U	† GE/Intersil (2666)	15
				x	x	x	x			x	x			x		AD7531L	GE/Intersil (2666)	
				x	x	x	x			x	x			x		MP7521L	MicroPwr	
				x	x	x	x			x	x			x		MP7521U	† MicroPwr	
				x	x	x	x			x	x			x		MP7531L	MicroPwr	
		40 *		x	x	x	x			x	x			x	x	MP7622H	MicroPwr	20
				x	x	x	x			x	x			x	x	MP7622R	† MicroPwr	
				x	x	x	x			x	x			x	x	MP7622Z	MicroPwr	
	1	30		x						x	x			x		DAC1210	National	
				x						x	x			x		DAC1232	National	
		470		x		x	x	x	x		x			x	x	Si7545J	Siliconix	25
		900		x		x	x	x	x		x			x	x	Si7545S	† Siliconix	
	1 *	20 *		x	x	x	x			x	x			x		MP7621Z	MicroPwr	
	2	30		x	x					x	x			x	x	AD7545A	Maxim	
				x	x					x	x			x	x	AD7545J	Maxim	
				x	x					x	x			x	x	AD7545S	† Maxim	30
		40		x	x	x	x			x	x			x	x	Si8020A	† Siliconix	
				x	x	x	x			x	x			x	x	Si8020C	Siliconix	
		450		x	x			x	x	x				x	x	MP7545A	MicroPwr	
				x	x			x	x	x				x	x	MP7545J	MicroPwr	
				x	x			x	x	x				x	x	MP7545S	† MicroPwr	35
				x	x	x	x			x	x			x		MP7645A	MicroPwr	
				x	x	x	x			x	x			x		MP7645J	MicroPwr	
				x	x	x	x			x	x			x		MP7645S	† MicroPwr	
	2.5	—		x	x					x	x		x			DAC338B-12-0	HybridSys	
	5	450 *		x	x					x	x		x			HS9338-0	HybridSys	40
	20 *	500		x	x					x	x		x		x	DAC9377-16-4	HybridSys	
	35 *	—		x	x					x	x		x			DDC1250-10-1	ILC-DDC	
				x	x					x	x		x			DDC1250-10-3	ILC-DDC	
		500 *	24	x						x	x			x		AD7521L	National	
				x						x	x			x		AD7521U	† National	45
	4	0.25 *	473	x	x	x		x		x	x			x		HA17012C	Hitachi	
		0.5	20	x	x	x	x			x	x			x		AD7521K	Maxim	
				x	x	x	x			x	x			x		AD7521T	† Maxim	
				x	x	x	x			x	x			x		AD7531K	Maxim	
		0.5 *	20 *	x	x	x	x			x	x			x		AD7521K	◊ AD (2462, 2470)	50
				x	x	x	x			x	x			x		AD7521T	◊† AD (2462, 2470)	
				x	x	x	x			x	x			x		AD7531K	◊ AD (2470)	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12	4	0.5 *	20 *	x	x	x	x			x	x			x		AD7521K	GE/Intersil (2666)	(Cont'd)
				x	x	x	x			x	x			x		AD7521T	† GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7531K	GE/Intersil (2666)	
				x	x	x	x			x	x			x		MP7521K	MicroPwr	
				x	x	x	x			x	x			x		MP7521T	† MicroPwr	5
				x	x	x	x			x	x			x		MP7531K	MicroPwr	
		500 *	24	x						x	x			x		AD7521K	National	
				x						x	x			x		AD7521T	† National	
				x						x	x			x		DAC1221	† National	10
				x						x	x			x		DAC1221C	National	
	8	0.5	20	x	x	x	x			x	x			x		AD7521J	Maxim	
				x	x	x	x			x	x			x		AD7521S	† Maxim	
				x	x	x	x			x	x			x		AD7531J	Maxim	
		0.5 *	20 *	x	x	x	x			x	x			x		AD7521J	◊ AD (2462, 2470)	15
				x	x	x	x			x	x			x		AD7521S	◊† AD (2462, 2470)	
				x	x	x	x			x	x			x		AD7531J	◊ AD (2470)	
				x	x	x	x			x	x			x		AD7521J	GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7521S	† GE/Intersil (2666)	
				x	x	x	x			x	x			x		AD7531J	GE/Intersil (2666)	20
				x	x	x	x			x	x			x		MP7521J	MicroPwr	
				x	x	x	x			x	x			x		MP7521S	† MicroPwr	
				x	x	x	x			x	x			x		MP7531J	MicroPwr	
		500 *	24	x						x	x			x		AD7521J	National	25
				x						x	x			x		AD7521S	† National	
				x						x	x			x		DAC1222	† National	
				x						x	x			x		DAC1222C	National	
12 (dual)	1/2	1	450	x		x	x			x	x			x		DAC8222A	† PMI (3004)	30
				x		x	x			x	x			x		DAC8222E	PMI (3004)	
				x		x	x			x	x			x		DAC8222G	PMI (3004)	
				x			x	x		x						DAC8248A	† PMI (3005, 3019)	
				x			x	x		x						DAC8248E	PMI (3005, 3019)	
				x			x	x		x						DAC8248G	PMI (3005, 3019)	
		1.5	450	x	x					x	x					AD7537B	AD (2413, 2460, 2462)	35
				x	x					x	x					AD7537C	AD (2413, 2460, 2462)	
				x	x					x	x					AD7537K	AD (2413, 2460, 2462)	
				x	x					x	x					AD7537L	AD (2413, 2460, 2462)	
				x	x					x	x					AD7537T	† AD (2413, 2460, 2462)	40
				x	x					x	x					AD7537U	† AD (2413, 2460, 2462)	
				x	x					x	x					AD754L	AD	
				x	x					x	x					AD7547B	AD (2413, 2462)	
				x	x					x	x					AD7547C	AD (2413, 2462)	
				x	x					x	x					AD7547T	† AD (2413, 2462)	
				x	x					x	x					AD7547U	† AD (2413, 2462)	

Bin.—Binary

Off.—Offset

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Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.

Mult.—Multiplying

1071

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Setting Time $\pm$ $\frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
12 (dual)	1	1	450	x		x	x			x	x			x		DAC8222B	† PMI (3004)	5
				x		x	x			x	x			x		DAC8222F	PMI (3004)	
				x		x	x			x	x			x		DAC8222H	PMI (3004)	
				x			x	x		x						DAC8248F	PMI (3005, 3019)	
				x			x	x		x						DAC8248H	PMI (3005, 3019)	
	1.5	450	450	x	x					x	x					AD7537A	AD (2413, 2460, 2462)	
				x	x					x	x					AD7537J	AD (2413, 2460, 2462)	
				x	x					x	x					AD7537S	† AD (2413, 2460, 2462)	
				x	x					x	x					AD7547A	AD (2413, 2462)	
12 (octal)	1	10		x	x	x		x								AD75018	° AD	10
12 Plus Sign Dynamic Range (7-Bit plus sign format)	—	0.5	192							x						AM6072C	AMD	15
										x						AM6072M	† AMD	
	1/2 step	0.5	207							x	x	x		x		DAC86E	PMI	
	1 step	0.5	192							x						AM6070C	AMD	
										x						AM6070M	† AMD	
			207							x	x	x		x		DAC86C	PMI	
12 (quad)	1/2	5		x									x		x	AD75004	° AD (2463, 4201)	20
12 (Quad)	1/2	8		x									x			MN390	† MicroNet	
12-3 Digit BCD	1/10	1.5 *	465							x	x			x		AD562K/BCD	AD (2411, 2462)	
										x	x			x		AD562S/BCD	† AD (2411, 2462)	
										x	x		x			AD563J/BCD	AD (2411, 2462)	
										x	x		x			AD563K/BCD	AD (2411, 2462)	
										x	x		x			AD563S/BCD	† AD (2411, 2462)	
	1/4	0.3/3 *	925							x	x		x			AD563T/BCD	† AD (2411, 2462)	
										x	x		x			ADDAC80/CCD	AD (2410)	
						x				x	x		x			ADDAC85/CCD	† AD (2410)	
						x				x	x		x			ADDAC85C/CCD	AD (2410)	
										x			x			DACHZ12DGC	Datel (2596)	
12-3 Digit BCD	3 *	1050	1050							x			x			DACHZ12DMC	Datel (2596)	30
										x			x			DACHZ12DMM	† Datel (2596)	
											x		x			DAC80Z-CCD-I	Burr-Brown (2553)	
											x		x			DAC80-CCD-I	Burr-Brown (2553)	
										x			x			DAC85-CCD	† MicroNet	
	1/2	0.3	780	x	x					x	x		x			DAC349B-3D	† HybridSys	
				x	x					x	x		x			DAC349C-3D	HybridSys	
				x						x	x		x			DAC9349-3D	HybridSys	
	1/2	0.3	780												x	DAC9377-4D	HybridSys	
																DAC7134BK	Datel (2596)	
13	1/2	3	500	x				x		x	x					DAC7134UK	Datel (2596)	40
				x				x		x	x					2615-12	ILC-DDC	
								x		x			x			SDAC12	ILC-DDC	
	1	0.1	980					x		x			x			2615-11	ILC-DDC	
								x		x			x			SDAC11	ILC-DDC	
								x		x			x					
	2	0.1	980					x		x			x					
								x		x			x					

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm$ 1/2LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
13	4	0.1	980				x			x			x			2615-10	ILC-DDC	(Cont'd)
		1.6	1100				x			x			x			SDAC10	ILC-DDC	
13 (1 ch) and 6 (3 ch)		0.25	125	x						x					x	MB88301A	Fujitsu	
14	1/2			x	x					x	x			x		DAC9331-14	HybridSys	5
		0.5		x								x				HDAC50600	Honeywell SPT	
				x								x				HDAC50800	Honeywell SPT	
		2	30 *	x	x					x	x			x		HS3140B-4	† HybridSys	
				x	x					x	x			x		HS3140C-4	HybridSys	
		3		x				x		x	x			x	x	ICL7134	GE/Intersil (2666)	10
		30		x	x					x	x			x		DAC331B-14	† HybridSys	
				x	x					x	x			x		DAC331C-14	HybridSys	
		500		x				x		x	x					DAC7134BL	Datel (2596)	
				x				x		x	x					DAC7134UL	Datel (2596)	
		30		x	x			x		x						A867-14	Adv Analog	15
		100		x	x			x		x						414BIN	Adv Analog	
		200 kHz								x						HDD1409	AD (2470)	
1	1.5			x										x	x	AD7534B	AD (2411, 2462)	20
				x										x	x	AD7534K	AD (2411, 2462)	
				x										x	x	AD7534T	† AD (2411, 2462)	
				x										x	x	AD7535B	AD (2411, 2462)	
				x										x	x	AD7535K	AD (2411, 2462)	
				x										x	x	AD7535T	† AD (2411, 2462)	
										x	x					AD7536K	AD (2411, 2462)	
										x	x					AD7536T	† AD (2411, 2462)	
		45		x						x	x			x	x	AD7534B	Maxim	25
				x						x	x			x	x	AD7534K	◊ Maxim	
				x						x	x			x	x	AD7534T	† Maxim	
		50		x						x	x			x	x	AD7538	† AD (2411)	
		60		x						x	x			x	x	AD7535B	Maxim	30
				x						x	x			x	x	AD7535K	◊ Maxim	
				x						x	x			x	x	AD7535T	† Maxim	
					x					x	x			x	x	AD7536B	Maxim	
					x					x	x			x	x	AD7536K	◊ Maxim	
					x					x	x			x	x	AD7536T	† Maxim	
		1.8	1775	x	x					x						DAC02310-103	† ILC-DDC	35
				x	x					x						DAC02310-303	ILC-DDC	
		2	375 *	x	x	x				x	x			x		HS3140B-3	HybridSys	
				x	x	x				x	x			x		HS3140C-3	HybridSys	
		4		x							x					AD7840	AD (2410, 2443)	
2	1.5			x										x	x	AD7534A	AD (2411, 2462)	40
				x										x	x	AD7534J	AD (2411, 2462)	
				x										x	x	AD7534S	† AD (2411, 2462)	
				x										x	x	AD7535A	AD (2411, 2462)	
				x										x	x	AD7535J	AD (2411, 2462)	
				x										x	x	AD7535S	† AD (2411, 2462)	45
										x	x					AD7536J	AD (2411, 2462)	
										x	x					AD7536S	† AD (2411, 2462)	
		45		x						x	x			x	x	AD7534A	Maxim	50
				x						x	x			x	x	AD7534J	◊ Maxim	
				x						x	x			x	x	AD7534S	† Maxim	
		60		x						x	x			x	x	AD7535A	Maxim	
				x						x	x			x	x	AD7535J	◊ Maxim	

(Continued)

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm$ $\frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
14	2	1.5	60	x						x	x			x	x	AD7535S	† Maxim	(Cont'd)
					x					x	x			x	x	AD7536A	Maxim	
					x					x	x			x	x	AD7536J	◊ Maxim	
					x					x	x			x	x	AD7536S	† Maxim	
		1.8	1775	x	x					x						DAC02310-102	† ILC-DDC	5
				x	x					x						DAC02310-302	ILC-DDC	
		2	40 *	x	x					x	x			x	x	MP7614K	MicroPwr	
				x	x					x	x			x	x	MP7614T	† MicroPwr	
		15	780		x					x	x					AD396K	AD (2413, 2462)	10
					x					x	x					AD396S	† AD (2413, 2462)	
					x					x	x					AD396T	AD (2413, 2462)	
		100		x	x			x		x						416BIN	Adv Analog	
4	2	40 *		x	x					x	x			x	x	MP7614J	MicroPwr	
				x	x					x	x			x	x	MP7614S	† MicroPwr	
16		20						x			x					LC7880	◊ Sanyo	15
		40						x			x					LC7881	◊ Sanyo	
		3	200							x	x			x		AD569S	† AD (2410)	
1/8	25	1425		x				x		x			x		x	MP8116	Analogic	
1/4	3.5	750			x			x	x	x	x		x			MP1936	Analogic	
	5	500			x			x	x	x	x		x			MP1926A	Analogic	20
	50	500			x			x	x	x	x		x			MP1926S	Analogic	
1/2	0.075	500		x	x					x	x		x		x	HS9390	† HybridSys	
	0.1			x								x				HDAC52160	Honeywell SPT	
	1	1575		x						x			x		x	TDA1541	Signetics	
	2 *	60		x	x					x	x			x		DAC370B-16	† HybridSys	25
				x	x					x	x			x		DAC370C-16	HybridSys	
				x	x					x	x			x		DAC9331-16-6	HybridSys	
	3	500		x	x					x	x		x		x	SP1148	† HybridSys	
	5 *	50 *		x	x					x	x			x	x	AD7546B	AD (2470)	
				x	x					x	x			x	x	AD7546K	AD (2470)	30
	15	540		x	x			x		x	x		x			DAC02900	† ILC-DDC	
		675				x	x			x			x			DAC-HPB/883B	† Datel	
						x	x									DAC-HPB1/883B	† Datel	
	20 *	500		x	x					x	x		x		x	DAC9377-16-6	HybridSys	35
	50	1700				x	x			x	x		x			DAC736K	Burr-Brown	
1		25		x												ICL7121	GE/Intersil (2666)	
	0.1	900		x	x					x	x		x		x	HS9390B	† HybridSys	
				x	x					x	x			x	x	HS9390C	HybridSys	
	1	465		x	x			x		x	x					HIDAC16B-5	Harris	
		790				x	x			x						DAC700C	◊ Burr-Brown (2552)	40
						x	x			x						DAC700L	◊ Burr-Brown (2552)	
						x	x			x						DAC702C	◊† Burr-Brown (2552)	
						x	x			x						DAC702L	◊ Burr-Brown (2552)	
1 *	1 *	310 *			x	x	x	x	x			x	x	x		IR3K16B	Sharp	45
					x	x	x	x	x			x	x	x		IR3K16BM	Sharp	
1	1.5			x									x			AD1856	AD (2410, 2445)	
	2	60									x		x			μ PD6355G	◊ NEC	
	2 *	60		x	x					x	x			x		DAC9331-16-5	HybridSys	
	5	45								x	x			x	x	HS9371K	HybridSys	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
16	1	5	45							x	x			x	x	HS9371T	† HybridSys	
	5 *	50 *		x	x					x	x			x	x	AD7546A	AD (2470)	
				x	x					x	x			x	x	AD7546J	AD (2470)	
	6			x												AD1145	AD (2410)	
				x							x				x	AD7846	AD (2410, 2443)	5
	8			x												DAC1136	AD (2410)	
		790				x	x			x						DAC701C	◊ Burr-Brown (2552)	
						x	x			x						DAC701L	◊ Burr-Brown (2552)	
		940					x			x			x			DAC703L	◊ Burr-Brown (2552)	
	20 *	500		x	x						x		x	x	x	AD1147	AD (2410)	10
				x	x						x		x	x	x	AD1148	AD (2410)	
	30			x	x			x		x						A867-16	Adv Analog	
2	0.3	790				x				x	x		x			DAC700B	◊ Burr-Brown (2552)	
						x				x	x		x			DAC700K	◊ Burr-Brown (2552)	
							x	x		x	x		x			DAC702B	◊ Burr-Brown (2552)	15
							x	x		x	x		x			DAC702K	◊ Burr-Brown (2552)	
						x	x			x	x		x			PCM53K-I	Burr-Brown (2553)	
		800													x	DAC706	Burr-Brown (2552)	
	2 *	0.35 *	230			x	x			x	x		x			PCM55H	Burr-Brown (2553)	
						x	x			x	x		x			PCM55J	Burr-Brown (2553)	20
		540				x	x			x	x		x			PCM54H	Burr-Brown (2553)	
						x	x			x	x		x			PCM54J	Burr-Brown (2553)	
						x	x			x	x		x			PCM54K	Burr-Brown (2553)	
	2	0.35 *	800					x		x	x		x		x	DAC706B	Burr-Brown (2552)	
								x		x	x		x		x	DAC706K	Burr-Brown (2552)	25
								x		x	x		x		x	DAC706S	† Burr-Brown (2552)	
				x				x		x	x		x		x	DAC708B	Burr-Brown (2552)	
				x				x		x	x		x		x	DAC708K	Burr-Brown (2552)	
				x				x		x	x		x		x	DAC708S	† Burr-Brown (2552)	
	1	465		x	x			x		x	x					HIDAC16C-5	Harris	30
		700						x		x					x	IR3K16A	Sharp	
		790				x	x			x						DAC700S	◊† Burr-Brown (2552)	
						x	x			x						DAC702S	◊† Burr-Brown (2552)	
		950					x			x			x			DAC71-COB-I	Burr-Brown (2552)	
						x				x			x			DAC71-CSB-I	Burr-Brown (2552)	35
							x			x			x			DAC72BH-COB-I	Burr-Brown (2552)	
						x				x			x			DAC72BH-CSB-I	Burr-Brown (2552)	

(Continued)

Bin.—Binary
Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.
Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time $\pm \frac{1}{2}$ LSB μ S	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
16	2	1	1225				x			x			x			ADDAC71-CSB-I AD (2410)	(Cont'd)	
						x				x			x			ADDAC71-CSB-I AD (2410)	(2410)	
							x			x			x			ADDAC72-CSB-I AD (2410)	(2410)	
						x				x			x			ADDAC72-CSB-I AD (2410)	(2410)	
	2	20	20	x	x					x	x			x	x	MP7616T $\dagger$ MicroPwr		5
		30	30	x	x					x	x			x		HS3160B-4 $\dagger$ HybridSys		
				x	x					x	x			x		HS3160C-4 HybridSys		
	2 *	60	60	x	x					x	x			x		DAC9331-16-4 HybridSys		
	4	940	940			x				x	x		x			DAC701B $\diamond$ Burr-Brown (2552)		
						x				x	x		x			DAC701K $\diamond$ Burr-Brown (2552)		10
							x	x		x	x		x			DAC703B $\diamond$ Burr-Brown (2552)		
							x	x		x	x		x			DAC703K $\diamond$ Burr-Brown (2552)		
							x	x		x	x					DAC703KU $\diamond$ Burr-Brown (2552)		
						x	x			x	x		x			PCM53K-V Burr-Brown (2553)		
	5	45	45							x	x			x	x	HS9371J HybridSys		15
										x	x			x	x	HS9371S $\dagger$ HybridSys		
		750	750					x					x		x	CX20152 Sony		
		1225	1225				x			x			x			ADDAC71-CSB-V AD (2410)		
						x				x			x			ADDAC71-CSB-V AD (2410)		20
							x			x			x			ADDAC72-CSB-V AD (2410)		
						x				x			x			ADDAC72-CSB-V AD (2410)		
	8					x	x			x						DAC701S $\diamond \dagger$ Burr-Brown (2552)		
						x	x			x						DAC703S $\diamond \dagger$ Burr-Brown (2552)		
		940	940				x			x			x			DAC703C $\diamond$ Burr-Brown (2552)		
		950	950												x	DAC705 Burr-Brown (2552)		25
								x		x	x		x		x	DAC705B Burr-Brown (2552)		
								x		x	x		x		x	DAC705K Burr-Brown (2552)		
								x		x	x		x		x	DAC705S $\dagger$ Burr-Brown (2552)		
															x	DAC707 Burr-Brown (2552)		
								x		x	x		x		x	DAC707B Burr-Brown (2552)		30
								x		x	x		x		x	DAC707K Burr-Brown (2552)		
								x		x	x		x		x	DAC707S $\dagger$ Burr-Brown (2552)		
				x				x		x	x		x		x	DAC709B Burr-Brown (2552)		
				x				x		x	x		x		x	DAC709K Burr-Brown (2552)		
				x				x		x	x		x		x	DAC709S $\dagger$ Burr-Brown (2552)		35
		1175	1175					x		x			x		x	DAC725K Burr-Brown (2552)		
	9	620	620					x					x		x	CX20133 $\diamond$ Sony		
	10			x									x		x	MN3290 $\dagger$ MicroNet		
		1.09	1.09			x	x			x	x		x			DAC1600K-V Burr-Brown (2552)		

(Continued)

 $\dagger$ Military Temperature Range (-55° to 125° C) $\ddagger$ High Radiation Resistance

*Typical Value

*Macrocell

 $\diamond$ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error $\pm$ LSB	Settling Time μ s	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
16	2	10	950			x				x			x			DAC71-CSB-V Burr-Brown (2552)	(Cont'd)	5
							x			x			x			DAC72BH-COB-V Burr-Brown (2552)		
						x				x			x			DAC72BH-CSB-V Burr-Brown (2552)		
	15	950	950				x			x			x			DAC70BH-COB-I Burr-Brown (2552)		
						x				x			x			DAC70BH-CSB-I Burr-Brown (2552)		
	16	550	550							x	x		x		x	HS9378C HybridSys		
										x	x		x		x	HS9378T $\uparrow$ HybridSys		
	35	1170	1170			x	x			x			x			DACHP16BMC Datal (2596)		
						x	x			x			x			DACHP16BMC-1 Datal (2596)		
						x	x			x			x			DACHP16BMM $\uparrow$ Datal (2596)		
						x	x			x			x			DACHP16BMM-1 $\uparrow$ Datal (2596)		
	3	940	940				x	x		x	x					DAC703JU $\diamond$ Burr-Brown (2552)		
						x	x			x	x		x			DAC1600J-V Burr-Brown (2552)		
	4	0.3	790			x	x			x	x		x			PCM53J-I Burr-Brown (2553)		
				1						x						MP7636C MicroPwr		
										x						MP7636L MicroPwr		
										x						MP7636U $\uparrow$ MicroPwr		
		465	790	x	x			x		x	x			x		4088 TeledyneP		
						x	x			x						DAC702J $\diamond$ Burr-Brown (2552)		
	2	40 *	40 *	x	x					x	x			x	x	MP7616J MicroPwr		
				x	x					x	x			x	x	MP7616S $\uparrow$ MicroPwr		
4 *	2 *	280 *	280 *	x		x	x	x	x			x	x	x		IR3K17 Sharp		25
				4		x	x			x	x		x			PCM53J-V Burr-Brown (2553)		
	6	150	150							x	x				x	AD569J AD (2410)		
										x	x				x	AD569K AD (2410)		
	8	940	940			x	x			x						DAC703J $\diamond$ Burr-Brown (2552)		
								x		x			x		x	DAC725J Burr-Brown (2552)		
	16	550	550							x	x		x		x	HS9378S $\uparrow$ HybridSys		
				8		x				x						MP7636B MicroPwr		
	1	450	450							x						MP7636K MicroPwr		
										x						MP7636T $\uparrow$ MicroPwr		
										x						MP7616K MicroPwr		
	2	—	30	x	x					x	x			x		HS3160B-3 $\uparrow$ HybridSys		
						x	x			x	x			x		HS3160C-3 HybridSys		
	12	0.05		x						x			x		x	MB87020 Fujitsu		
	16	1	450	x						x						MP7636A MicroPwr		
										x						MP7636J MicroPwr		
										x						MP7636S $\uparrow$ MicroPwr		
16-4 Digit BCD	2	10	1225							x			x			DAC71-CCD-V Burr-Brown (2552)		40
							x			x			x			DAC71-COB-V Burr-Brown (2552)		
18	1/2	6	100	x	x				x		x		x	x	x	AD1139 AD (2410)		35
		10	750	x	x					x	x		x		x	SP9380 $\uparrow$ HybridSys		
	1	1.5		x									x			AD1860 AD (2410, 2445)		
		6		x										x		DAC1146 AD (2410)	(Continued)	

Bin.—Binary

Off.—Offset

Magn.—Magnitude

Compl.—Complementary

Int Ref.—Internal Reference

CTC—Compl. 2's Compl.

Mult.—Multiplying

INTERFACE—Digital to Analog Converters (Cont'd)

Bits Res.	Linear-ity Error ±LSB	Settling Time ± ½LSB μS	Power Dis. mW (max.)	Bin. Input	Off. Bin. Input	Compl. Bin. Input	Compl. Off. Bin. Input	CTC or 2's Compl. Input	Sign. Magn. Input	TTL Logic	CMOS Logic	ECL Logic	Int. Ref.	Mult.	Latches	Device	Source	Line
18	1	10		x												DAC1138	AD	(Cont'd) (2410)
		20	60	x	x					x	x		x		x	DAC370B-18 †	HybridSys	5
				x	x					x	x		x		x	DAC370C-18	HybridSys	
			500	x	x					x	x		x			DAC377-18	HybridSys	
				x	x					x	x		x		x	DAC377B-18 †	HybridSys	
				x	x					x	x		x		x	DAC377C-18	HybridSys	
	2	5	20	x		x	x	x					x			PCM64P	Burr-Brown	(2554)
		25	1630			x	x			x			x			DAC729K	Burr-Brown	(2552)
	4	25	1630			x	x			x			x			DAC729J	Burr-Brown	(2552)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

INTERFACE—Display Drivers

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
AC Plasma Axis Driver	SN65500E SN75500E	TI TI		Display, Numeric, LED		(Cont'd)		Flasher, Pulse Generator	U175 U176	Telefunken Telefunken	
AC Plasma Display Driver	UCN5857A UCN5858A UCN5859A UCN5860	Sprague Sprague Sprague Sprague	5	TIL306A TIL307 TIL307A TIL308 TIL308A TIL309 TIL309A	TI TI TI TI TI TI TI	55	Fluorescent Display Driver	HA16617 HA16619	Hitachi Hitachi	105	
Anode Driver (high-voltage vacuum fluorescent)	MSC1163	OKI		Display, Hexadecimal, LED	TIL311 TIL311A	TI TI	60	Grid/Anode Driver (high-voltage vacuum fluorescent)	MSC1164	OKI	
Bargraph LCD Driver 18-Element	HEF9754V	Signetics		Driver, 32-Bit Thin-Film EL Display Driver, 225V	UCN5851 UCN5852	Sprague Sprague		Grid Driver	LH1001	Sharp	
Bargraph LED	LM3914 LM3915 LB1405 LB1409 LB1415 LB1416 LB1419 LB1426 LB1436 UAA170 UAA180 TSC9403 TSC9404 U237B U244 U247B U254 U257B U267B	National National Sanyo Sanyo Sanyo Sanyo Sanyo Sanyo Siemens Siemens TeledyneS TeledyneS Telefunken Telefunken Telefunken Telefunken Telefunken Telefunken Telefunken	10 15 20 25	Electroluminescent Column Driver	SN65554 SN65555 SN65556 SN65567 SN65568	TI TI TI TI TI	65	Grid Driver (high-voltage vacuum fluorescent)	MSC1162	OKI	
Bargraph Vacuum Fluorescent	HA12010 LM3916	Hitachi National		Electroluminescent Column Driver, 32 Outputs	SN75555 SN75556	TI TI	70	Lamp Driver	CSR301	TeledyneC	
BiMOS Segment Latch Driver	CA3208	GE/RCA (2656, 2658)	30	Electroluminescent Even Column Driver, 32 Outputs	Si9554	Siliconix		LCD Alphanumeric Controller/Driver, Intelligent	μPD7225	NEC	110
BiMOS Sequencer Driver	CA3207	GE/RCA (2656, 2658)		Electroluminescent Even Column Driver, 32 Outputs	Si9554 SN55554 SN75554	Siliconix TI TI	75	LCD Bargraph Driver (with A/D converter)	TSC825 TSC827	TeledyneS TeledyneS	(3276)
DC Plasma and Gas Discharge Data Line Driver	SN751508 SN751518	TI TI		Electroluminescent Even Row Driver, 32 Outputs	Si9552 SN55552 SN65552 SN75552	Siliconix TI TI TI		LCD Clock Driver, 3- 1/2 Digit.	MIC8027	Micrel	
DC Plasma and Gas Discharge Scan Line Driver	SN751506 SN751516	TI TI	35	Electroluminescent Even Row Driver, 34 Outputs	SN65564	TI		LCD Controller	M6265	OKI	
Decoder Driver, 4-Bit Input, 16-Line Output	IR2C12	Sharp		Electroluminescent, High Voltage (octal, 450 V)	USH5801 USH5802	Universal Universal	80	LCD Controller, Large Panel	SED1330F	S-MOS	115
Display, Alphanumeric, LED	TIL305	TI		Electroluminescent, High Voltage (200 V)	USH5800	Universal		LCD Controller with Built-In Character Generator	HD43160AH	Hitachi	
Display Controller/Driver (bargraph and numeric)	MSC1951-01	OKI		Electroluminescent Odd Column Driver, 32 Outputs	Si9553 SN55553 SN75553	Siliconix TI TI	85	LCD Controller, 16-Dot Row, 40-Dot Column	M6222	OKI	
Display Driver, Alphanumeric	MSC1937-01	OKI		Electroluminescent Odd Column Driver, 32 Outputs	Si9551 SN55551 SN65551 SN75551	Siliconix TI TI TI		LCD/CRTC Controller (640x400 Dot Matrix)	TC7779	Toshiba	
Display Driver, Static LED (with blinking capability)	SDA2131	Siemens	40	Electroluminescent Odd Row Driver, 32 Outputs	Si9551 SN55551 SN65551 SN75551	Siliconix TI TI TI	90	LCD Display Driver, Multi-Digit	TSC828	TeledyneS	(3276)
Display Driver, Eight 7-Segment	ICM7228A ICM7228B	GE/Intersil GE/Intersil	(2686) (2686)	Electroluminescent Row Driver, 32 Outputs	Si9560 SN75563 SN75564	Siliconix TI TI	95	LCD Display Timing Controller	HD63645F	Hitachi	120
Display Driver, 35 High-Voltage LCD	HI8011	Holt		Electroluminescent Row Driver, 34 Outputs	Si9560 SN75563 SN75564	Siliconix TI TI		LCD Dot Matrix Controller	M6240 M6255 LR3692	OKI OKI Sharp	
Display Driver, 7-Segment Gas Discharge Display Cathode Driver with BCD Decoder	DI8884A	Dionics		Electroluminescent, 16-Channel Display Column Driver	HV01	Supertex		LCD Dot Matrix Controller/Driver, Intelligent	μPD7227 μPD7228	NEC NEC	125
Display, Numeric, LED	TIL302 TIL302A TIL303 TIL303A TIL304 TIL304A TIL306	TI TI TI TI TI TI TI	45 50	Electroluminescent, 16-Channel Display Row Driver	HV02	Supertex		LCD Dot Matrix Display Controller	HD61830	Hitachi	
				Electroluminescent, 64-Channel Column Driver	HV04 HV06	Supertex Supertex		LCD Dot Matrix Display Controller and Driver	HD44780	Hitachi	
				Electroluminescent, 64-Channel Row Driver	HV03 HV05	Supertex Supertex	100	LCD Dot Matrix Driver	ICM7281 HD44102CH HD44103CH HD44105CH HD61102 HD61103A HC0515 HC0538A HC0539A HC0540 HC0550 HC0551 HC0607 MM58538 MM58539 MM58540 MM58548 SED1200 LH5030 LH5031 LH5035A LH5036A LH5821 LH5823 LH5826	GE/Intersil Hitachi Hitachi Hitachi Hitachi Hitachi Hughes Hughes Hughes Hughes Hughes Hughes National National National National S-MOS Sharp Sharp Sharp Sharp Sharp Sharp Sharp	130 135 140 145 150

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Display Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
LCD Dot Matrix Driver, 40-Segment LH5006A	Sharp			LCD Driver, 48-Dot M5219B	OKI			LED Driver, 5-Dot (Cont'd)			
LCD Dot Matrix Driver, 80-Segment LH5021A LH5022	Sharp Sharp			LCD Driver, 56-Dot M5221	OKI			IR2E31A IR2E32N	Sharp Sharp		
LCD Driver, Active Matrix M5280 M5282	OKI OKI		5	LCD Driver, 64-Dot Row M5278	OKI			LED Driver, 7-Dot			85
LCD Driver, Bit Serial (hex, BCD) MAX7232	Maxim			LCD Driver, 68-Dot Row M5298	OKI		45	IR2E02 IR2E19 IR2E22 IR2E29 IR2E37	Sharp Sharp Sharp Sharp Sharp		
LCD Driver, Bit Serial (upper case ASCII) MAX7234	Maxim			LCD Driver, 80/160-Dot M5265	OKI			LED Driver, 7-Segment IR2C07	Sharp		90
LCD Driver, Dichroic S4520	Gould/AMI			LCD Driver, 80-Dot Column M5279 M5299	OKI OKI			LED Driver, 8/16-Segment, serial input CD22401	GE/RCA (2646)		
LCD Driver, Large Panel SED1180F SED1181F SED1190F SED1191F SED1600F SED1610F	S-MOS S-MOS S-MOS S-MOS S-MOS S-MOS		10	LCD Driver, 80-Dot Row/Column M5260	OKI			LED Driver, 12-Dot			
LCD Driver, Multiplexed PCF8576	Signetics (3181)		15	LCD Driver, 40-Channel Output HD44100H	Hitachi		50	IR2E05 IR2E07 IR2E10 IR2E16 IR2E17 IR2E30 IR2E33 IR2E36 IR2E38 IR2E40 IR2E41 IR2406 IR2432 IR2433	Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp	95	
LCD Driver, Four Digit, Seven Segment CD7211	GE/RCA (2639, 2653, 2656)			LCD Driver, 6-bit Parallel MAX7231	Maxim			IR2E33 IR2E36 IR2E38 IR2E40 IR2E41 IR2406 IR2432 IR2433	Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp	100	
LCD Driver, 5-Digit, 8-Segment M58292	OKI			LCD Driver, 80-Channel Output HD61100A	Hitachi			LED Driver, 16-Dot			
LCD Driver, 30 Segments (external oscillator, 35V max.) HI8010-05	Holt (2776)			LCD Graphics Driver SED1500	S-MOS			IR2E03 IR2E04 IR2E15	Sharp Sharp Sharp		
LCD Driver, 30 Segments (internal oscillator, 35V max.) HI8010-07	Holt (2776)			LCD Row Driver ICM7280 ICM7283	GE/Intersil GE/Intersil		55	LED Driver, 4-Digit w/ I ² C Bus Interface SAA1064	Signetics		
LCD Driver, 30 Segments (selectable internal or external oscillator, 35V max.) HI8010-06	Holt (2776)		20	LCD 5x7 Dot Driver LH5003 LH5004	Sharp Sharp			LED Flasher (See also Flasher this section) LM3909	National		110
LCD Driver, 32 Segments (external oscillator, 35V max.) HI8020-84	Holt (2776)			LED Driver, 12-Dot IR2431	Sharp			LED, Static U3082	Telefunken		
LCD Driver, 32 Segments (selectable internal or external oscillator) HI8020-85	Holt (2776)			LED Bar Display Driver, 10 LEDs TA7612A	Toshiba			LED, Static, Microprocessor Control U180M	Telefunken		
LCD Driver, 32/64 Segment HD61602 HD61603 PCF8577	Hitachi Hitachi Signetics		25	LED Decoder/Driver MB4420	Fujitsu		60	Level Meter, 8-Dot MSM9353	OKI		
LCD Driver, 32-Dot Row M5238	OKI			LED Digit Driver MSL966	OKI			Level Meter, 32-Dot MSM9356	OKI		
LCD Driver, 33-Segment w/Serial Interface MC145453	Motorola (2932, 2985, 2992)			LED Display Driver, 5 LEDs TA7654 TA7655	Toshiba Toshiba			Multiplexed LCD Driver, Master and Slave MM58201	National		115
LCD Driver, 34 Segments (external oscillator, 35V max.) HI8010-65	Holt (2776)			LED Display Driver, 33 Outputs, 15 mA Sink Capability MM5486 M5486	National SGS-Thomson		65	Multiplexed LCD Driver, Master and Slave with Serial Interface MC145000	Motorola (2932, 2946, 2985)		
LCD Driver, 34 Segments (internal oscillator, 35V max.) HI8010-67	Holt (2776)			LED Display Driver, 34 Outputs, 15 mA Sink Capability M5450	SGS-Thomson			MC145001	Motorola (2932, 2946, 2985)		
LCD Driver, 34 Segments (selectable internal or external oscillator) HI8010-01 HI8010-66	Holt (2776) Holt (2776)		30	LED Display Driver, 35 Outputs, 15 mA Sink Capability M5451	SGS-Thomson			Plasma Column Driver, 32 Outputs SI9559	Siliconix		
LCD Driver, 35V max, 38 Outputs HI8010	Holt (2776)			LED Driver System, 8 Decade, 8x8 Memory, Decoder (versions either hardware or processor controlled; with 7 segment and digit drivers for either common anode or cathode LEDs; 2-6 V supply) ICM7218A	GE/Intersil (2686)			Plasma Driver, AC SN55501E	TI		
LCD Driver, 38 Segments (external oscillator, 35V max.) HI8010-04 HI8020-63 HI8020-81	Holt (2776) Holt (2776) Holt (2776)		35	ICM7218B	GE/Intersil (2686)			Printer, Timer/Driver CD22401	GE/RCA (2646)		120
LCD Driver, 38 Segments (internal oscillator, 35V max.) HI8010-03 HI8020-61 HI8020-80	Holt (2776) Holt (2776) Holt (2776)			ICM7218C	GE/Intersil (2686)			Segment Driver for Gas Discharge Displays DI232 DI242	Dionics Dionics		
LCD Driver, 38 Segments (selectable internal or external oscillator) HI8010-02	Holt (2776)			ICM7218D	GE/Intersil (2686)		70	TV On-Screen Display Driver LR67151	Sharp		
LCD Driver, 40-Dot Column M5259 M5839B	OKI OKI		40	ICM7218E	GE/Intersil (2686)			Vacuum Fluorescent SN75513B	TI		
				ICM7218A ICM7218B ICM7218C ICM7218D	Maxim Maxim Maxim Maxim		75	Vacuum Fluorescent Driver SN65513B	TI		125
				LED Driver, 5-Dot IR2E01 IR2E13 IR2E21 IR2E24 IR2E25 IR2E31	Sharp Sharp Sharp Sharp Sharp Sharp		80	Vacuum Fluorescent Driver LI2048	Sharp		

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† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

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INTERFACE—Display Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Vacuum Fluorescent, Level Shifted (110 V operation)	DI514BR	Dionics		BCD to 7-Segment Decoder/Driver, Active Low, Open Collector, 15 V Output		(Cont'd)		BCD to 7-Segment Latch/LCD/Decoder/Driver (ripple blanking)	MC14544BA	♦† Motorola (2946, 2985)	
Vacuum Fluorescent Tube Driver	MSM5267-15	OKI		54LS47	† National				MC14544BC	♦ Motorola (2946, 2985)	
Vacuum Fluorescent, 8-Line	UCN5815A	Sprague (3258)		74LS247	♦ National		55	BCD to 7-Segment LED Decoder/Driver	CA3168	GE/RCA (2656, 2658)	
Vacuum Fluorescent, 10-Line	UCN5810A	Sprague		74LS347	♦ National			BCD to 7-Segment LED Decoder/Driver, Constant Current	NE587	Signetics	
Vacuum Fluorescent, 20 Outputs	TL5812I	TI	5	74LS47	♦ National			BCD to 7-Segment LED Decoder/Driver with Latch, Output 0—9, —, E, H, L, P	9374C	National	110
Vacuum Fluorescent, 32 Outputs	SN65518	TI		7447	♦ National			BCD to 7-Segment LED Latch/Decoder/Driver, with Ripple Blanking	F4734BC	National	
Video Display Driver	1900	TeledyneP		S8T04	† Signetics				F4734BM	† National	
	1901	TeledyneP		383A/C	TeledyneS		60	BCD-to-Decimal Decoder/Driver (for lamps)	380A/C	TeledyneS	
	1902	TeledyneP		383B/M	† TeledyneS				380B/M	† TeledyneS	
Video or RGB to LCD Interface Controller	SED1341F	S-MOS	10	SN54LS247	♦† TI				381A/C	TeledyneS	115
BCD (hexadecimal) to 7-Segment Decoder/Driver with Latch Active Low, Open Collector	9370C	National		SN54246	† TI				381B/M	† TeledyneS	
BCD (hexadecimal) to 7-Segment Latch/Decoder/Driver (CMOS with bipolar output)	UCN4805A	Sprague		SN54247	† TI			BCD-to-Decimal Decoder/Driver (nixie driver)	DM5441A	† National	
BCD (hexadecimal) to 7-Segment LED Decoder/Driver, Constant Current, with Latch	9368C	National		SN5446A	† TI				382A/C	TeledyneS	
BCD Plus 1 to 7-Segment	U143	Telefunken		SN5447A	† TI		75		382B/M	† TeledyneS	
BCD to 7-Segment Decoder/Driver	MC14547BA	♦† Motorola (2946, 2985)	15	SN74LS247	TI			BCD-to-Decimal Decoder/Driver with Blanking (for cold cathode indicator tubes)	MC54141	† Motorola	120
	MC14547BC	♦ Motorola (2946, 2985)		SN74LS47	TI			BCD-to-Seven Segment Decoder/Driver with Active Pull-up	SN54LS247	Motorola (2945)	
	MC14558	♦ Motorola (2945, 2985)		SN7446A	TI				SN54LS248	Motorola (2945)	
BCD to 7-Segment Decoder/Driver, Active High, Resistive Pull-Up	GD8307	GoldStar		SN7447A	TI				SN54LS249	Motorola	125
	HD74LS248	Hitachi		M74LS47	TI			Quad AC Plasma Display Axis Driver	SN55426B	† TI	
	HD74LS249	Hitachi							SN55427B	† TI	
	HD74LS48	Hitachi						Hex TTL to LED Bulb Driver, with Latch	DS8859	National	
	HD74LS49	Hitachi						Hexadecimal to 7-Segment Latch/Decoder/Driver (CMOS with bipolar output)	MC14495	♦ Motorola (2946, 2985, 2991)	130
	M74LS248	Mitsubishi						Seven Segment LED (serial interface)	MC14489	Motorola (2985)	
	SN74LS248	Motorola (2945)	20					2-Digit LED Driver	M5481	SGS-Thomson	
	SN74LS249	† Motorola	25						M5482	SGS-Thomson	
	SN74LS48	Motorola (2945)						3/5 Digit LED Driver	IR2434	Sharp	
	SN74LS49	Motorola							IR2E11	Sharp	135
	54LS248	† National						3/5-Digit LED Driver	IR2424	Sharp	
	54LS249	† National						3 1/2 Digit LCD Driver with 7-Segment Decoders, Clock, and a Reference	TLC7136C	TI	
	54LS48	† National	30					3— 1/2-Digit LED Driver	M5480	SGS-Thomson	
	54LS49	† National						4/5-Digit Vacuum Fluorescent (serial data input)	MM5450	National	140
	74LS248	♦ National							MM5451	National	
	74LS249	♦ National						4-Bit Multiplexed LCD Driver (4x7)	HC7211-1	Hughes	
	74LS48	♦ National							HC7211-2	Hughes	
	S8T05	† Signetics						4-Channel Incandescent Lamp Driver	CLD4	TeledyneC	
	SN54LS248	♦† TI						4-Channel Plasma	XR2284	Exar	
	SN54LS48	♦† TI						4-Character, 18-segment triplexed LCD Decoder/Driver.	MIC7233	Micrel	145
	SN54LS49	♦† TI									
	SN5448	† TI									
	M74LS48	Mitsubishi									
BCD to 7-Segment Decoder/Driver, Active Low, Open Collector, 15 V Output	HD74LS247	Hitachi		BCD to 7-Segment Decoder/Driver, for Liquid Crystal Displays	CD4543BD	† GE/RCA (2639, 2653, 2656)					
	HD74LS47	Hitachi			CD4543BE	GE/RCA (2639, 2653, 2656)					
	M74LS247	Mitsubishi			NE589	Signetics					
	MC4039	Motorola		BCD to 7-Segment Latch/Decoder/Driver (strobed latch), for Liquid Crystal Displays	CD4056B	† GE/RCA (2639, 2653, 2656)					
	SN74LS247	Motorola (2945)	45		CD4056BE	GE/RCA (2639, 2653, 2656)					
	SN74LS47	Motorola (2945)			LS7100	LSI Comp (2883)					
	DM5447A	† National			MC14543BA	♦† Motorola (2946, 2985)					
	DM7446A	National			MC14543BC	♦ Motorola (2946, 2985)					
	DM7447A	National			MC54HC4543	† Motorola (2946)					
	54LS247	† National	50		MC74HC4543	Motorola (2946)					
	54LS347	† National			883C4534B	† Sprague					
	54LS447	† National			TC4056B	Toshiba (3341)	105				

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

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INTERFACE—Display Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
4-Character, 18-Segment Triplexed LCD Decoder/Driver	ICM7233	GE/Intersil (2686)	5	4-Segment Liquid Crystal	CD4054B	GE/RCA (2639, 2653, 2656)	50	7-Segment Gas Discharge Display Cathode Driver, with BCD Decoder		(Cont'd)	95
ICM7233	Maxim			TC4054B	Toshiba (3341)			DS8884A	National		
MAX7233A	Maxim			4-Segment MOS to LED Anode Driver				DS8880	Signetics		
MAX7233B	Maxim			DS55493	† National			7-Segment, LCD Driver			
MIC7233A	◊ Maxim			DS75491	National			IR2E14	Sharp		
4-Digit Gas Discharge Display Anode Driver	DI500B	Dionics	10	DS75493	National		55	IR2E34	Sharp		100
DI502B	Dionics			SN75491A	TI			7-Segment to BCD Converter/Driver			
4-Digit LCD Driver				5-Character, 18-Segment Triplexed LCD Decoder/Driver				MM74C915	National		
ICM7211AM	GE/Intersil (2686)			ICM7234	GE/Intersil			7x2 LED Driver			
ICM7211M	GE/Intersil (2686)			ICM7234A	Maxim			IR2E09	Sharp		
ICM7211AM	◊ Maxim		15	MAX7234A	Maxim		60	IR2E28	Sharp		105
ICM7211M	◊ Maxim			MAX7234B	Maxim			7x2-Segment LED Driver			
TSC7211AM	TeledyneS			5-Line Plasma Display Axis Driver				IR2E35	Sharp		
4-Digit LED Driver, Multiplexed BCD or Binary to 7-Segment Decoder/Driver	ICM7212	GE/Intersil (2686)		DI5140	Dionics			8-Bit Parallel In/Parallel Out Fluorescent (for μP systems)	UCS4815H	† Sprague	
ICM7212A	GE/Intersil (2686)			DI5180	Dionics		65	8-Channel Plasma			110
ICM7212	◊ Maxim		20	DI5240	Dionics			XR2288	Exar		
ICM7212A	◊ Maxim			DI5280	Dionics			8-Character, 14/16 Segment LED Display Driver			
4-Digit LED Driver, BCD or Binary to 7-Segment Decoder/Driver, Data and Digit Select Code Latches for μP Interface	ICM7212AM	GE/Intersil (2686)		5-Step, Linear, LED Driver				ICM7243	GE/Intersil (2686)		
ICM7212M	GE/Intersil (2686)			KA2286	Samsung		70	8-Digit Gas Discharge Display Anode Driver			115
ICM7212AM	◊ Maxim		25	KA2287	Samsung			DI510B	Dionics		
ICM7212M	◊ Maxim			5-Step, Logarithmic, LED Driver				DI512B	Dionics		
MC3941	Motorola			KA2284	Samsung			DI803A	Dionics		
TSC701AM	TeledyneS			KA2285	Samsung			DI804A	Dionics		
TSC7212A	◊ TeledyneS		30	KA2281	Samsung		75	DI805A	Dionics		120
TSC7212AM	TeledyneS			KA2283	Samsung			8-Digit MOS to LED Cathode Driver			
4-Digit Liquid Crystal, Multiplexed BCD to LCD Decoder/Driver, AC Drive	ICM7211	GE/Intersil (2686)		TA7666	Toshiba			DS8863	National		
ICM7211A	GE/Intersil (2686)			TA7667	Toshiba			DS8963	National		
ICM7211	◊ Maxim		35	5x2 LED Driver			80	8-Digit/Segment Vacuum Fluorescent			125
ICM7211A	◊ Maxim			IR2E27	Sharp			DI513B	Dionics		
DF412	Siliconix			6-Digit Gas Discharge Display Anode Driver				DI514B	Dionics		
4-Digit/Segment Vacuum Fluorescent	DI503B	Dionics		DI507B	Dionics			XR6118	◊ Exar (2619)		
DI504B	Dionics			DI603A	Dionics		85	XR6128	Exar		130
4-Digit Select Microprocessor Interface (4x7)	HC7211-3	Hughes	40	DI604A	Dionics			NE594	Signetics		
HC7211-4	Hughes			DI605A	Dionics			SA594	Signetics		
4-Digit (stores segment and address data, drives 7–8 segment digits)	MM74C911	National		8891	Signetics			UDN6118A	Sprague (3258)		
4-Digit Vacuum Fluorescent; 'M' Versions have μP Interface, Basic Device has Multiplexed BCD Input; Hexadecimal or CODE B Decoder Version				6-Digit LED Driver, Start/Stop/Reset, Split, Time Out	ICM7215	GE/Intersil (2684)		UDN6128A	Sprague (3258)		
ICM7235	GE/Intersil		45	ICM7215	GE/Intersil		90	UDN6138	Sprague		140
ICM7235A	GE/Intersil			6-Digit MOS to LED Cathode Driver				8-Digit, 7-Segment Triplexed LCD Decoder/Driver	ICM7231	GE/Intersil (2686)	
ICM7235AM	GE/Intersil			DS75492	National			ICM7231	Maxim		
ICM7235M	GE/Intersil			DS75494	National			MAX7231A	Maxim		
4-Digit/8-Segment Vacuum Fluorescent	COP470	National		DS8870	National			MAX7231B	Maxim		
4-Digit, 17-Segment Alpha-Numeric with Memory, Decoder and LED Drivers			40	PS55494	† National		85	MAX7231C	Maxim		135
DL2416	National			SN75492	TI			8-Output Digit-Scan Counter/Decoder for Cold-Cathode Counter Tubes			
MM74C956	National			6-Digit/Segment Vacuum Fluorescent				MSL9510R	OKI		
NSM4307	National			DI508B	Dionics			MSL9511R	OKI		
NSM4507	National			DI509B	Dionics		85	8-Segment Gas Discharge Display Cathode Driver			130
4-Digit, 7-Segment LCD Decoder/Driver	TSC7211A	◊ TeledyneS	45	UDN6116A	Sprague (3258)			DI210	Dionics		
4-Digit, 7-Segment LED Decoder/Driver	TSC700A	TeledyneS		6-Digit BCD (stores segment and address data, drives 7–8 segment digits)				DI230	Dionics		
				6-Digit Hex (stores segment and address data, drives 7 segments)	MM74C912	National		DI230A	Dionics		
				6-Digit, 7-Segment LCD Driver with Decimal Points, or Three 16-Segment Characters. 48-Stage Shift Register, 48-Bit Data Latch and 48-Segment Driver	MM74C917	National		DI240A	Dionics		
				7-Digit MOS to Gas Discharge				DI300	Dionics		
			45	XR2272	◊ Exar		90	DI302	Dionics		135
				7-Digit/Segment MOS to Vacuum Fluorescent				DS7889	† National		
				XR2271	◊ Exar			DS8889	National		
				7-Line Dot Matrix or Segmented				UDN7180A	Sprague		
				SN75581	TI			8-Segment MOS to LED Anode Driver			140
			45	7-Segment Decoder/Driver with Serial Interface	MC14499	◊ Motorola (2932, 2985, 2991)	90	MC676	Motorola		
				7-Segment Gas Discharge Display Cathode Driver, with BCD Decoder	DS7880	† National		DS8867	National		
				DS8880	National			9-Digit MOS to LED Cathode Driver			
				(Continued)				DS8973	National		
								9-Digit MOS to LED Cathode Driver with Shift Register Decoding	DS8874	National	
			45				90	9-Line to 30 LED			140
								U1096B	Telefunken		
								10-Bit Driver, Serial Input, Parallel Output			
								IR2C02	Sharp		

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

• Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Display Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line
10-Bit High-Voltage, High-Current S4534	◊ Gould/AMI			32-Segment LCD	MM5452	National	45
					MM5453	National	
10-Bit Serial In/Parallel Out Fluorescent (for μ P systems)	TL4810B	TI		32-Segment LCD Controller/Driver	μ PD7255	NEC	
	UCN4810A	◊ TI		32-Segment LCD Driver	AY04381	Microchip	
10-Digit, 7-Segment Triplexed LCD Decoder/Driver	ICM7232	GE/Intersil				(2896)	
		(2686)	5		MM5483	National	50
	ICM7232	Maxim			PCF2112	Signetics	
	MAX7232A	Maxim		32-Segment Vacuum Fluorescent Display Driver	SED2032F	S-MOS	
	MAX7232B	Maxim					
	MAX7232C	Maxim		40-Segment LCD Duplex	PCF2100	Signetics	
10-Line Vacuum Fluorescent Display Driver	UCN4810A	TI					
11-Segment LED Display Drivers	MM5485	National	10	64-Segment LCD Duplex	PCF2111	Signetics	
12-Line Vacuum Fluorescent	UCN5811A	Sprague		32-Channel Electroluminescent Column Driver (serial input)	Si9555	Siliconix	55
		(3258, 3261)			Si9556	Siliconix	
12-Line Vacuum Fluorescent	SN75514	TI		8-Bit Parallel-In/Parallel-Out Fluorescent (For μ P Systems)	UCS5815H	Sprague	
12-Line Vacuum Fluorescent Display Driver	SN65512B	TI					
	SN75512B	TI					
12-Segment, LCD Driver	IR2429	Sharp	15				
12x2 LED Driver							
	IR2E12	Sharp					
	IR2E20	Sharp					
13-Bit Driver, Serial Input, Parallel Output	IR2412A	Sharp					
16-Line Vacuum Fluorescent	DS8881	National	20				
	8881	Signetics					
16-Segment LED Display Drivers	MM5484	National					
20-Digit Alphanumeric or Dot Matrix VF Driver	MM58242	National					
20-Line Vacuum Fluorescent Display Driver	TL5812	TI					
20-Segment Vacuum Fluorescent Display Driver	SED2020F	S-MOS					
32-Bit LCD	MM58438	National	25				
32-Bit LCD Driver							
	S4521	◊ Gould/AMI					
	S4535	◊ Gould/AMI					
32-Channel, Serial Input Thin-Film Electroluminescent Display Column Drivers							
	UCN5853A	Sprague	30				
	UCN5853EP	◊ Sprague					
	UCN5854A	Sprague					
	UCN5854EP	Sprague					
32-Digit Alphanumeric or Dot Matrix VF Driver							
	MM58241	National	35				
	MM58248	National					
	MM58341	National					
	MM58348	National					
32-Line AC Plasma Display Axis Driver							
	SN55500D	† TI					
	SN65501E	TI					
	SN75501E	TI					
32-Line AC Plasma Display Driver							
	SN75508	TI	40				
	SN75509	TI					
32-Line Electroluminescent Display Column Drivers							
	SN75567	TI					
	SN75568	TI					
32-Line Vacuum Fluorescent	SN75518	TI					
32-Row LCD Dot-Matrix Driver							
	MSM5238	◊ OKI					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Error Checking Circuits

Function	Max. Serial Data Rate, MHz	Supply Voltage, V	Device	Source	Line
Bus Buffer Correction (4-bit for use with EDAC unit)		5	MC74F2961A MC74F2962A	Motorola Motorola	
Clock Recovery Circuit	50	5	T7032 T7033	AT&T AT&T	(2497) (2497)
Codec, Convolutional Coder/Viterbi Decoder (for forward error correction)	0.01	5	STI5268	STI	(3264)
Convolutional Encoder	1	5	STEL2012	STI	(3264)
CRC Generator/Checker	2 * 3 10	5 5 5	COM8004 MC8500 9401C 9401M 8X01A	SMC Motorola National † National Signetics	
	12	5	74F401 N9401 S9401	◇ National Signetics † Signetics	
CRC Generator/Checker (expandable)	30	5	74F402	◇ National	
Deskew-Queue Register	3 *	5	MC8520	Motorola	
Digital Encryption Processor	0.235	5	T7000A	AT&T	(2495)
Error Detection and Support Logic, for Winchester Disk System	5	5	WD1014	Western	
Error Detection/Correction Circuit	—	5	8206 WD8206	Intel ◇ Western	
Error Detection/Correction Circuit (ECL)	—	-5.2	MC10163 MC10563 MC10593	Motorola ◇ Motorola ◇ Motorola	(2947)
Error Detection/Correction Circuit (TTL)	—	5	AM2960 MB1412A MB1426 MC74F2960 DP8402A DP8403 DP8404 DP8405 MM74ALS632 MM74ALS633 MM74ALS634 MM74ALS635 2960 54F630 54F631 SN54LS630 SN74ALS616 SN74ALS634A SN74ALS635 SN74LS630	AMD Fujitsu Fujitsu Motorola National National National National National National National Signetics † Signetics † Signetics ◇ TI TI TI TI	(2947) (3139) (3298) (3298) (3298)
	-15		AM2960-1 MC74F2960-1	AMD Motorola	(2947)
Error Detection/Correction Unit (CMOS)		5	P54PCT632 P54PCT633 P54PCT634 P54PCT635 P74PCT632 P74PCT633 P74PCT634 P74PCT635	† Performance † Performance † Performance † Performance Performance Performance Performance Performance	
Error Pattern Register	3	5	MC8501	Motorola	
Expandable Error Checker and Corrector	—	5	DP8400	National	
Forward Error-Correction Encoder/Decoder	20	5	SRT241203-I	SpaceResearch	
LRCC Data Register	3	5	MC8502	Motorola	
Polynomial Generator	4 *	5	MC8506	Motorola	
Polynomial Generator/Checker	3.5 *	5	MC68653 MC8503 SCN68653	Motorola Motorola ◇ Signetics	
	4	5	SCN2653	◇ Signetics	
Random Number Generator		5	T7001	AT&T	(2496)
Universal Polynomial 4-Bit Generator	17 *	5	MC8504	Motorola	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◇ Available in Surface Mount Package

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INTERFACE—Error Checking Circuits (Cont'd)

Function	Max. Serial Data Rate, MHz	Supply Voltage, V	Device	Source	Line
Viterbi Decoder (for forward error correction)	256 kb/s	5	STI2010	STI	(3264)
	1024 Kb/s	5	STEL2016	STI	
	2048 Kb/s	5	STEL2015	STI	
Winchester Disk CRC Checker/Generator			HDC1100-04	SMC	
Single Error Hamming Code Detector and Generator	—	5	MC4041	Motorola	5

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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INTERFACE—Keyboard Encoder-Decoders

No. of Keys	No. of Output Bits	Code	Max. Clock Rate, KHz	Supply Voltage, V	Comments	Device	Source	Line
Keyboard Programmable Keyless Locks						LS7222 LS7223	LSI Comp (2883) LSI Comp (2883)	
Public Key Encryption Processor						CA34C168	Calmos	
16	4	Binary	—	3–15	2 key rollover, 3 state output	MM54C922	† National	5
		External ROM Programmable	—	5	Antibounce, mute, interlock	M190	SGS-Thomson	
		1 of 16	—	5	Strobe output, key rollover output, 2 of 8 keyboard to binary encoder, one of four row inputs and column inputs (telephone key pads) give binary output, strobe.	MC14419	Motorola (2974)	
20	5	Binary	—	3–15	2 key rollover, 3 state output	MM54C923	† National	
						MM74C923	National	
40				5	TV Keyboard	U340	Telefunken	10
64				5	TV Keyboard	U3040	Telefunken	
85	8	ASCII/HEX	1000	4–6.5	Scans and generates code for 53 key ASCII plus 32 non-ASCII keys	CDP1871AC	GE/RCA (2644)	
				4–10.5	Scans and generates code for 53 key ASCII plus 32 non-ASCII keys	CDP1871A	GE/RCA (2644)	
90	9	ASCII		4.5–7	N Key rollover, any key down output signal, ASCII or binary (PRO) versions.	KB3600	Microchip	
	10	External ROM Programmable	100	5	9x10 matrix, N key rollover, parallel output	KR9600	SMC	15
					9x10 matrix, N key rollover, parallel output, caps lock, auto repeat	KR9601	SMC	
		Mask Programmable	100	5	9x10 matrix, N key rollover, serial output, caps lock, auto repeat	KR9602	SMC	
104	8	ASCII		5	8x13 matrix, parallel or serial, baud rate select, N key rollover/lockout, autorepeat, caps lock (LED indicators).	KB3661	Microchip	
112	8	ASCII		5	8x14 matrix, serial output, baud rate select, N key rollover/lockout, autorepeat, caps lock.	KB3660S	Microchip	
	10	Mask Programmable	66	5	112 bits for internal programming of function keys	AY34592	Microchip	20
128	8	Mask Programmable	400	5	8 x 16 matrix, 8-Bit bus interface, 4 rollover modes, UART on chip	MC2671	Motorola	
	9	Mask Programmable	100	5	16 x 8 matrix, three-state I/O, 2 or 3 key alarm	MSM3914A	OKI	

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*Typical Value

*Macrocell

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INTERFACE—Line Circuits

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source	Line
Line Drivers—Single Ended							
2		No	5	Video Line Driver, High Speed Op-Amp	CA3450	GE/RCA (2647, 2655)	5
	-0.5 to 5.5 V	No	5	RS422A, RS423A	μ A9639C	TI	
	± 4 to 6 V	No	± 9 to ± 15	RS232, RS423, CCITT V.26, V.28	μ A9636AC	National	
					μ A9636AM	† National	
					μ A9636AC	TI	
	± 6 V	No	± 12	4 Input	N8T15	Signetics (3076)	10
	± 8 V	No	± 12	RS232C	DS75150	National	
					SN55150	† TI	
					SN75150	TI	
	± 15 V	No	± 15	RS423A, RS423C	μ 9636A	TI	15
	± 8 V	No	± 12	RS232C	M75150	Mitsubishi	
	High Current	Yes	5	Coax/Twisted Pair	DS75123	National	
					N8T23	Signetics (3076)	
					SN75123	TI	
				Emitter Follower for Coax/Twisted Pair	DS55121	† National	20
					DS75121	National	
					N8T13	Signetics (3076)	
					S8T13	Signetics	
					SN55121	† TI	
					SN75121	TI	25
	TTL	No	5	Three-State, Inverting	LD6005	Adv Analog (2403)	
	0.8 to 2.0		± 12	RS-423/RS-232C	MC3488A	Motorola (2983)	
	2.4		5	General Purpose Interface Bus	SN75ALS121	TI	
3	± 6 V	No	± 12	RS232B/C, CCITT, MIL188	μ A9616HC	National	30
					μ A9616HEC	National	
					μ A9616HM	† National	
	High Current	No	5	IBM360	HD2904	Hitachi	
4	± 3 to ± 9 V	No	± 4.5 to ± 12	RS232C, CCITT V. 24	DS14C88	National	35
	± 4 to ± 12 V	No	± 5 to ± 15	RS232/432	LT1032	LinearTech	
	± 4 to 6 V	No	± 5	RS423, RS422 with mode control	AM26LS30C	◊ AMD	
					DS3691	National	
					AM26LS30	Signetics	
			± 5.5	RS423, RS422 with mode control	AM26LS30M	◊† AMD	40
					DS1691	† National	
		Yes	± 5	RS423, Three-State	AM26LS29C	◊ AMD	
					GD26LS29	GoldStar (2708)	
					AM26LS29	Signetics	
			± 5.5	RS423, Three-State	AM26LS29M	◊† AMD	45
	± 6 to 9 V	No	± 9 to ± 15	RS232C, CCITT V.24	XR1488	◊ Exar (2619)	
					MC1488	◊ Motorola (2983, 2989)	
					μ A1488C	National	
					DS1488	National	
					MC1488	Samsung (3039)	50
					MC1488	◊ SGS-Thomson	
					MC1488	Signetics	
					SN55188	◊† TI	
					SN75188	TI	
	± 30	No	± 5 to ± 15	RS-232/423, Three-State	LT1030C	LinearTech	55
					LT1030M	† LinearTech	
	± 4 to 6 V	Yes	± 5 V	RS423, Three-State	M5A26LS29	Mitsubishi	
	TTL	No	5	Meets IBM 360/370 I/O Interface Specifications	SN75ALS130	TI	
		Yes	4.5 to 5.5	Gating Control to Allow Either Single-Ended or Differential Operation	DS7831	† TI	
					DS7832	† TI	60
			5	DS7831 w/o Vcc Clamp	DS7832	† National	
					DS8832	National	
				Three-State	N8T09	Signetics (3076)	
					S8T09	† Signetics	
				2-Input NAND, 80 Ma	96101C	National	65
					96101M	† National	
				4-Input AND, NAND	DS7831	† National	
					DS8831	National	
	0.15 to 4 V	No	5	IBM360/370	MC3481	Motorola	
					MC3485	Motorola	70

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source	Line
Line Drivers—Single Ended					(Cont'd)		
4	0.8 to 2	± 7	5	RS-422	DS34F87 DS35F87	National National	5
	0.8 to 2 V	No	5	IBM 360/370	SN75ALS126	TI	
	0.8 to 2.4	± 9	5	RS-232 with Shutdown	MAX234C MAX234E MAX234M	Maxim Maxim † Maxim	
5	0.8 to 2.4	± 9	5	RS-232 with Shutdown	MAX235C MAX235E MAX235M	Maxim Maxim † Maxim	10
		No	5	RS-232	MAX230	Maxim	
6	NTDS	No	5, -5 5, -15	NTDS Hex Driver NTDS	MOF1305B MOA268B	† Plessey † Plessey	
8	—	Yes	—	RS-2326/RS-423A CCITT V.10/X.26	NE5170	Signetics	15
	CMOS	Yes	5	Three-State, Inverting	74AC11240	TI (3310)	
	TTL	Yes	5		UC5170	Unitrode	
					HD74LS241	Hitachi	
8					HD74LS244	Hitachi	20
					MM54C941	† Micrel	
					SN54S244	† MMI	
					SN54LS241	† Motorola (2939)	
					SN54LS244	† Motorola (2939)	
					SN74LS241	Motorola (2939)	
					SN74LS244	Motorola (2939)	
					SN74LS541	Motorola (2940)	
					DM54S241	† National	
					DM74LS241	National	
					DM74LS244	National	
					DM74S241	National	
					MM54C941	† National	
					MM74C941	National	
					54LS241	† National	
					74LS241	◊ National	
					74LS244	◊ National	
					74F541	Signetics (3078)	
					74LS241	Signetics (3057)	
					74LS244	Signetics (3057)	
					74LS541	Signetics (3057)	
					SN54ALS244A		
					SN54ALS541	† TI	
					SN54AS241	◊† TI	
					SN54AS244	◊† TI	
					SN54LS241	◊† TI	
					SN54LS244	◊† TI	
					SN54S241	† TI	
					SN54S244	† TI	
					SN74ALS241A	TI	
					SN74ALS244A	TI	
					SN74ALS541	TI	
					SN74ALS541-1	TI	
					SN74AS241	TI	
					SN74AS244	TI	
					SN74LS241	TI	
					SN74LS244	TI	
					SN74LS541	TI	
					SN74S241	TI	
					SN74S244	TI	
					SN54LS240	† Motorola (2939)	
					SN74LS240	Motorola (2939)	
					SN74LS540	Motorola (2940)	
					DM54S240	† National	
					DM74S240	National	
					54F240	◊† National	
					54LS240	† National	
					74F240	◊ National	
					74LS240	◊ National	
					74LS540	◊ National	
					54LS540	† Signetics	
					74F540	Signetics (3078)	
					74LS240	Signetics (3057)	
					74LS540	Signetics (3057)	
					SN54AS240	◊† TI	
Three-State, Inverting							

(Continued)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source	Line
Line Drivers—Single Ended					(Cont'd)		
8	TTL	Yes	5	Three-State, Inverting	SN54LS240 $\diamond \uparrow$ TI SN54LS540 $\uparrow$ TI SN54S240 $\uparrow$ TI SN74ALS240A TI SN74ALS540 TI SN74ALS540-1 TI SN74AS240 TI SN74LS240 TI SN74LS540 TI SN74S240 TI	(Cont'd)	5 10
16	TTL	Yes	5	Three-State	T74LS365A SGS-Thomson T74LS367A SGS-Thomson SN54LS365A $\diamond \uparrow$ TI SN54LS367A $\diamond \uparrow$ TI SN74LS365A TI SN74LS367A TI		15
				Three-State, Inverting	T74LS366A SGS-Thomson T74LS368A SGS-Thomson SN54LS366A $\uparrow$ TI SN54LS368A $\diamond \uparrow$ TI SN74LS366A TI SN74LS368A TI		20
Line Drivers—Differential							
1	0.8 to 2	TTL, CMOS	5	Differential Line Driver and Receiver Pair, Meets ST506/412 and ESDI Disk Drive Standards	DS8921A	National	
2	± 3 V	Yes	± 5	RS422 at Low Data Rates, RS423	AM26LS30C $\diamond$ AMD AM26LS30	AMD Signetics	25
			± 5.5	RS422 at Low Data Rates, RS423	AM26LS30M $\diamond \uparrow$ AMD		
	± 5 V High Current CMOS	No No	$\pm 15, \pm 5$ 3–15	ARINC 429, 100K bits data rate CMOS 50 mA, 4-Input AND, NAND	HS3182 $\uparrow$ Harris (2722) MM78C30 $\ddagger$ Micrel MM78C30 $\uparrow$ National MM88C30 National		30
	High Current TTL	No	5	40 mA, Open Collector/Active Pull-up	DS55114 $\uparrow$ National DS75114 National SN55114 $\diamond \uparrow$ TI SN75114 TI		35
				40 mA, RS422 40 mA, 4-Input AND, NAND	SN75158 TI DM74S140 National DS7830 $\uparrow$ National DS8830 National 54S140 $\uparrow$ Signetics 74S140 Signetics (3057) SN54S140 $\uparrow$ TI SN55183 $\diamond \uparrow$ TI SN74S140 TI SN75183 TI		40
		Yes	5	Three-State	DS7831 $\uparrow$ National DS8831 National		45
				DS7831 w/o Vcc Clamp 40 mA, Open Collector/Active Pull-Up, Three-State	DS7832 $\uparrow$ National DS55113 $\uparrow$ National DS75113 National SN55113 $\diamond \uparrow$ TI SN75113 TI		50
				40 mA, RS422, Three-State	DS8832 National SN75159 TI		
	TTL	No	5	RS-422	DS8921 National DS8922 National DS8923 National		55
				RS-422/423	51998 $\uparrow$ Micropac		
	0.8 to 2	TTL, CMOS	5	Dual Differential Line Driver and Receiver Pair	DS8922A National DS8923A National		

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$\uparrow$ Military Temperature Range (–55° to 125°C)

$\ddagger$ High Radiation Resistance

*Typical Value

*Macrocell

$\diamond$ Available in Surface Mount Package

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Output	Party Line	Supply Voltage, V	Comments	Device	Source	Line
Line Drivers—Differential					(Cont'd)		
2	2.5 to 3.5 3.5 mA	No Yes	5 ± 5	High Speed Twisted Pair	μA9638C SN55109A SN75109A	TI † TI TI	5
	6.5 mA	Yes	± 5	Twisted Pair, Level Shifting	MC75S110 SN55110A SN75110A	Motorola † TI TI	
	18 mA 50 mA	Yes No	± 5 5	Higher Current 75110 High Speed, EIA-RS422	SN75112 μA9638C μA9638M	TI National † National	
3	TTL, DTL	No	5	Triple Line Transmitter	HS245	Harris	10
4	High Current CMOS	No	3–15	CMOS, 25 mA	MM78C29 MM78C29 MM88C29	‡ Micrel † National National	15
	High Current TTL	No	5	50 Ohm Lines	74128 SN74128	Signetics (3057) TI	
				75 Ohm Lines	54128 SN54128	† Signetics † TI	
		Yes	5	RS–422, RS–423, Three-State	MC3487 μA3487 DS3487	Motorola (2990) National National	
				RS–422, Three-State RS–422A, Three-State	SN55ALS194 SN75ALS194	TI † TI	
	TTL TS 0.8 to 2	No ± 7	5 5	RS422A RS–422	MC3487 DS26F31C DS26F31M DS34C87	TI National † National National	
		± 14	5	Hysteresis, High-Speed	DS26C31C	National	
	11 mA	Yes	± 5	Quad 75110 Quad 75110	MC3453A MC3453 SN55111 SN75111	Motorola TI † TI TI	
	20 mA	Yes	5	MIL188–114, Three-State	DS1692 DS3692	† National National	
				RS–422, Three-State	AM26LS31C AM26LS31M Am26LS31C AM26LS31C GD26LS31 M5A26LS31 AM26LS31 AM26LS31C AM26LS31M μA26LS31 DS26LS31C DS26LS31M AM26LS31 AM26LS31C SN55ALS192 SN75ALS192 SN75LS192	AMD † AMD AT&T AT&T GoldStar Mitsubishi Motorola (2983) Motorola (2983) † Motorola (2983) National † National † National Signetics TI TI † TI TI	
	40 mA	No Yes	5 5	4 ns propagation delay, reduced power RS–422, Fed. 1020, Three-State	41LG SN75151 SN75153	AT&T (2528) TI TI	
	60 mA	Yes	5	RS–422A, Three-State	SN75172 SN75174 SN75174	Motorola Motorola TI	
				RS–485	μA96172 μA96174	National National	

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‡ High Radiation Resistance

*Typical Value

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Receiver Input Threshold	Common Mode Voltage, V	Supply Voltage, V	Comments	Device	Source	Line
Line Receivers—Single Ended							
2	± 0.1 V (ref)		5	IBM360/370	SN75ALS123	TI	5
			5	Ext. Reference Adjustable from 1.5 to 3.5 V	SN75140A	TI	
					SN75141	TI	
	± 2.0		5	Hysteresis, EIA/MIL	N8T16	Signetics (3076)	
					S8T16	Signetics	
	0.7	10	5		RM9622	† Raytheon	
3	0.7 to 1.7		5	Hysteresis, IBM360/370	DS75124	National	10
					N8T24	Signetics (3076)	
					SN75124	TI	
	0.8 to 2.0 V		5	Hysteresis, High-Speed	DS55122	† National	15
					SN55122	† TI	
					SN75122	TI	
	0.86 to 2.40		5	High-Speed	HD2915	Hitachi	20
	1.15 to 1.55		5	IBM360	HD2905	Hitachi	
4	± 0.2	± 7	5	RS422A, RS423A	MC3486	◊ TI	
	± 3 to ± 9 V	No	± 5	Three-State, RS-422/423A	M5A26LS32A	Mitsubishi	25
	$\pm 3/0.8$ to 3		± 4.5 to ± 12	RS232C, CCITT V. 24	DS14C89A	National	
			5 or 12	RS232C, Hysteresis, Fail Safe Option	DS75154	National	30
					55154	† National	
					SN75154	TI	
	$\pm 3/0.8$ to 3		5 or 12	RS232C, Hysteresis, Fail Safe Option	M75154	Mitsubishi	35
	0.75 to 1.5 V		5	RS232C, Programmable Threshold, Hysteresis	M75189	Mitsubishi	
					MC1489	◊ Motorola (2989)	
					μ A1489C	National	40
					DS1489	National	
					MC1489	Samsung (3039)	
					MC1489	SGS-Thomson	45
					MC1489	Signetics	
					SN55189	† TI	
					SN75189	TI	50
	0.75 to 2.25		5	RS232C, Programmable Threshold, Wider Hysteresis than 1489	XR1489A	◊ Exar (2619)	
					MC1489A	◊ Motorola (2989)	
					μ A1489AC	National	55
					DS1489A	National	
					MC1489A	Samsung (3039)	
					MC1489A	Signetics	60
					SG1489A	◊ SiliconG	
					SN55189A	† TI	
					SN75189A	TI	65
	0.75 to 2.25 V		5	RS232C, Programmable Threshold, Wider Hysteresis than 1489	M75189A	Mitsubishi	
	0.97 to 2.65		5	Hysteresis, 120 Ohm System	DS7836	† National	
	1.05 to 2.5		5	Hysteresis, 120 Ohm System	DS8836	National	70
	1.2 to 1.8		5	120 Ohm System, No Hysteresis, NOR Input	DS7640	† National	
	1.3 to 1.7		5	120 Ohm System, No Hysteresis, NOR Input	DS8640	National	
	5 to 7.5		15	Hysteresis, Interface to CMOS	367A	TeledyneS	75
					367M	† TeledyneS	
				Hysteresis, Open Collector, Interface to CMOS	368A	TeledyneS	
	5.5 to 8		12	Hysteresis, Open Collector, Interface to CMOS	368C	TeledyneS	80
					367B	TeledyneS	
					367C	† TeledyneS	
6	-1 to 4.5/-1.5 to 13		5	NTDS	MOB272	† Plessey	85
	0.97 to 2.65		5	Hysteresis, 120 Ohm System	DS7837	† National	
	1.05 to 2.50		5	Hysteresis, 120 Ohm System	MC3437	Motorola	
					DS8837	National	90
					N8T37	Signetics (3076)	
7			5	IBM360/370	SN75ALS125	TI	
					SN75ALS127	TI	95
	0.7 to 1.7		5	IBM360/370	MC75125	Motorola	
					MC75127	Motorola	100
					DS75125	National	
					DS75127	National	
					SN75125	TI	105
					SN75127	TI	
8	—		5	RS-232C/RS-422A/RS-423A CCITT V.10, V.11, V.28, X.26, X.27	NE5180	Signetics	
					NE5181	Signetics	110
	0.7 to 1.7		5	IBM360/370	MC75128	Motorola	
					MC75129	Motorola	115
					DS75128	National	
					DS75129	National	

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Receiver Input Threshold	Common Mode Voltage, V	Supply Voltage, V	Comments	Device	Source	Line
Line Receivers—Single Ended							(Cont'd)
8	0.7 to 1.7		5	IBM360/370	SN75128 SN75129	TI TI	(Cont'd)
Line Receivers—Differential							
2	± 0.010	± 3	± 5	10 mV, MOS Sense, Active Pull-up	DS75208 SN75207	National TI	5
				10 mV, MOS Sense, Open Collector 75207 with Diode Protected Input Stage 75208 with Diode Protected Input Stage	SN75208 SN75207B SN75208B	TI TI TI	10
	± 0.025	± 3	± 5	25 mV, Active Pull-up	MC75107 SN55107A SN75107A	Motorola † TI TI	15
				25 mV, Active Pull-Up	DS55107 DS75107	† National National	20
				25 mV, Open Collector	MC75108 DS55108 DS75108 SN55108A SN75108A	Motorola † National National † TI TI	25
				25 mV, Three-State 55107	DS1603 DS3603	† National National	30
				55107A with Diode Protected Input Stage	DS55107 DS75107 SN55107B SN75107B	† National National † TI TI	35
				55108A with Diode Protected Input Stage	DS55108 DS75108 SN55108B SN75108B	† National National † TI TI	40
	± 0.2 ± 0.2/0.3	± 7 ± 10/15	5 5	RS-422, RS-423 Twisted Pair, ± 15 V CMV, Response Control	μA9639A DS78LS120 DS88LS120	National † National National	45
		± 15	5	CMOS Compatible, Response Control	DS78C120 DS88C120	† National National	50
	± 0.2/0.5	± 7/15	5	RS232, RS422/3	μA9637AC μA9637AM μA9637AC SN55157 SN75157	National † National TI † TI TI	55
	± 0.4 ± 0.5/1	± 7 ± 0/15	5 5	RS-422, RS-423/C and CCITT compatible ± 15 V CMV, Response Control	μA9639AC DS55115 DS75115 SN55115 SN75115	National † National National † TI TI	60
		± 3/15	5	Twisted Pair, ± 3/15 V CMV, Response Control	DS7820A DS8820A SN55182 SN75182	† National National † TI TI	65
		± 10/15	5	Twisted Pair, ± 15 V CMV, Response Control	DS78C20 DS7820 DS88C20 DS8820 L7820	† National † National National National † SGS-Thomson	70
	± 0.5/3 0.5 to 2.5	± 25	± 12 5	Adjusts RS232C/MIL-188, ± 25 V CMV, Hysteresis RS-422A, RS-423A, RS-232, V.28.	SN75152 SN75146	TI TI	75
3	TTL, DTL	No	5	Triple Line Receiver	HS246 HS249	Harris Harris	80
		Yes	5	Triple Party-Line Receiver	HS248	Harris	85
4					MC3550 MC3552 MC3553 SN55154	TI TI TI TI	90
			± 15/12-24	Quad Comparator, 3mV Hysteresis	ESM1600 ESM1602	SGS-Thomson SGS-Thomson	95
			5	RS422A, RS423A	MC3486	† TI	100

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Receiver Input Threshold	Common Mode Voltage, V	Supply Voltage, V	Comments	Device	Source	Line
Line Receivers—Differential					(Cont'd)		
4	± 0.025	± 3	± 5	Four 75107, Active Pull-up	MC3450 DS1650 DS3650 MC3450	Motorola (2990) † National National TI	
				Four 75108, Open Collector	MC3452 DS1652 DS3652 MC3452	Motorola (2990) † National National TI	5
	± 0.2	-7,12	5	Three State, RS-422/423, CCITT V.10 and V.11	AM26LS32BC AM26LS32BM AM26LS34C AM26LS34M	AMD † AMD AMD † AMD	10
	± 3		5	Three-State, RS422/423	MC3486 DS3486	Motorola (2990) National	
	± 7		± 5	Three-State RS-422/423 Three-State, RS-422/423	Am26LS32C AM26LS32C AM26LS32M AM26LS32C GD26LS32 AM26LS32 μA26LS32C μA26LS32M DS26LS32AM	AT&T AMD † AMD AT&T GoldStar Motorola National † National ◊‡ National	15
					DS26LS32C DS26LS32M	National ◊‡ National	20
					AM26LS32AC AM26LS32AM	† National TI	25
			5	Three State, RS-422/423	μA3486	National	
	± 12		5	RS-422/485	μA96173 μA96175	National National	30
				Three-State, RS-422A/RS-423A	SN75173 SN75175 SN55173 SN75173 SN75175	Motorola Motorola † TI TI TI	35
				Three-State, RS-422A/423A/485, CCITT V.10, V.11, V.26, V.27	SN55ALS195 SN75ALS195 SN75ALS195	TI TI TI	
	± 0.5	± 15	± 5	Three-State	AM26LS33C AM26LS33M AM26LS33C GD26LS33 DS26LS33C DS26LS33M AM26LS33AC AM26LS33AM	AMD † AMD AT&T GoldStar (2708) National † National TI † TI	40
	± 0.8 0.20 0.8 to 2	-12, ± 7.5 ± 4 ± 7	± 5,-5 5 5	NTDS 4 ns propagation delay, reduced power Hysteresis, High-Speed RS-422/423	MOF1623B 411F DS34C86 DS26C32C	† Plessey AT&T (2526) National National	50
		± 15	5	RS-422/423	DS34F86 DS35F86	National National	
		± 25	5	RS-422/423	DS26F32C DS26F32M	National † National	
	0.8 to 2.0	7,-7	5	Three-State, RS-422A, RS-423A, RS-485, CCITT V.10, V.11, X.26, and X.27 Three-State, RS-422A, RS-485, CCITT V.10, V.11, X.26, and X.27	SN75ALS193 SN55ALS193	TI TI	55
8		± 25	5		UC5180 UC5181	Unitrode Unitrode	
	-0.2 to 0.2	± 15	5	RS232C and RS423A; CCITT V.10, V.28 and V.11	ULN8510EP	Sprague	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source	Line
Line Transceivers—Single Ended							
1	0.8 to 2	TTL	5	RS-232-C Driver and Receiver	SN75155	TI	
2	0.8 to 1.4	TTL/CMOS	5	Three-State, Dual RS-232 Driver/Receiver	LT1080C LT1080M LT1081C LT1081M	LinearTech † LinearTech LinearTech † LinearTech	5
3	0.8 to 2.0	TTL/CMOS	5	Three-State, Triple Driver/Receiver	LT1039C LT1039M	LinearTech † LinearTech	
4	0.05 to 2.50	TTL	5	IEEE 896.1 Open Collector, 1 V Hysteresis	SN75ALS057 DS8838 N8T38	TI National Signetics (3076)	10
	0.3 to 1.1	TTL	5	Bus Transceiver, Three-State, 75 mA Output to 40 ohm bus, Hysteresis	LB1025AC	AT&T	
	0.4 to 2.05	TTL	5	Open Collector, Hysteresis	AM26S12AC AM26S12AM	AMD † AMD	
	0.5 to 2.0	TTL	5	Bus Transceiver, Tridirectional, Three-State	SN54LS442	† TI	15
	0.6 to 2.0	TTL	5	Bus Transceiver, Tridirectional, Three-State General Purpose Interface Bus, Open Collector, for MOS Input	SN74LS442 MC3446A	TI Motorola (2982)	
	0.7 to 2.0	TTL	5	Three-State, Bus Transceiver, Parity Generator/Checker	AM2917AM	† AMD	
	0.8 to 1.8	TTL/MOS	5	General Purpose Interface Bus, Bidirectional Bus Transceiver, Three-State	AM3448A MC3448A	AMD Motorola (2982, 2990)	
	0.8 to 2	BiCMOS	5	Four RS-232 Independent drivers and receivers.	Bi214	Barvon	20
	0.8 to 2.0	TTL	5	Bus Transceiver Three-State, Inverting	SN54LS242 SN54LS243 SN54ALS242B † TI SN54ALS243A † TI SN54LS242 † TI SN54LS243 † TI	† Motorola (2939) † Motorola (2939) † TI † TI † TI † TI	25
				General Purpose Interface Bus, Open Collector, 100 mA Output	MC3440A MC3441A DS3662 DS7641 DS8641	Motorola Motorola National † National National	30
				Line Transceiver with Driver Enable.	MC34051	Motorola (2983)	35
				Line Transceiver with Separate Enable for Driver and Receiver.	MC34050	Motorola (2983)	
				Three-State (Inverting)	MC6880 MC8T26A DS8T26A DS8T26AM N8T126 N8T127 N8T26A S8T126 S8T127 SN75136	Motorola (2981) Motorola (2981) National † National Signetics (3076) Signetics (3076) Signetics (3076) † Signetics † Signetics TI	40
				Three-State (Non-Inverting)	MC6889 MC8T28 DS8T28 DS8T28M N8T129 N8T28 S8T128 S8T129	Motorola (2981) Motorola (2981) National † National Signetics (3076) Signetics (3076) † Signetics † Signetics	45
				Three-State, Bus Transceiver	SFC2915A	SGS-Thomson	
				Three-State, Bus Transceiver, Parity Generator/Checker	AM2917AC SFC2917	AMD SGS-Thomson	
				Three-State, Hysteresis	HD74LS242 SN74LS242 SN74LS243 DM74LS243 74LS242 74LS243 SN74ALS242B SN74ALS243A SN74LS242 SN74LS243	Hitachi Motorola (2939) Motorola (2939) National Signetics (3057) Signetics (3057) TI TI TI TI	55
				Three-State, Inverting	SN54AS242 † TI SN74AS242 SN74AS243	† TI TI TI	60
							65

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‡ High Radiation Resistance

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°Macrocell

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source	Line
Line Transceivers—Single Ended					(Cont'd)		
4	0.8 to 2.4	± 9	5	Optically Isolated, Dual RS-232 Driver/Receiver with DC-to-DC Converter	MAX250C MAX250E	Maxim Maxim	(Cont'd)
				Optically Isolated, Dual RS-232 Driver/Receiver Chip	MAX251C MAX251E MAX252C MAX252E	Maxim Maxim Maxim Maxim	5
				Two Independent RS-232 Drivers and 2 Receivers	MAX232C MAX232E MAX232M MAX233C MAX233E	Maxim Maxim † Maxim Maxim Maxim	10
				2 Independent RS-232 Drivers and 2 TS Receivers with Shutdown	MAX242C MAX242E MAX242M MAX243C MAX243E MAX243M	Maxim Maxim † Maxim Maxim Maxim † Maxim	15
			5, 12	Independent RS-232 Drivers and Receivers	MAX231C MAX231E MAX231M	Maxim Maxim † Maxim	20
	0.8 to 2	TTL/CMOS	7	Bus Transceiver, Three-State	MC3446	◊ TI	25
	0.97 to 2.65	TTL	5	Open Collector, 1 V Hysteresis	DS7838	† National	
	1.05 to 2.50	TTL	5	Inverting 7833/8833	DS7835 DS8835	† National National	
				Inverting 7839/8839	DS7834 DS8834 N8T34	† National National Signetics (3076)	30
				Three-State, NOR Gate, Transmit Disable, Hysteresis	DS7839 DS8839	† National National	
				Three-State, T/R Disables, Hysteresis	DS7833 DS8833	† National National	
	1.5 to 2.4	TTL	5	Open Collector, 100 mA Output, Parity Generator/Checker Q-bus Compatible 2907	AM2907M AM2908M	† AMD † AMD	35
	1.5 to 3.2	TTL	5	Open Collector, 100 mA Output	SN55138	◊† TI	
	1.6 to 1.8	TTL	5	Open Collector, Hysteresis	AM26S12C AM26S12M	AMD † AMD	
	1.6 to 2.3	TTL	5	Open Collector, 100 MA Output, Parity Generator/Checker Q-bus Compatible 2907	AM2907C AM2908C	AMD AMD	40
	1.6 to 2.4	TTL	5	Open Collector, 100 mA Output	AM26S10M AM26S11M μA9640M	† AMD † AMD † National	
					DS26S10M DS26S11M	† National † National	
	1.75 to 2.25	TTL	5	Open Collector, 100 mA Output	AM26S10C AM26S11C MC26S10 μA9640C	AMD AMD Motorola National	45
					DS26S10C DS26S11C	National National	
					AM26S10C AM26S11C	TI TI	
	1.8 to 2.9	TTL	5	Open Collector, 100 mA Output	SN75138	TI	50
6	0.5 to 2.8	TTL	5,12	Three Independent RS-232 Drivers and Receivers Three Independent RS-232 Drivers and Receivers with Shutdown	LT1039-16 LT1039	LinearTech LinearTech	55
	0.8 to 1.4	TTL/CMOS	5	Universal Level Translator/RS-232 Line Receiver	LTC1045C LTC1045M	LinearTech † LinearTech	
7	0.8 to 2.4	± 9	5	Four Independent RS-232 Drivers and 3 Three-State Receivers with Shutdown	MAX237C MAX237E MAX237M	Maxim Maxim † Maxim	
8	—	TTL TTL/CMOS	5 5	IEEE 896.1 General Purpose Interface Bus	SN75ALS056 DS75160A DS75161A DS75162A	TI National National National	60
	TTL	TTL	5	Bidirectional Bus Transceiver, Three-State	DP8304	National	
	0.5 to 2.0	TTL	5	Bidirectional Bus Transceiver, Open Collector	54LS641 54LS642 74LS641	† Signetics † Signetics Signetics (3057)	

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source	Line
Line Transceivers—Single Ended					(Cont'd)		
8	0.5 to 2.0	TTL	5	Bidirectional Bus Transceiver, Open Collector	74LS641-1 74LS642 74LS642-1 SN54LS641 SN54LS642 SN54LS644	Signetics (3057) Signetics (3057) Signetics (3057) † TI † TI † TI	5
				Bidirectional Bus Transceiver, Three-State	DP7304B DP7308 DP8303 DP8304B DP8307 DP8308 SN54ALS245A SN54ALS645A SN54LS640 SN54LS645	† National † National National National National National † TI † TI † TI † TI	10 15
	0.6 to 2.0	TTL	5	Bidirectional Bus Transceiver, Open Collector	SN74LS641 SN74LS641-1 SN74LS642 SN74LS642-1 SN74LS644 SN74LS644-1	TI TI TI TI TI TI	20
				Bidirectional Bus Transceiver, Three-State	74LS640 74LS640-1 74LS645 SN74LS245 SN74LS623 SN74LS640 SN74LS640-1 SN74LS645 SN74LS645-1	Signetics (3057) Signetics (3057) Signetics (3057) TI TI TI TI TI TI	25 30
	0.7 to 2.0	TTL	5	Bidirectional Bus Transceiver, Open Collector	SN54LS641 SN54LS642	† Motorola (2940) † Motorola (2940)	
				Bidirectional Bus Transceiver, Three-State	SN54LS245 SN54LS640 SN54LS645 54LS245	† Motorola (2939) † Motorola (2940) † Motorola (2940) † National	35
	0.8 to 2.0	TTL	5	Bidirectional Bus Transceiver, Open Collector	HD74LS641 HD74LS642 SN74LS641 SN74LS642	Hitachi Hitachi Motorola (2940) Motorola (2940)	40
				Bidirectional Bus Transceiver, Three-State	HD74LS243 HD74LS645 HS74LS640 MC54F245 MC74F245 SN74LS245 SN74LS640 SN74LS645 DM74LS245 DS3667 74LS245 N8T125 S8T125 74LS245 SN74ALS245A SN74ALS645A SN74AS245 SN74LS646 SN74LS648	Hitachi Hitachi Hitachi † Motorola (2939) Motorola (2939) Motorola (2939) Motorola (2940) Motorola (2940) National † National National Signetics (3076) † Signetics Signetics (3057) TI TI TI TI TI	45 50 55 60
				General Purpose Interface Bus	MC3447 SN75ALS163 SN75160B SN75161B SN75162B SN75163B SN75164B 55ALS160	Motorola (2982) TI TI TI TI TI TI † TI	65

(Continued)

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INTERFACE—Line Circuits (Cont'd)

No. Per Device	Receiver Input Threshold, V	Output	Supply Voltage, V	Comments	Device	Source	Line
Line Transceivers—Single Ended					(Cont'd)		
8	0.8 to 2.0	TTL	7	General Purpose Interface Bus.	SN75ALS160 SN75ALS161 SN75ALS162 SN75ALS164 SN75ALS165	TI TI TI TI TI	(Cont'd)
	0.8 to 2.4	± 9	5	Four Independent Drivers and 4 Receivers	MAX238C MAX238E	Maxim Maxim	5
				3 RS-232 drivers, 5 RS-232 receivers	MAX239	Maxim	
9	0.8 to 2.4	± 9	5	4 Independent RS-232 Drivers and 5 TS Receivers with Shutdown	MAX241C MAX241E MAX241M	Maxim Maxim † Maxim	10
10	0.8 to 2.4	± 9	5	Five Independent RS-232 Drivers and 5 Three-State Receivers with Shutdown	MAX236C MAX236E MAX236M	Maxim Maxim † Maxim	15
				5 Independent RS-232 Drivers and 5 TS Receivers with Shutdown	MAX240C MAX240E MAX240M	Maxim Maxim † Maxim	
16	0.8 to 2.4	± 9	5	6 RS-232 Drivers and 10 Receivers	MAX249C MAX249E	Maxim Maxim	20
				8 RS-232 Drivers and 8 Receivers	MAX248C MAX248E	Maxim Maxim	
17	0.8 to 2.4	± 9	5	8 Independent RS-232 Drivers and 9 TS Receivers with Shutdown	MAX247C MAX247E	Maxim Maxim	
18	0.8 to 2.4	± 9	5	8 Independent RS-232 Drivers and 10 RS-232 Receivers	MAX244C MAX244E MAX245C MAX245E MAX246C MAX246E	Maxim Maxim Maxim Maxim Maxim Maxim	25
Line Transceivers—Differential							
1		TTL	5	Designed to meet proposed EIA Standard RS485	DS3695 DS3696 DS3697 DS3698	National National National National	30
				EIA Standard RS422-A, RS-485 IEEE 802.3, 1 Base 5	SN65176B SN75061 SN75062	TI TI TI	35
	± 0.2	TTL	5	Independent Driver and Receiver, RS-422A/485, CCITT V.11, X.27	SN75179B	TI	
	± 0.5/± 1 V	TTL	5	Independent Three-State 55113 Driver and 55115 Receiver	SN55116 SN75116	† TI TI	
				Same as 55116 with Three-State Receiver	SN55118 SN75118	† TI TI	40
				Same as 55117 with Three-State Receiver	SN55119 SN75119	† TI TI	
				Three-State 8 Pin, 40 mA	SN55117 SN75117	† TI TI	45
	0.8 to 2	TTL	5	Bidirectional Bus Repeater, Three-State, RS-485/422A	μA96177 μA96178	National National	
				Bidirectional Bus Transceiver, Three State	SN75176 SN75177 SN75178 μA96176 SN75ALS176 SN75176B	Motorola Motorola Motorola National TI TI	50
				Bus Repeater	SN75177B SN75178B	TI TI	55
2	0.20	TTL/ECL	5	Contains two differential ECL-to-TTL converters and two TTL-to-differential ECL converters	41LK 41LL 41LM	AT&T (2530) AT&T (2530) AT&T (2530)	
	0.8 to 2	± 7	5	RS-485/422	DS75176A DS75176AT	National National	60
		BiCMOS	5	Two RS-232 drivers and receivers; two RS-422 drivers and receivers.	BI301	Barvon	
4	0.8 to 2	BiCMOS	5	Four RS-232 drivers and receivers and two RS-422 drivers and receivers.	BI302	Barvon	

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INTERFACE—Memory Drivers

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Bank Switch	DS1222	◊ Dallas		Dynamic Memory Controller (for 256K DRAMs)	AM2968A	AMD		MOS Dynamic RAM Controller	(Cont'd)		
Bubble Memory Predriver	SI7250	Siliconix		Dynamic Memory Controller, 1 Megabit	AM29368	AMD		SN74ALS2967	TI	(3298)	85
Bubble Memory Quad VMOS Drive Transistors	HA13007	Hitachi		Dynamic RAM Controller	TMS34061	◊ TI		SN74ALS2968	TI	(3298)	
Data Separator, Hard Disk	SSI32D532	SiliconSys		Dynamic RAM Controller/Driver	673102	MMI	40	TMS4500A	TI	(3298)	
	SSI32D534	SiliconSys	(3254)		673102A	MMI		TMS4500A-150	TI		
	SSI32D535	SiliconSys	(3254)		673103	MMI		TMS4500A-200	TI		
	SSI32R536	SiliconSys	(3254)		673103A	MMI		TMS4500A-25	TI		
Data Synchronizer, Hard Disk	SSI32D533	SiliconSys		Dynamic RAM Controller/Driver, Multimode	SN74S409	MMI	45	VL4500A	VLSI Tech	(3363)	90
Disk Drive Data Qualifier	AD891	AD	(2433)	Dynamic RAM Controller, 256K	THCT4502B	TI	(3298)	MOS Dynamic RAM Controller/Driver			
Disk Drive Data Recovery Element	AD890	AD	(2433)	Encoder/Decoder, 2,7 RLL and VFO (hard disk drive)	HD153011	Hitachi		DP8408	National		
Disk Drive, Disk Data Controller	DP8466	National		Encoder/Decoder, 2,7 RLL (hard disk drive)	HD153009	Hitachi		DP8417	National		
Disk Drive, Disk Data Separator	SSI32D531	SiliconSys		Floppy Disk VFO	MB4107	Fujitsu	(2633)	DP8418	National		
	SSI34D441	SiliconSys	(3254)	Floppy Disk Write Controller/Head Driver	MC3469	Motorola	(2979)	MOS Dynamic RAM Controller/Driver, Multimode			
Disk Drive, Disk Pulse Detector	DP8464	National			MC3471	◊ Motorola	(2979)	DP8408	National		95
Disk Drive, Encoder/Decoder, 2, 7	DP8462	National		Magnetic Disk Head Amplifier, 4-Channel (110v/v)	MB4117-4	Fujitsu		DP8409	National		
	DP8463	National			MB4118-4	Fujitsu		MOS Dynamic RAM Controller/Driver, 16-Bit			
Disk Drive, Flexible Disk Support Circuit (port expansion for 8048 microprocessor)	SSI34B580	◊ SiliconSys		Magnetic Disk Head Amplifier, 4-Channel (35v/v)	MB4111	Fujitsu		DP8428	National		
Disk Drive, Flexible Disk, 2-Channel	SSI34P570	◊ SiliconSys			MB4113	Fujitsu		NS32828	National		
			(3254)	Magnetic Disk Head Amplifier, 4-Channel (9v/v)	MB4112	Fujitsu		MOS Dynamic RAM Controller/Driver, 32-Bit			
Disk Drive, Flexible Disk, 4-Channel	SSI34R575	SiliconSys			MB4117-6	Fujitsu		DP8429	National		
Disk Drive, Hard Disk Controller	AM9580	AMD		Magnetic Disk Head Amplifier, 6-Channel (110v/v)	MB4118-6	Fujitsu		NS32829	National		
Disk Drive, MFM Data Separator	DP8460	National		Memory Driver	SG55325	◊ † SiliconG		MOS Dynamic RAM Controller Interface Circuit			
Disk Drive, Preamplifier (4, 6 and 8 head)	XR511	Exar	(2620)	Memory Driver, FIFO RAM Controller	N8X60	Signetics		DP84322	National		100
Disk Drive Read Channel (enhanced)	VM443	VTC	(3385)		S8X60	† Signetics		DP84332	National		
Disk Drive Read/Write Preamplifier (thin-film heads)	VM321	VTC	(3385)	Memory Driver, Dual 600 mA Sink/Source	DS55325	† National		MOS Dynamic RAM Controller, Two Port			
Disk Drive Read/Write Preamplifier (vertical heads)	VM322	VTC	(3385)		DS75325	National		74F764	Signetics	(3078, 3240)	
Disk Drive Servo Preamplifier (ferrite head)	VM201	VTC	(3385)		SG75325	◊ SiliconG		MOS Dynamic RAM Programmable Refresh Timer			
Disk Drive, Winchester Servo Preamp	CS101A	Cherry Semi			SN55325	† TI		DP84300	National		
Disk Drive, Winchester Thin Film Head Servo Preamp	CS116	Cherry Semi		Memory Driver, Quad, 600 mA Sink	SG55326	† SiliconG		Paged Memory Management Unit			
Disk Head Amplifier Driver/Receiver	MB4316	Fujitsu			SG55327	† SiliconG		MC68851	Motorola	(2925)	
Disk Head Peak Detector for Head Position Control	MB4319	Fujitsu			SG75326	◊ SiliconG		Position Demodulator, Hard Disk Drive			
Disk Memory Read/Write	μPC751	◊ NEC			SG75327	◊ SiliconG		HA16670	Hitachi		105
Disk Pulse Detector and Embedded Servo	DP8468B	National			SN55326	† TI		Read Data Processor (detects and qualifies all MFM and RLL encoded read signals)			
Driver, 11-Bit DRAM	AM2976C	AMD			SN55327	† TI		CS541	Cherry Semi		
	AM2976M	† AMD		Memory Timing Controller (with EDAC)	AM2969	AMD		Read Pulse Detector, Hard Disk Drive			
Dynamic Memory Controller (for 256K DRAMs)	MC74F2968A	Motorola	35	Memory Timing Controller (without EDAC)	AM2970	AMD		HA166005	Hitachi		
				MOS Dynamic Memory Controller	AM2968	AMD		HA166006	Hitachi		
					2964B	Signetics		HA16686	Hitachi		
				MOS Dynamic Memory Controller, Microprocessor to 64K RAMs	MC3480	Motorola		Read/Write Amplifier, Hard Disk Drive			
				MOS Dynamic Memory, 16 K Address Multiplexer and Refresh Counter	MC3242A	Motorola		HA166008	Hitachi		110
				MOS Dynamic RAM Controller	MB1422A	Fujitsu		HA16652	Hitachi		
					8202A	Intel		HA16688	Hitachi		
					8203	Intel		HA16689	Hitachi		
					8205	Intel		Read/Write Bus Driver/Receiver			
								MB4313	Fujitsu		
								RISC Memory Controller/Driver			
								VL86C110	VLSI Tech		115
								VCM Servo Controller, Hard Disk Drive			
								HA166007	Hitachi		
								HA16671	Hitachi		
								HA16672	Hitachi		
								VFO, Hard Disk Drive			
								HA16658	Hitachi		
								Video RAM Controller/Driver (up to 1 Mbit)			
								DP8521	National		120
								Video RAM Controller/Driver (up to 256K bits)			
								DP8520	National		
								Video RAM Controller/Driver (up to 4 Mbits)			
								DP8522	National		
								Winchester Ferrite Head Read/Write Amplifier			
								SSI32H566	SiliconSys	(3254)	
								Winchester Pulse Detector Circuit (with pulse slimming)			
								SSI32D546	SiliconSys		
								Winchester Read/Write Amplifier (for thin-film heads)			
								SSI32R524	SiliconSys	(3254)	125

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Memory Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line
Winchester Read/Write Circuit, 10-Channel SSI32R515 SiliconSys (3254)				Octal MOS Driver, Three-State DS1628 DS3628	† National National	(Cont'd) 50	
Winchester Thin Film Servo Head Read/Write Amplifier SSI32H523 SiliconSys (3254)							
Dual AND TTL to MOS Driver (NMOS memory interface) μA9643C National							
Dual Memory Driver, 400 mA Sink (for magnetic memories) MC4043 Motorola							
Dual MOS Clock Driver DS0025 DS0025C DS0026 DS0026C DS0056 DS0056C 0026	† National National † National National † National National National		5 10				
Dual TTL to MOS Driver (MOS memory interface) DS75361 DS75362	National National						
Dual-Port Memory Controller (8/16/32-bit microprocessor interface) S61C35 Gould/AMI							
Quad MOS Clock Driver DS3245 National			15				
Quad MOS Memory I/O Register DS3647 National							
Quad Multiplexer/Driver, for MOS Systems DS1648 DS1678 DS3648 DS3678	† National † National National National		20				
Quad NAND TTL to MOS Driver (MOS memory interface-clock driver) HD2912 HD2916 DS75365 3207A 3207A-1 SN55365	Hitachi Hitachi National Signetics Signetics † TI		25				
Quad NMOS Memory Driver DS1674 DS3674	† National National						
Quad Predriver, Open Collector, 50 mA Sink (for magnetic memories) MC4042 Motorola							
Quad TTL to NMOS Memory Driver (for 2105, 2107, etc.) μA9645C National			30				
Hex Inverter/MOS Driver, Disable Causes Logic 1 State DS16149 DS16179 DS36149 DS36179	† National † National National National						
Hex Inverter/MOS Driver, Three-State DS1649 DS1679 DS3649 DS3679	† National † National National National		35				
Hex Latch/Driver, for MOS Memories DS1675 DS3645 DS3675	† National National National		40				
Octal Dynamic Memory Driver, Three-State AM2965C AM2965M AM2966C AM2966M	AMD † AMD ◊ AMD ◊† AMD		45				
Octal Dynamic RAM Driver, Three-State SN74S730 SN74S734	MMI MMI						
Octal MOS Driver, Three-State DP84240 DP84244	National National						
(Continued)							

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Peripheral Drivers

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Stepper Motor Driver	UC1517 UC1717	† Unitorde Unitorde		Driver, Laser Diode	IR3C01 IR3C02 IR3C02A/N IR3C05	Sharp Sharp Sharp Sharp		Driver, Dual, to 18 V, 0.5 A	SG1644 SG2644 SG3644	† SiliconG SiliconG SiliconG	
Stepper Motor Driver (2 A)	TCA1560 TCA1561	Siemens Siemens		Driver, Low-Noise Switchmode (for three-phase brushless dc motors)	UC3623	Unitorde	45	Driver, Dual, 2-Input, Sink or Source 500 mA	SG1627 SG2627 SG3627	† SiliconG SiliconG SiliconG	80
Stepper Motor Driver, 10 to 45 V	UC3717	Unitorde	5	Driver, MOSFET (dual, inverting)	IXLD426	IXYS		Driver, Dual 8-Bit, BiMOS Latched	UCN5881EP	♦ Sprague (3258)	
Stepper Motor Translator/Driver	UCN4202A UCN4204B UCN5804B	Sprague Sprague Sprague (3258)		Driver, MOSFET (dual, non-inverting)	IXLD427	IXYS		Driver, Triple Tri-State Power (25W)	UC3657	Unitorde	
Stepper Motor with current control	UDN2965W-2	Sprague (3258)		Driver, MOSFET (dual, one inverting/one non-inverting)	IXLD428	IXYS		Driver, Quad MOSFET, to 24 V	SN75374	TI	85
Actuator/Driver	ULN2005A	TI	10	Driver, MOSFET (opto-isolated, 1.0µA short-circuit current)	DIG12-08-010	Dionics		Driver, Quad, Sink 2.5 A	SG3645	SiliconG	
Addressable Peripheral Driver (latched, 8-output driver)	NE590 NE591	Signetics Signetics		Driver, MOSFET (opto-isolated, 10.0µA short-circuit current)	DIG12-06-100	Dionics		Driver, 1 Channel (lamp relay driver)	TDE3207	SGS-Thomson	
Bidirectional Interface Circuit, High Voltage	TEA1512	SGS-Thomson		Driver, MOSFET (opto-isolated, 15µA short-circuit current)	DIG11-06-150	Dionics		Driver, 2 Channel (hammer), to 35 V, 1 A	SG3700	SiliconG	
BiMOS Latched Driver	UCN5800A UCN5801A UCN5810A UCN5812A UCN5818A UCS4401H UCS4801H UCS4810H	Sprague (3258) Sprague (3258) Sprague Sprague Sprague † Sprague † Sprague † Sprague	15	Driver, MOSFET (opto-isolated, 2.5µA short-circuit current)	DIG12-06-025	Dionics		Driver, 3-Channel Latched (80V, 1.7A sink)	UCN5929B	Sprague (3258)	
Burst Servo Controller (disk and tape drives)	CS4002	Cherry Semi		Driver, MOSFET (opto-isolated, 25.0µA short-circuit current)	DIG12-06-250	Dionics		Driver, 4 Channel Latched, 50V Sink	UCS5800H	† Sprague	90
CCD Driver	TSC430	TeledyneS		Driver, MOSFET (opto-isolated, 3µA short-circuit current)	DIG11-06-030	Dionics		Driver, 4 Channel, 2.5A	UDN2545B	Sprague	
CCD-MOSFET Driver, Complementary Outputs (10 MHz)	TSC430C TSC430M	TeledyneS † TeledyneS	25	Driver, MOSFET (opto-isolated, 4.5µA short-circuit current)	DIG12-08-045	Dionics		Driver, 4 Channel, 40 V, 2 A	SG3637	SiliconG	
Clock Generator/Oscillator, to 10 MHz, 8 and 1 Divider, for Microprocessors	ICM7209	† GE/Intersil (2685)		Driver, MOSFET (opto-isolated, 5µA short-circuit current)	DIG11-08-050	Dionics		Driver, 5 Channel, CMOS/TTL Input (lamp, relay driver, load to negative supply)	UDN2957A	Sprague	
Clock Generator to 175 MHz (For use with Brooktree RAMDACs), Divide by 2, 3, 4, 5, or 8	BT438	Brooktree		Driver, MOSFET (single inverting)	IXLD429	IXYS		Driver, 5 Channel Darlington, to 400 mA	XR2200 XR2200M LB1287 LB1288	♦ Exar ♦ Exar Sanyo Sanyo	95
Clock Generator, 150 MHz, for RAMDACs divide by 3, 4, 5, or 8 (for use with RAMDACs)	BT439	Brooktree		Driver, Open Collector/Emitter, for 150 mA (load connected to negative supply)	PBD3520	Ericsson		Driver, 7 Channel, CMOS/PMOS Input (hammer, lamp, relay driver)	XR2204 XR2204M MC1416 µA9668C µA9668M ULN2004A SG2004 SG2014 SG2024	♦ Exar ♦ Exar Motorola (2984) National † National ♦ SGS-Thomson SiliconG SiliconG SiliconG	100
CMOS Dynamic RAM Controller	VL4502	VLSI Tech (3363)		Driver, Power Bridge	MD930	AnalogSys		ULN2004	ULN2004	♦ Sprague (3258)	
Controller, Dual D/A Microstepping Controller	PBM3960	Ericsson	30	Driver, Protected High-Side (1.5A source)	UDN2901Z	Sprague (3258)	60	ULN2014A	ULN2014A	♦ Sprague (3258)	
Darlington Switch, Quad (to 90 V, 1.5 A)	ULN7068B	Sprague		Driver, Push-Pull Quad (600 mA per channel)	CS293D	Cherry Semi		ULN2024	ULN2024	♦ Sprague (3258)	
Data Acquisition Controller (intelligent) for A/D Converter	CY600	Cybernetic		Driver, Push-Pull 4-Channel	IP293L	IPS		ULN7004A	ULN7004A	♦ Sprague (3258)	110
Driver, Control Circuit for Fast Switching Transistors	UAA4002	SGS-Thomson		Driver/Receiver for Disk Head Amplifier	MB4316	Fujitsu		ULS2004	ULS2004	† Sprague	
Driver, Full-Bridge (2 A per channel)	CS298	Cherry Semi		Driver, SCR (opto-isolated)	DIG11-04-200F	Dionics		ULS2014	ULS2014	† Sprague	
Driver, High Side Driver Switch (drives loads from positive side of power supply)	MC3399T	Motorola (2966)	35	Driver, Solenoid (2.4 A)	MC3484S2	Motorola	65	ULS2024	ULS2024	† Sprague	
Driver, High Speed, 1.5 A	UC1705 UC3705	† Unitorde Unitorde		Driver, Solenoid (4 A)	MC3484S4	Motorola		ULN2004A	ULN2004A	TI	
Driver, High-Speed Dual Pin Driver (1.5 GHz)	16G061	GigaBit (2693)		Driver/Switcher (for dc-to-dc converters)	2473	TeledyneP		Driver, 7 Channel, CMOS/TTL Input (hammer, lamp, relay driver)	XR2003M XR2203 MC1413	† Exar (2619) ♦ Exar (2619) Motorola (2984, 2989)	115
Driver, Injector	L9335 L9336	SGS-Thomson SGS-Thomson	40	Driver, Switching Transistor	LAS8100 LAS8101 UC2950	Lambda Lambda Unitorde	70	µA9667C	µA9667M	National † National	
				Driver, to 80 V, 0.2 A	DI445A	Dionics		ULN2003A	ULN2003A	♦ SGS-Thomson	120
				Driver, Universal High-Current Sink Driver	PBD3545	Ericsson		SG2003	SG2005	♦ SiliconG SiliconG	
				Driver, Single, 125 mA, for Relays, Motors, Lamps	PBD3510 PBD3511	Ericsson Ericsson	75	SG2013	SG2015	SiliconG SiliconG	
				Driver, Dual MOSFET, to 24 V	SN75372	TI		SG2023	SG2025	SiliconG SiliconG	125
								ULN2003	ULN2005	♦ Sprague (3258) ♦ Sprague (3258)	
								ULN2013A	ULN2015A	♦ Sprague (3258) ♦ Sprague (3258)	130
								ULN2023	ULN2025	♦ Sprague (3258) ♦ Sprague (3258)	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

♦ Available in Surface Mount Package

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INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Driver, 7 Channel, CMOS/TTL Input (hammer, lamp, relay driver)	ULN7003A	Sprague (3258)	5	Driver, 8 Channel, CMOS/TTL Input (hammer, lamp, relay driver)	ULN2815A	Sprague (3258)	75	Driver, 10-Bit Serial-Input Latched Source	UCN5810F	◊ Sprague (3258)	130
	ULS2003	† Sprague			ULN2823	◊ Sprague (3258)			UCS4810H	† Sprague	
	ULS2005	† Sprague			ULN2825	◊ Sprague (3258)			UCS5810H	† Sprague	
	ULS2013	† Sprague			ULS2803	† Sprague		Driver, 16-Bit, BiMOS Addressable Latched	UCN5816A	Sprague (3258)	
	ULS2015	† Sprague			ULS2805	† Sprague		Driver, 20-Bit Serial-Input Latched Source	UCN5812F	◊ Sprague (3258)	
	ULS2023	† Sprague			ULS2813	† Sprague		Driver, 32-Bit for Displays, Relays, Solenoids, Print Heads and Motors	S4521	◊ Gould/AMI	
	ULS2025	† Sprague			ULS2815	† Sprague			S4535	◊ Gould/AMI	
	ULN2003A	TI			ULS2823	† Sprague		Driver, 32-Bit Serial-Input Latched Source	UCN5818F	◊ Sprague (3258)	135
Driver, 7 Channel, MOS/TTL Input (hammer, lamp, relay driver)	XR2201	◊ Exar (2619)	10	Driver, 8 Channel, CMOS/TTL Input (lamps, relay driver)	UDN2596A	Sprague (3258)	80	Driver, 7-Channel, CMOS/TTL Input (hammer, lamp, relay driver)	ULN2003AM	TI	
	XR2201M	◊† Exar (2619)			UDN2597A	Sprague (3258)		Drivers, Four Half-Bridge (hybrid)	PH26450	† MicroNet	
	ULS2011	† IPS			UDN2981A	Sprague (3258)		Floppy/Hard Disk Data Controller	DP8466A	National	
	MC1411	Motorola (2984)			UDN2983A	Sprague (3258)		Flux-Regulating Actuator, Dual (for printheads, solenoids, relays)	SN75608	TI	
	μA9665C	National			UDN2985A	Sprague (3258)			SN75609	TI	
	ULN2001A	◊ SGS-Thomson			UDS2981	† Sprague		Full/Half Bridge Power Schottky Rectifier	2478	TeledyneP	
	SG2001	◊ SiliconG			UDS2983	† Sprague		Hall Effect Device (senses magnetic field)	UGN3503U	Sprague (3259)	140
	SG2011	◊ SiliconG	15	Driver, 8 Channel Latched, 50V Sink	UCS5801H	† Sprague	20	Hall Effect Device (senses magnetic field)	UGN3503U	Sprague (3259)	
	SG2021	◊ SiliconG						Hall Effect Device (senses magnetic field)	UGN3503U	Sprague (3259)	
	ULN2001	◊ Sprague (3258)						Hall Effect Switch (senses magnetic field)	UGN3035U	Sprague (3259)	
	ULN2011A	Sprague (3258)							UGN3040T	Sprague (3259)	
	ULN2021	◊ Sprague (3258)							UGN3040U	Sprague (3259)	
	ULN7001A	Sprague							UGN3131T	Sprague (3259)	
	ULS2001	† Sprague							UGN3131U	Sprague (3259)	
	ULS2011	† Sprague	25	Driver, 8 Channel, MOS/TTL Input (hammer, lamp, relay driver)	ULS2801	† IPS	25		UGS3040T	Sprague	150
	ULS2012H	† Sprague			ULN2801A	SGS-Thomson		High Current Switch Driver (to drive high power, high speed NPN switching transistors)	SG1629	◊† SiliconG	
	ULS2021	† Sprague			ULN2801	◊ Sprague (3258)			SG3629	◊ SiliconG	
	ULS2021	† Sprague			ULN2811A	Sprague (3258)		High-Voltage Analog Switch Array, 2 Channels with 8 circuits each	TC9162	Toshiba	
	SN75466	TI			ULN2821	◊ Sprague (3258)			TC9163	Toshiba	
	ULN2001A	TI			ULS2811	† Sprague			TC9164	Toshiba	
					ULS2821	† Sprague		High-Voltage, High-Current Source Driver	UDQ2957R	Sprague	155
Driver, 7 Channel, PMOS Input (hammer, lamp, relay driver)	XR2202	◊ Exar (2619)	30	Driver, 8 Channel, PMOS Input (hammer, lamp, relay driver)	ULS2802	† IPS	45	Ignition Pre-Driver (regulates inductive load circuits)	CS345	Cherry Semi	
	XR2202M	◊† Exar (2619)			ULS2812	† IPS		Intelligent Slave Physical Interface Controller (ISPIC)	S61393	Gould/AMI	
	MC1412	Motorola (2984)			ULS2822	† IPS		Lamp Dimmer, Momentary or Prolonged Touch	LS7331	LSI Comp (2883)	
	μA9666C	National			ULN2802	Motorola (2984)		Lamp Dimmer, Ten Level Power Control	LS7315	LSI Comp (2883)	
	μA9666M	† National			ULN2802A	SGS-Thomson		Level Translator	HT0130P	AT&T	
	SG2002	◊ SiliconG			ULN2802	◊ Sprague (3258)		MOS Dynamic RAM Controller/Driver	DP8419	National	
	SG2012	◊ SiliconG			ULN2812A	Sprague (3258)		MOS Dynamic RAM Controller Interface Circuit	DP84412	National	160
	SG2022	◊ SiliconG	35		ULN2822	◊ Sprague (3258)	50	MOSFET Driver, Dual	TSC00C26	TeledyneS	
	ULN2002	◊ Sprague (3258)			ULS2802	† Sprague		MOSFET Driver, Dual High-Speed	TSC1426	TeledyneS	
	ULN2012A	Sprague (3258)			ULS2812	† Sprague			TSC1427	TeledyneS	
	ULN2022	◊ Sprague (3258)			ULS2822	† Sprague			TSC1428	TeledyneS (3265)	
	ULS2002	† Sprague									
	ULS2012	† Sprague									
	ULS2022	† Sprague									
	ULN2002A	TI									
Driver, 8 Channel, CMOS/PMOS Input (hammer, lamp, relay driver)	ULS2804	† IPS	45	Driver, 8 Channel, PMOS Input (lamps, relay driver)	UDN2598A	Sprague (3258)	110				125
	ULS2814	† IPS			UDN2599A	Sprague					
	ULS2824	† IPS			UDN2986A	Sprague					
	ULN2804	Motorola (2984)									
	ULN2804A	SGS-Thomson									
	ULN2804	◊ Sprague (3258)									
	ULN2814A	Sprague (3258)									
	ULN2824	◊ Sprague (3258)	50	Driver, 8-Bit, BiMOS Addressable Latched	UCN4807A	Sprague	115				120
	ULS2804	† Sprague			UCN4808A	Sprague					
	ULS2814	† Sprague									
	ULS2824	† Sprague									
Driver, 8 Channel, CMOS/PMOS Input (lamp, relay driver)	UDN2982A	Sprague (3258)	55	Driver, 8-Bit Serial Input BiMOS Latched (80 V sink)	UCS5822A	Sprague	120				125
	UDN2984A	Sprague (3258)		Driver, 8-Bit Serial Input, Latched 100 V Sink	UCN5823A	Sprague (3258)					
	UDS2982	† Sprague			UCS4823H	† Sprague					
	UDS2984	† Sprague									
Driver, 8 Channel, CMOS/TTL Input (hammer, lamp, relay driver)	ULS2803	† IPS	60	Driver, 8-Bit Serial Input, Latched 50 V Sink	UCN5821A	Sprague (3258)	120				125
	ULS2805	† IPS			UCS4821H	† Sprague					
	ULS2813	† IPS									
	ULS2815	† IPS									
	ULS2823	† IPS									
	ULS2825	† IPS									
	ULN2803	Motorola (2984)									
	ULN2803A	SGS-Thomson	65	Driver, 8-Channel Current Sink Driver	UDS2595	† Sprague	125				125
	ULN2805A	SGS-Thomson		Driver, 8-Channel Current-Sink Driver	UDN2595A	Sprague (3258)					
	NE5090	Signetics									
	ULN2803	◊ Sprague (3258)									
	ULN2805	◊ Sprague (3258)									
	ULN2813A	Sprague (3258)									
			(Continued)								

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Motion Controller (for dc and brushless dc motors)	LM628 LM629	National National		Motor Driver, Micro Motor	IR3C03N	Sharp		Motor, PWM Dual Driver (load control and status monitoring)	UC3728	Unitrode	
Motor, AC Motor Control Circuit	HEF4752V	Signetics		Motor Driver, Stepper Motor Drive Circuit	TEA3718	SGS-Thomson		Motor, Servo Controller	SSI32H568	SiliconSys (3254)	90
Motor, AC Motor Speed Control	TDA1285	Motorola		Motor Driver with Built-In Braking Function	GL7401	GoldStar (2713)	50	Motor, Servo Demodulator	SSI32H567	SiliconSys (3254)	
Motor and Solenoid Driver	CA3169	GE/RCA (2652)	5	Motor Driver, Dual Bridge	HA13421A	Hitachi		Motor, Servo Motor Controller	EL2007	Elahtec	
Motor, Bidirectional Motor Driver	GL7445	GoldStar (2713)		Motor Driver, Dual Bridge Driver	HA134021A	Hitachi		Motor, Servo Motor Driver	SSI32H569	SiliconSys (3254)	
Motor, Brushless DC Motor Commutator, 3 Phase	LS7261 LM621	LSI Comp (2883) National		Motor Driver, Dual Bridge, 0.2 A, 36 V	IP1M10 IP1M20 IP3M10 IP3M20 2M10 2M20	IPS IPS IPS IPS IPS IPS		Motor, Smart Power Switch (for current, power, or thermal overload)	UC195 UC295 UC395	Unitrode Unitrode Unitrode	95
Motor, Brushless DC Motor Speed Controller	LS7260	LSI Comp (2883)		Motor Driver, Dual Full Bridge with Diodes	IP293D	IPS	10	Motor Speed Controller	ZN411	Plessey	
Motor, Closed-Loop Brushless Speed Control Adapter	MC33039	Motorola (2968)	10	Motor Driver, Dual Full Bridge without Diodes	IP293	IPS		Motor Speed Controller, Universal	TDA1285A ZN410D ZN410E	Motorola (2969) Plessey Plessey	100
Motor Controller, Brushless, DC	NE5570 SA5570 SE5570	Signetics Signetics Signetics		Motor Driver, Dual (full-H)	L298	TI (3322)		Motor Speed Regulator	CA3228 TDA1085A LM1014 LM1014A TDA1085A TDA2085A TDA1151	GE/RCA (2653) Motorola (2969) National National Plessey Plessey SGS-Thomson	105
Motor Controller, DC Brushless (Electrical Sensor Phasing of 120/240 Degrees)	MC33034P120 MC33034P60	Motorola Motorola		Motor Driver, Quad Gated, Inverted	CA3219A	GE/RCA (2651)	15	Motor Speed Regulator (for small dc motors). See also Linear—Consumer Circuits.	LS7263 μA7392C LM1014-2 SL440 EF4443 TDA1041 TDA1154 TCA955 NE5520 SG1731 SG2731 SG3731 UC1637 UC2637 UC3637	LSI Comp (2883) National National Plessey SGS-Thomson SGS-Thomson Siemens Signetics † SiliconG SiliconG SiliconG † Unitrode † Unitrode † Unitrode	110
Motor Controller/Driver, DC Servo	MC33030	Motorola (2967)		Motor Driver, Quad (half-H)	L293 L293D SN754410 SN754411	TI (3322) TI (3322) TI (3322) TI (3322)	65	Motor Speed Regulator, PLL	TM4503	Toshiba	
Motor Controller (intelligent) for 4-Phase Stepper Motors	CY500 CY512 CY525	Cybernetic Cybernetic Cybernetic		Motor Driver, Three-Phase Brushless, 13 A, 400 V	CHHY008	Solitron		Motor, Stepper Motor Driver	CS3770 PBL3717/2 PBL3770A HA13007A	Cherry Semi Ericsson Ericsson Hitachi	125
Motor, DC Motor Switch Mode Control	UAA4004	SGS-Thomson		Motor Driver, Three-Phase Brushless, 13 A, 500 V	CHHY004	Solitron	20	Motor, Stepping Motor Controller/Driver, 24 V	SA11042A	Motorola (2968)	
Motor Drive, DC Motors	TLE4201	Siemens		Motor Driver, Three-Phase Brushless, 15 A, 400 V	CHHY007	Solitron		Motor, Stepping Motor Controller/Driver, 6–12 V	SA11042	Motorola (2968)	
Motor Driver	IR2C08 IR2C09 IR2C25	Sharp Sharp Sharp		Motor Driver, Three-Phase Brushless, 15 A, 500 V	CHHY003	Solitron	70	Motor, Stepping Motor Driver	PBD3517 PBL3717 IP1717 IP1717A IP1770 IP3717 IP3717A IP3770A LM18293 TDA3717 TEA3717 TM4503 PBL3717A TL376C	Ericsson Ericsson IPS IPS IPS IPS IPS National Plessey SGS-Thomson SGS-Thomson TI TI	130
Motor Driver, Bi-Directional	MB3854	Fujitsu		Motor Driver, Three-Phase Brushless, 30 A, 200 V	CHHY006	Solitron					
Motor Driver, Bi-Directional	MB3763	Fujitsu		Motor Driver, Three-Phase Brushless, 30 A, 500 V	CHHY002	Solitron	25				
Motor Driver, Bidirectional	IR2C10	Sharp		Motor Driver, Three-Phase Brushless, 40 A, 100 V	CHHY005	Solitron					
Motor Driver, Brushless, DC	TDA5040	Signetics		Motor Driver, Three-Phase Brushless, 40 A, 500 V	CHHY001	Solitron					
Motor Driver, for 3-Phase brushless dc motors	HA13406W	Hitachi		Motor Driver, Four-Channel Push Pull	L293	Unitrode	75				
Motor Driver, Full Bridge	UDN2953B UDN2954W	Sprague (3258) Sprague (3258)	30	Motor Driver, 3-Phase Brushless DC Motor Controller Drivers	UDN2936W UDN2937W	Sprague (3258) Sprague (3258)					
Motor Driver, Full Bridge, Dual	UDN2993B UDN2998W	Sprague (3258) Sprague (3258)		Motor Driver, 3-Phase Brushless dc Motors	UC3622	Unitrode					
Motor Driver, Half Bridge	LAS8500 LAS8501 SG1635 SG3635 UDN2931 UDN2935Z UDN2950Z UDN2951 UDN2955 UDS2933H UDS2934H	Lambda Lambda SiliconG SiliconG ◇ Sprague (3258) Sprague (3258) Sprague (3258) Sprague Sprague † Sprague † Sprague	35	Motor Driver, 3-Phase Half-Bridge	UDS2933H	† Sprague					
				Motor Driver, 3-Phase Half-Bridge for Brushless DC Motors	UDN2933B	Sprague (3258)	80				
				Motor Driver, 3-Phase, 30 Vdc brushless, 3A	UC3620	Unitrode					
				Motor Driver, 4-Phase Stepper Motor Driver (hybrid)	STK6722H STK6822H STK6981H STK6982H	Sanyo Sanyo Sanyo Sanyo	85				
				Motor Driver, 3-Phase Half-Bridge for Brushless DC Motors	UDN2934B	Sprague (3258)					
Motor Driver, Half H	SN75603 SN75604 SN75605	TI TI TI	45	Motor, Micro Stepper Driver	PBL3771	Ericsson					
				Motor, Microstepping Control of Two-Phase Stepper Motors	IXMS150	IXYS					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◇ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Motor, Stepping Motor Driver and Floppy Disk Logic Circuit	CS279	Cherry Semi		Relay and Lamp Driver, to 30 V, 0.15 A	TDE1647	SGS-Thomson		Dual CMOS or TTL Driver/Translator, up to 30 V	IH6201C GE/Intersil (2671)		
Motor, Stepping Motor Driver (4 A)	IP2D03	IPS		Relay and Lamp Driver, to 30 V, 0.3 A	TDE1607	SGS-Thomson		IH6201M	† GE/Intersil (2671)		
	IP2003	IPS		Relay and Lamp Driver, to 45 V, 0.3 A	TDE1647A	SGS-Thomson		Dual Darlington Switch, to 80 V, 1.5 A	ULN2061	◇ Sprague (3258)	85
	IP3D03	IPS			TDE1737	SGS-Thomson			ULN2062	◇ Sprague (3258)	
Motor, Stepping Motor Driver (4 amps)	IP1D10	IPS	5	Relay and Lamp Driver, to 50 V, 0.3 A	TDE1787	SGS-Thomson		Dual Half Bridge Driver, 1.5 A	SG3636	SiliconG	
Motor, Stepping Motor Translator/Driver	UCN5871	◇ Sprague (3258)		Relay and Lamp Driver, to 50 V, 0.5 A	TDE1767	SGS-Thomson		Dual MOSFET Driver, Inverting	TSC426C	◇ TeledyneS	
Motor, Dual Bidirectional Motor Driver	GL7438	GoldStar (2713)		Relay and Lamp Driver, to 60 V, 0.3 A	TDE1787A	SGS-Thomson			TSC426M	† TeledyneS	
Motor, Triple Half-Bridge (for three-phase brushless motors)	UC1657	Unitrode		Relay and Lamp Driver, to 60 V, 0.5 A	TDE1767A	SGS-Thomson		Dual MOSFET Driver, Inverting/Non-Inverting	TSC428C	◇ TeledyneS	90
Motor, Three-Phase Brushless DC Motor Driver	UDN2906	◇ Sprague (3258)							TSC428M	◇ TeledyneS	
Motor, Three-Phase DC Brushless Controller/Driver	IP3M05	IPS	10	Relay and Lamp Driver, Dual, to 32 V, 2/4 A	TDE1777	SGS-Thomson		Dual MOSFET Driver, Non-Inverting	TSC427C	◇ TeledyneS	
	IP3M11	IPS							TSC427M	◇ TeledyneS	
	IP3M21	IPS		Relay Driver, for 48 V Telephone Relays	UDN2580A	Sprague (3258)		Dual NAND Driver, HN1L, 250 mA, Open Collector	392A/C	TeledyneS	
Motor, Five Channel Programmable Current Switch	UC3722	Unitrode			UDN2585A	Sprague (3258)		Dual NOR Driver, HN1L, 250 mA, Open Collector	394A/C	TeledyneS	
Motor, 3-Phase Bridge Driver (for stepper motors)	PH26700	MicroNet			UDN2588A	Sprague (3258)		Dual OR Driver, HN1L, 250 mA, Open Collector	393A/C	TeledyneS	95
Motor, 3-Phase Brushless Motor Driver/Speed Controller	HA13440	Hitachi	15		UDN2957A	Sprague		Dual Peripheral AND Driver			
	HA13441	Hitachi		Relay Driver, to 65 V, Sinks 300 mA, OR Input for 48 V Telephone Relays	DS1687	† National		PBD3513	Ericsson		
	HA13442	Hitachi			DS3686	National		DS55451	† National		
	HA13471	Hitachi		Relay Driver, to 70 V, 500 mA	CSR301	TeledyneC		DS55461	† National		
	HA13472	Hitachi						DS75450	National		100
Motor Driver, Solenoid/Motor Driver, Dual	SG3663	SiliconG	20	Relay Driver, to 57 Volts, 500 mA	LM1921	National	60	DS75451	National		
NTDS Driver/Receiver	VS610S	VTC (3384)		Relay Driver, Quad Negative-Voltage	LS1098AA	AT&T		DS75461	National		
Peripheral Driver, Serial Output (16-bit)	TSC9405C	TeledyneS		Relay Driver, 5 Channel, to 65 V, 70 mA	ITT7163	ITT		SG55450	† SiliconG		
	TSC9405M	† TeledyneS			ITT7164	ITT		SG55451	† SiliconG		105
Pin Driver with Inhibit Mode, 100 MHz (for digital test systems)	AD345	AD (2433)	25	Relay Driver, 7 Channel, to 100 V, 500 mA	SN75468	TI	65	SG55460	† SiliconG		
Power MOSFET Driver, Single	TSC429C	TeledyneS			SN75469	TI		SG55461	† SiliconG		
	TSC429M	† TeledyneS		Relay Driver, 7 Channel, to 50 V, 500 mA	SN75465	TI		SG75450	SiliconG		110
Power Peripheral Driver, CMOS/TTL Input (to 150 V, versions: 0.01 to 16 A)	VF01	Supertex			SN75466	TI		SG75451	SiliconG		
	VF02	Supertex		Solenoid Driver	SN75467	TI		SG75460	◇ SiliconG		
	VF03	Supertex		MC3484V2	Motorola			SG75461	◇ SiliconG		
	VF12	Supertex	30	MC3484V4	Motorola			SN55451B	† TI		
	VF13	Supertex		Solenoid Driver (dual 3 A)	UDN2974W	Sprague (3258)	70	SN55461	† TI		
Printer Controller, for 5x7 Dot Matrix Printers	CY480	Cybernetic		Solenoid Driver, 2.4 Amp	MC3484S2-1	Motorola		SN55471	† TI		115
Printer Driver, 5 Channel	HD2919	Hitachi		Solenoid Driver, 4 Amp	MC3484S4-1	Motorola		SN75450B	TI		
Printer Solenoid Driver	DS3654	National	35	Stepper Motor Driver	MC3479	Motorola (2968)		SN75451B	TI		
Printing Calculator Circuits	DS8654	National			UC3517	Unitrode		SN75461	TI		
Pulse Width Modulator	2491	TeledyneP			UC3717A	Unitrode		SN75471	TI		
Pulse Width Modulator (current mode)	2494	TeledyneP		Stepper Motor Driver, (to 90 V)	UDN7078W	Sprague	75	SN75476	TI		
Push-Pull 4-Channel Driver	IP293DA	IPS		Tape Drive, Read Data Path	SSI35P550	SiliconSys (3254)		Dual Peripheral AND Driver, for CMOS	DS1631	† National	120
	IP293E	IPS							DS3631	National	
Push-Pull 10-Channel Driver	IP3M02	IPS	40	Video Shift Register, 250 MHz, Quad 10-bit or Penta 8-bit	BT424	Brooktree		Dual Peripheral AND Driver, to 70 V, 600 mA	UDN5721M	Sprague	
Read/Write circuit, 4-Channel for Center-Tapped Ferrite Heads	SSI32R188	SiliconSys (3254)		Winchester Disk Memory Read/Write Circuit	SSI32R104CLN	SiliconSys (3254)	80		UDN5751M	Sprague (3258)	
				Dual AND Driver, HN1L, 250 mA, Open Collector	391A/C	TeledyneS		Dual Peripheral AND Driver, to 70 V, 700 mA	UDN5741M	Sprague (3258)	
								Dual Peripheral AND Driver, to 70 V 300 mA	SN75446	TI	125
								Dual Peripheral AND Driver, to 80 V 600 mA	DS1611	† National	
									UDN3611M	Sprague (3258)	
									UDN5711M	Sprague (3258)	
									UDS3611H	† Sprague	
									UDS5711H	† Sprague	130
								Dual Peripheral NAND Driver			
								DS55452	† National		
								DS55462	† National		
								DS75452	National		
								DS75462	National		
								SG55452	† SiliconG		135
								SG55462	◇ SiliconG		
								SG75452	SiliconG		

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◇ Available in Surface Mount Package

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INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Dual Peripheral NAND Driver	(Cont'd)			Dual Peripheral OR Driver, for CMOS				Quad Darlington Driver, to 100 V, 1.5 A			
SG75462	◊ SiliconG			DS1633	† National			FT5753	Fujitsu		
SN55452B	† TI			DS3633	National			Quad Darlington Driver, to 100 V, 3 A			
SN55462	† TI							FT5754	Fujitsu		
SN55472	† TI			Dual Peripheral OR Driver, to 70 V, 600 mA				Quad Darlington Driver, to 100 V, 5 A			
SN75407	TI		5	UDN5723M	Sprague		65	FT5755	Fujitsu		110
SN75447	TI			UDN5753M	Sprague (3258)			Quad Darlington Switch			
SN75452B	TI							TEB1013	SGS-Thomson		
SN75462	TI			Dual Peripheral OR Driver, to 70 V, 700 mA				Quad Darlington Switch, High Current			
SN75472	TI			UDN5743M	Sprague (3258)			SN75465	TI		
Dual Peripheral NAND Driver, for CMOS				Dual Peripheral OR Driver, to 30 V, 300 mA				Quad Darlington Switch, to -50 V, 1.75 A			
DS1632	† National		10	SN75478	TI			SG2841	◊ SiliconG		
DS3632	National			Dual Peripheral OR Driver, to 80 V, 600 mA				Quad Darlington Switch, to 50 V, 1.5 A			
Dual Peripheral NAND Driver, to 70 V, 600 mA				UDN3613M	Sprague (3258)		70	SN75064	TI		115
UDN5722M	Sprague			UDN5713M	Sprague (3258)			SN75066	TI		
UDN5752M	Sprague (3258)			UDS3613H	† Sprague			SN75068	TI		
Dual Peripheral NAND Driver, to 70 V, 300 mA				UDS5713H	† Sprague			Quad Darlington Switch, to 50 V, 4 A			
MC1472	Motorola (2984)		15	Dual Peripheral Positive AND Driver				UDN2878W	Sprague (3258)		
SN75477	TI			SG55471	† SiliconG			Quad Darlington Switch, to 80 V, 1.25 A			
Dual Peripheral NAND Driver, to 80 V, 600 mA				SG75471	SiliconG			ULS2064	IPS		120
UDN3612M	Sprague (3258)			Dual Peripheral Positive NAND Driver			75	ULS2065	IPS		
UDN5712M	Sprague (3258)			SG55452B	◊† SiliconG			ULS2066	IPS		
UDS3612H	† Sprague			SG55472	† SiliconG			ULS2067	IPS		
UDS5712H	† Sprague			SG75452B	◊ SiliconG			ULS2068	IPS		
Dual Peripheral NOR Driver				SG75472	SiliconG			ULS2069	IPS		
DS55454	† National		20	Dual Peripheral Positive NOR Driver			80	ULS2070	IPS		125
DS55464	† National			SG55454B	◊† SiliconG			ULS2071	IPS		
DS75454	National			SG55474	† SiliconG			ULS2074	IPS		
DS75464	National			SG75454B	◊ SiliconG			ULS2075	IPS		
SG55454	† SiliconG			SG75474	SiliconG			ULS2076	IPS		
SG55464	◊† SiliconG		25	Dual Peripheral Positive OR Driver			85	ULS2077	IPS		
SG75454	SiliconG			SG55453B	◊† SiliconG			Quad Darlington Switch, to 80 V, 1.5 A			
SG75464	◊ SiliconG			SG55473	† SiliconG			ULN2047B	SGS-Thomson		130
SN55454B	† TI			SG75453B	◊ SiliconG			ULN2064B	SGS-Thomson		
SN55464	† TI			SG75473	SiliconG			ULN2065B	SGS-Thomson		
SN55474	† TI			Dual Peripheral Positive-AND Drivers				ULN2066B	SGS-Thomson		
SN75407	TI		30	SG55451B	◊† SiliconG			ULN2067B	SGS-Thomson		
SN75449	TI			Dual Peripheral/Power Driver				ULN2068B	SGS-Thomson		135
SN75454B	TI			UDN5725M	Sprague (3258)			ULN2069B	SGS-Thomson		
SN75479	TI			Dual Power MOS Driver			90	ULN2070B	SGS-Thomson		
Dual Peripheral NOR Driver, for CMOS				D169A	Siliconix			ULN2071B	SGS-Thomson		
DS1634	† National		35	TSC426	TeledyneS			ULN2075B	SGS-Thomson		
DS3634	National			TSC427	TeledyneS			ULN2076B	SGS-Thomson		140
Dual Peripheral NOR Driver, to 70 V, 600 mA				TSC428	TeledyneS			ULN2077B	SGS-Thomson		
UDN5724M	Sprague			Dual Power MOSFET Driver				SG2064	SiliconG		
UDN5754M	Sprague (3258)			ICL7667C	GE/Intersil (2676)			SG2065	SiliconG		
Dual Peripheral NOR Driver, to 70 V, 700 mA				ICL7667M	† GE/Intersil (2676)			SG2066	SiliconG		145
UDN5744M	Sprague (3258)			TSC450C	TeledyneS			SG2067	SiliconG		
Dual Peripheral NOR Driver, to 30 V, 300 mA				TSC450M	† TeledyneS		95	SG2068	SiliconG		
SN75479	TI		40	Dual Schottky Diode Bridge (for bipolar stepper motor drivers)				SG2069	SiliconG		
Dual Peripheral NOR Driver, to 80 V, 600 mA				CS299D	Cherry Semi			SG2070	SiliconG		
UDN3614M	Sprague (3258)			Dual Solenoid/Motor Driver, ± 4 A				SG2071	SiliconG		
UDN5714M	Sprague (3258)			UDN2962	Sprague (3258)			SG2074	SiliconG		150
UDS3614H	† Sprague			Dual Switchmode Solenoid Driver				SG2075	SiliconG		
UDS5714H	† Sprague			L295	SGS-Thomson			SG2076	SiliconG		
Dual Peripheral OR Driver				L295	Unitrode			SG2077	SiliconG		
DS55453	† National		45	Dual 4-Input AND Driver, HN1L 250 mA Open Collector				ULN2064	◊ Sprague (3258)		155
DS55463	† National			390A/C	TeledyneS		100	ULN2065	◊ Sprague (3258)		
DS75453	National			Dual 4-Input NAND Driver, HN1L, 250 mA Open Collector				ULN2068	◊ Sprague (3258)		
DS75463	National			395A/C	TeledyneS			ULN2069	◊ Sprague (3258)		
SG55453	SiliconG			Quad AND Driver				ULN2074	◊ Sprague (3258)		
SG55463	◊ SiliconG		50	CA3252	GE/RCA (2651, 2653)			ULN2075	◊ Sprague (3258)		
SG75453	SiliconG							ULS2064H	† Sprague		160
SG75463	◊ SiliconG			Quad AND Driver, Inverting				ULS2065H	† Sprague		
SN55453B	† TI			CA3262	GE/RCA (2653)			ULS2066H	† Sprague		
SN55463	† TI			Quad AND Driver, Non-Inverting				ULS2067H	† Sprague		
SN55473	† TI		55	CA3219A	GE/RCA (2651, 2653)			ULS2068H	† Sprague		
SN75408	TI			Quad Bipolar Driver				ULS2069H	† Sprague		165
SN75448	TI			L293E	SGS-Thomson		105	ULS2070H	† Sprague		
SN75453B	TI			L293D	Unitrode			ULS2071H	† Sprague		
SN75463	TI			L293E	Unitrode			ULS2074H	† Sprague		
SN75473	TI							ULS2075H	† Sprague		
SN75478	TI		60					ULS2076H	† Sprague		170
								ULS2077H	† Sprague		
								SN75065	TI		
								SN75067	TI		

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Peripheral Drivers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Quad Darlington Switch, to 80 V, 1.5 A				Quad Power Peripheral Driver				8-Bit Latch, Source Driver, Serial Input			
(Cont'd)				VQ1000	Supertex			UCN5890A	Sprague (3258)		
SN75069	TI			VQ3001	Supertex			UCN5891A	Sprague (3258)		
ULN2064	TI			VQ7254	Supertex		55	UCN5895A	Sprague (3258)		105
ULN2065	TI										
ULN2066	TI			Quad Relay and Lamp Driver, to 50 V, 1.5 A				8-Bit Latch/100 V Driver, Serial Input			
ULN2067	TI		5	UDN2841	TI			UCN5843A	Sprague (3258)		
ULN2068	TI			UDN2845	TI						
ULN2069	TI							8-Bit Latch/50 V Driver, Serial Input			
ULN2074	TI			Quad Solenoid Driver				UCN5841A	Sprague (3258)		
ULN2075	TI			HA13415	Hitachi						
								8-Bit Latch/80 V Driver, Serial Input			
Quad Darlington Switch, to 80 V, 4 A				Quad Transistor Switch (Inverting) to 50 V, 1.5 A				UCN5842A	Sprague (3258)		
UDN2879W	Sprague (3258)		10	L9222	SGS-Thomson						
								8-Channel Source Driver with Overcurrent Protection			
Quad Darlington Switch, to 80V, 1.5A				Quad Transistor Switch, to 46 V, 1.8 A				UDN2987A	Sprague (3258)		
L7150	SGS-Thomson			L6222	SGS-Thomson		60				
								10-Bit Latch/150 V Driver, Serial Input			110
Quad Driver for Automotive Applications				Quad 2-Input AND Driver (to 70 V, sinks 600 mA)				UCN5910A	Sprague (3258)		
DS3656	National			UDN5706A	Sprague (3258)						
				UDS5706H	† Sprague			32-Bit Latch/Driver, Serial Input			
Quad Driver, to 60 V, -4 A								UCN5832	Sprague (3258)		
UDN2944W	Sprague (3258)			Quad 2-Input AND Power Driver, Open Collector (to 100 V, sinks 500 mA)				UCN5833A	Sprague (3258)		
Quad Driver, Universal				UHC/D-400	† Sprague			32-Channel Power Driver for Thermal Head			
IP2D08	IPS		15	UHC/D-406	† Sprague			HC16701	Hitachi		
IP2D09	IPS			UHC/D-500	† Sprague						
IP3D08	IPS			UHC/D-506	† Sprague			32-Line AC Plasma Display Driver			
IP3D08A	IPS			UHP400	Sprague (3258)			SN75509	TI		
IP3D09	IPS			UHP406	Sprague (3258)						
								32-Channel Power Driver for Thermal Head			115
Quad ECL to MOS Clock Driver				Quad 2-Input NAND Driver (for 70 V, sinks 600 mA)				HC16701	Hitachi		
HD2923	Hitachi			UDN5707A	Sprague (3258)						
				UDS5707H	† Sprague		70				
Quad Fault Protected Peripheral Driver											
DS3668	National		20	Quad 2-Input NAND Power Driver, Open Collector, to 100 V, Sinks 500 mA							
Quad High Current Peripheral Driver				UHC/D-407	† Sprague						
DS3658	National			UHC/D-408	† Sprague						
DS3669	National			UHC/D-507	† Sprague						
SN75436	TI			UHC/D-508	† Sprague						
SN75437A	TI			UHP407	Sprague (3258)		75				
SN75438	TI		25	UHP408	Sprague (3258)						
SN75440	TI										
				Quad 2-Input NAND Power Driver, to 50V, Sinks 600 mA							
Quad High-Current, High-Voltage Source Driver (to 60 V, 4 A)				CA3262	GE/RCA (2653)						
UDN2944W	Sprague										
				Quad 2-Input NOR Driver, to 70 V, Sinks 600 mA							
Quad Latch/Driver				UDN5733A	Sprague (3258)						
UCN5900A	Sprague (3258)			UDS5733H	† Sprague						
UCS4401H	† Sprague										
				Quad 2-Input NOR Power Driver, Open Collector, to 100 V, Sinks 500 mA							
Quad Latch/Driver, serial input				UHC/D-432	† Sprague		80				
UCN5825B	Sprague (3258)		30	UHC/D-433	† Sprague						
UCN5826B	Sprague (3258)			UHC/D-532	† Sprague						
				UHC/D-533	† Sprague						
Quad Latched High-Current Driver											
UCN5813B	Sprague (3258)			Quad 2-Input OR Driver, to 70 V, Sinks 600 mA							
UCN5814B	Sprague (3258)			UDN5703A	Sprague (3258)		85				
				UDS5703H	† Sprague						
Quad NAND Power Driver (to 60V, sinks 1A)											
UDN2543B	Sprague (3258, 3261)			Quad 2-Input OR Power Driver, Open Collector, to 100 V, Sinks 500 mA							
Quad Negative Voltage Relay Driver				UHC/D-402	† Sprague						
DS3680	National		35	UHC/D-403	† Sprague						
DS3680	TI			UHC/D-502	Sprague						
				UHC/D-503	Sprague						
Quad Peripheral Driver, Open Collector, to 35 V, Sinks 600 mA				UHP402	Sprague (3258)		90				
SN75435	TI			UHP403	Sprague (3258)						
Quad PIN Diode Driver (also see: linear-other devices)				Quad-Gated Inverting Power Driver							
UDS5791H	† Sprague			CA3242	GE/RCA (2651, 2653)						
Quad Power NAND Driver, 600 mA Sink											
CA3219	GE/RCA (2651)			Octal Latched Peripheral Driver							
				DP7310	National		95				
Quad Power Peripheral Driver				DP7311	National						
HA13007	Hitachi		40	DP8310	National						
VQ1000	Siliconix			DP8311	National						
VQ1001	Siliconix										
VQ1004	Siliconix			Eight Latch/Drivers							
VQ1006	Siliconix			UCN5815A	Sprague (3258)						
VQ2001	Siliconix		45	UCN5901A	Sprague (3258)						
VQ2004	Siliconix										
VQ2006	Siliconix			4-Input AND Current Driver (45 V, to 1.5 A peak)							
VQ3001	Siliconix			EDH0006	† Elantec						
VQ7254	Siliconix			MC0006	† Micra		100				
VC01	Supertex										
VC02	Supertex		50	4-Input AND High Voltage-High Current Driver (4.5 V, to 3 A peak)							
VC13	Supertex			EDH0008	† Elantec						
				MC0008	† Micra						

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Sense Amplifiers

Function	Device	Source	Line	Function	Device	Source	Line
Absolute Pressure Switch (medical instruments, automotive, industrial controls and leak detection)	2501	IC Sensors		Pressure Sensor (medical, robotics, vacuum measurement, avionics, automotive and leak detection)		(Cont'd)	
Gear Tooth Sensor	UGN3056	Sprague		40	IC Sensors		50
	UGS3056	† Sprague		42	IC Sensors		
Hall Effect Latch	UGN3275	Sprague (3259)		Pressure Sensor (100 mV output span)	103	IC Sensors	
	UGN3276	Sprague (3259)		113	IC Sensors		
	UGN3277	Sprague (3259)		Pressure Transducer (1 to 6 Vdc output span)	104	IC Sensors	
	UGS3275	† Sprague		114	IC Sensors		55
	UGS3276	† Sprague		Pressure Transmitter (4 to 20 mA output)	105	IC Sensors	
	UGS3277	† Sprague		115	IC Sensors		
Hall Effect Latch w/Power	UGN5275	Sprague (3259)	10	Sense Amplifier, Magnetic Tape	MC3467L	Motorola (2980)	
	UGN5276	Sprague (3259)		Silicon Accelerometer (automotive suspension control, braking control and industrial vibration monitoring)	3021	IC Sensors	
	UGN5277	Sprague (3259)		Tactile Sensor	4010	IC Sensors	60
Hall Effect Switch	UGN3113	Sprague (3259)		Dual Core Memory Sense Amplifier, Complementary Output, Latch Capability	55S20	National	
	UGN3130	Sprague (3259)		Dual Core Memory Sense Amplifier, Separate Inverted Outputs	55S234	National	
	UGN3201	Sprague		Dual Core Memory Sense Amplifier, Separate Outputs	55S24	National	
	UGN3220	Sprague		SG5524	♦ SiliconG		
	UGN3604	Sprague (3259)		Dual MOS to TTL Level Converter, Latch, Three-State (Sense Amp)	MC74468	Motorola	65
	UGN3605	Sprague (3259)		Dual Sense Amplifier	SG55234	† SiliconG	
	UGS3130	† Sprague		SG55234A	† SiliconG		
Hall-Effect IC (analog output)	TLE4910	Siemens	20	Dual Sense Amplifier/Data Registers (for coincident-current core memories)	SG55236	† SiliconG	
Hall-Effect Switch (for alternating magnetic fields)	TLE4902	Siemens		SG75236	SiliconG		
Hall-Effect Switch (for unipolar magnetic fields)	TLE4903	Siemens		Dual Sense Amplifier (for MOS memory or line receiver)	DS75208	National	70
High Pressure Sensor (hydraulic servo controls, machine tools, robotics, engine diagnostics and refrigeration)	90	IC Sensors		SN75207	TI		
	93	IC Sensors		SN75208	TI		
HIT Pressure Sensor (medical instruments, air flow measurement, depth sensing, automotive, and vacuum measurement)	210	IC Sensors		DS1603	† National		
	300	IC Sensors		DS3603	National		
	310	IC Sensors		Triple Current Sense Latch	SG3551	SiliconG	75
	410	IC Sensors		Quad Sense Amplifier, Three-State	MC3430	Motorola (2958)	
Light Activated Switch	ULN3332	Sprague		MC3431	Motorola (2958)		
	ULN3333	Sprague		MC3432	Motorola (2958)		
	ULN3360	Sprague (3259)		MC3433	Motorola (2958)		
	ULN3363	Sprague (3259)		DS1651	† National		80
	ULN3395	Sprague		DS3651	National		
MOS Memory Sense Amplifier	SN75107A	TI	35				
	SN75107B	TI					
	SN75108A	TI					
	SN75108B	TI					
MOS to TTL Level Converter, High Speed, Three-State	MC4300	† Motorola					
Pressure Sensor (for medical instruments: breathing monitors, spirometers, respirators, and ventilators)	13	IC Sensors					
	23	IC Sensors					
	33	IC Sensors					
	43	IC Sensors	40				
Pressure Sensor (hydraulic servo controls, pressure transmitters, refrigeration and air conditioning)	80	IC Sensors					
Pressure Sensor (medical, process control, airspeed, flow measurement, etc)	20	IC Sensors					
	22	IC Sensors					
	30	IC Sensors	45				
	32	IC Sensors					
Pressure Sensor (medical, robotics, vacuum measurement, avionics, automotive and leak detection)	10	IC Sensors					
	12	IC Sensors					
		(Continued)					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

† Macrocell

♦ Available in Surface Mount Package

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INTERFACE—Transmitters-Receivers

Function	Max Serial Data Rate in kHz	Supply Voltage, V	Device	Source	Line	Function	Max Serial Data Rate in kHz	Supply Voltage, V	Device	Source	Line
	240	5	μPD71051	◊ NEC		Bus Interface—Bus Controller, Remote Terminal and Monitor (MIL-STD-1553B) Interface	5		UT1553BBCRT	◊‡ UPMC (4305)	
(ACIA) Asynchronous Communications Interface Adapter (Links 8-Bit bidirectional data bus to serial asynchronous data communications, including to 6860)	50	5	S6551 S6551A MC6850 F6850 EF6850	◊ Gould/AMI ◊ Gould/AMI Motorola (2932) National SGS-Thomson					UT1553BBCRTM	◊‡ UPMC (4305)	
ARINC-429 Receiver/Transmitter	100	5	HS3182 HS3282	† Harris (2722) † Harris (2722)	5	Bus Interface—Bus Controller, Remote Terminal-Multiprotocol (MIL-STD-1553A/B)	5		UT1553BCRTMP	UTMC (4305)	
ASTRO (asynchronous/synchronous receiver/transmitter) to Interface Serial Communications Channel with a Parallel Digital System (i.e. microprocessors)	1000	12, ± 5	UC1671	Western		Bus Interface Circuit (MIL-STD1553B)	5000	5	HS3273	† Harris (2722)	60
Asynchronous Addressable Receiver/Transmitter	—	4.75–11.5	MM54240 MC14469	National ◊ Motorola (2991)	10	Bus Interface—Remote Terminal (MIL-STD-1553B) Interface	5		UT1553BRTI	◊‡ UPMC (4305)	
Asynchronous Communications Element	—	5	82C50-Cell 82C50A 82C50	◊ Harris (2739) ◊ Harris (2739) ◊† SMC		Bus Interface—Remote Terminal (MIL-STD-1760A) Interface	5		UT1760ARTS	◊ UPMC (4305)	
	—	5	WD82C50	Western (3395)	15	Bus Interface—Remote Terminal Multiprotocol (MIL-STD-1553A/B)	5		UT1553RTMP	◊‡ UPMC (4305)	
	—	5	MD82C50	† Harris		Bus Interface—Remote Terminal with RAM (MIL-STD-1553B)	5		UT1553BRTR	◊‡ UPMC (4305)	
	56	5	WD8250	◊ Western (3395)		Bus Interface—Single Transceiver (MIL-STD-1553A/B)	5		UT63M103XCVR UT63M107XCVR UT63M115XCVR UT63M117XCVR	UTMC UTMC UTMC UTMC	65
Asynchronous Communications Interface	1000	5	SCN2641	◊ Signetics		Bus Interface—Dual Transceiver (MIL-STD-1553A/B)	5		UT63M125XCVR UT63M127XCVR UT63M135XCVR UT63M137XCVR	UTMC UTMC UTMC UTMC	70
Asynchronous Receiver/Transmitter Interface	16	5	T7112	AT&T (2502)		Command/Response Manchester II Converter (MIL-STD-1553B)	1000	5	BUS8937	† ILC-DDC	
Asynchronous Serial Manchester Adapter	1000	5	HD6408-Cell	◊ Harris (2743)	20	DUART (Dual Universal Asynchronous Receiver and Transmitter). Two Channel UART, baud-rate generator, 16-Bit counter/timer, I/O ports.	1 MB/s	5	XR68C681 XR88C681	Exar (2618) Exar (2618)	75
Backplane Transceiver, Quad			SN55ALS057	TI			1000	5	MC2681 MC68681 SCN2681 SCN68681 26810 26814 26818 UM2681-1 UM2681-2	Motorola (2926) Motorola (2926) ◊ Signetics (3106) ◊ Signetics (3108) Signetics Signetics Signetics UMC UMC	80
Baud Rate Generator	19.2	5	BRG	◊† SMC		DUART (Dual Universal Asynchronous Receiver-Transmitter) (complete serial to parallel and parallel to serial interface)	56	5	VL16C452	VLSI Tech (3363, 3365)	85
Baud Rate Generator (programmable divider)	19.2	12, ± 5	IM4702 IM4712 HD4702-Cell MC14411 F4702BC F4702BM	GE/Intersil GE/Intersil ◊ Harris (2743) Motorola National National	25	EPCI (Enhanced Programmable Communications Interface) Serial/Parallel receiver/transmitter-Synchronous and asynchronous with baud rate generator.	1 Kb/s 1Mb/s	5 5	MC68661A SCN2661A SCN2661B SCN2661C COM2661 COM2661-1 COM2661-2 COM2661-3 UM2661-1 UM2661-2 UM2661-3	Motorola (2926) ◊ Signetics ◊ Signetics ◊ Signetics SMC SMC SMC SMC UMC UMC UMC	90
	1000	5	COM8046 COM8046T COM8126 COM8126T COM8146 COM8146T	SMC SMC SMC SMC SMC SMC	30				MC68661C MC68661B SCN68661	Motorola (2926) Motorola (2926) ◊ Signetics	95
		12.5	COM5026 COM5026T COM5046 COM5046T	SMC SMC SMC SMC	35						
Baud Rate Generator (programmable divider), Dual	307/19.2	5	WD1943-00 WD1943-05	Western Western	40						
	614/19.2	5	WD1943-06 AY5-8116 AY5-8116T AY5-8136 AY5-8136T	Western Microchip Microchip Microchip Microchip	45						
	1000	5	COM8116 COM8116T COM8136 COM8136T COM8156 COM8156T WD1945	SMC SMC SMC SMC SMC SMC Western	50						
		12.5	COM5016 COM5016T COM5036 COM5036T	SMC SMC SMC SMC	55		15.6 Kb/s 62.5 Kb/s	5 5	MC68661C MC68661B SCN68661	Motorola (2926) Motorola (2926) ◊ Signetics	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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INTERFACE—Transmitters-Receivers (Cont'd)

Function	Max Serial Data Rate in kHz	Supply Voltage, V	Device	Source	Line	Function	Max Serial Data Rate in kHz	Supply Voltage, V	Device	Source	Line
EPCI (Enhanced Programmable Communications Interface) Serial/Parallel Receiver/Transmitter, Synchronous and Asynchronous 1 Mb/s 5			26C61	*† SMC		Multi-Channel, Multi-Protocol 4-Wire Full-Duplex Transceiver 144 5			29C53	Matra-Harris	
Facsimile/X.25 Link Controller 1000 5			WD2511F WD2511G	Western Western		Parallel to Serial Interface — 5 V 5			CY232 CY233	Cybernetic Cybernetic	
IBM 3274/3276 Compatible COAX Receiver/Transmitter 2358 5			COM9004 COM9064	SMC SMC	5	Party Line Bus for Industrial and Data Communications			MC26S10	Motorola	50
Manchester Encoder-Decoder 1000 5			HD6408 ° Harris (2743) HD6409-Cell ° Harris (2744) HS15530RH ‡ Harris (2732)			PCI (Programmable Communications Interface) Serial/parallel receiver/transmitter—synchronous and asynchronous with baud rate generator. 1000 b/s 5			SCN2651C COM2651	Signetics SMC	
1250 5			HD15530-Cell ° Harris (2744) HD15530-9 ° Harris (2744) HD15531-Cell ° Harris (2744) HD15531-9 Harris (2744) CT15530 Marconi		10	PCM Line Interface Circuit, with both transmit and receive circuitry. 8.448 MB/s 5			XRT5683	Exar (2618)	
Master Digital-Loop Transceiver 80 5			MC145418 MC145422	Motorola Motorola	15	PCM Remote Control Transmitter 0.5 5			MC14497 ° Motorola	(2991)	
160 5			MC145421	Motorola		PSART (Programmable Synchronous-Asynchronous Receiver-Transmitter) Serial to parallel and parallel to serial converter that can operate in Full Duplex Mode. 50 5 64 5			8251 Intel μPD8251A NEC μPD8251AF NEC MSM82C51A OKI COM8251A SMC		55
MIL-STD-1553 BC/RTU/MT/Multibus Interface Unit			BUS65508	ILC-DDC		Receiver/Decoder (Bi-Phase) 3500 5			DP8343	National	60
MIL-STD-1553 BC/RTU/MT/Unibus Interface Unit			BUS65505	ILC-DDC		Receiver/Decoder (Bi-Phase, IBM 3270) — 5			DP8341	National	
MIL-STD-1553 Bus Controller/RTU/Bus Monitor			BUS65600	ILC-DDC		Remote Control Decoder, decodes first 5 bits as address and last 4 as data 5.0 5			MC145027	Motorola (2941, 2991)	
MIL-STD-1553 Dumb Remote Terminal Unit (hybrid)			BUS65101	† ILC-DDC	20	Remote Control Decoder, 9-bit address 5.0 5			MC145028 ° Motorola	(2991)	
MIL-STD-1553 Dumb Remote Terminal Unit (Hybrid) 1 Mb/s 5, ± 15			BUS65102	† ILC-DDC		Remote Control Encoder, encodes 9 bits of information and transmits serially 5.0 5			MC145026 ° Motorola	(2991)	
MIL-STD-1553 Manchester Encoder 2 Mb/s 5			BUS1556	ILC-DDC		Remote Terminal Interface Unit (MIL-STD-1553B compliance)			UT1553B	UTMC (4305)	65
MIL-STD-1553 Manchester II Decoder 16 Mb/s 5			BUS1555	ILC-DDC		S/T Interface for ISDN — 5			T7250A	AT&T (2507)	
MIL-STD-1553 Remote Terminal Interface			UT1760A UTMC (4305) UT63M1 UTMC (4305)		25	Signalling System No. 7 Link Controller (Q.703) 64 5			WD2507	Western	
MIL-STD-1553 Remote Terminal Unit (RTU) 1000 5, ± 15			BUS1553	† ILC-DDC		Slave Digital-Loop Transceiver 80 5			MC145419 MC145426	Motorola Motorola	
MIL-STD-1553 Terminal Bit Processor			BUS64100	ILC-DDC		160 5			MC145425	Motorola	70
MIL-STD-1553 to MIL-STD-1750 Interface (hybrid)			BUS66300	ILC-DDC		SPCC (Sync-Protocol Communications Controller) Bit and Byte Oriented 1000 5			F3846 F6856	National National	
MIL-STD-1553 Transceiver 1 Mb/s 5, ± 15			BUS63104	† ILC-DDC		Synchronous Packet Data Formatter 4 5			T7111A	AT&T (2501)	
MIL-STD-1553 Dual Redundant Data Bus Transceiver 1 Mb/s ± 12/± 15			BUS63125	† ILC-DDC	30	Synchronous Data Link Controller, HDLC/SDLC 4000 5			WD1935A	Western (3396)	
MIL-STD-1553 Dual Redundant Remote Terminal Unit			BUS65112	ILC-DDC		Synchronous Packet Data Formatter 2 5			T7110	AT&T (2500)	75
MIL-STD-1553B Bus Circuit			CT1775	CTI		Synchronous Receiver/Transmitter (Bi-Sync/SDLC) 800 ± 5, 12			μPD379	NEC	
MIL-STD-1553B Bus Controller/Remote Terminal/Monitor Transceiver Circuit			MA3690 ‡ Marconi MA3691 ‡ Marconi		35	Synchronous Serial Data Adaptor 2 Mb/s 5			MC6852	Motorola (2932)	
MIL-STD-1553B Bus Interface Circuit			CT1800 CTI CT1801 CTI CT1820 CTI			Transceiver, MIL-STD-1553			CT1487 † CTI CT1589 † CTI CT2077 † CTI CT3077 † CTI CT3078 † CTI CT3231 † CTI CT3232 † CTI		80
MIL-STD-1553B Remote Terminal 1250 5			MA805	Marconi		Transceiver, MIL-STD-1553A/B 1000 ± 15/± 12 ± 15, 5			BUS63105 † ILC-DDC BUS8553 † ILC-DDC BUS8555/56 † ILC-DDC BUS8559 † ILC-DDC		85
MIL-STD-1553B Subsystem Interface Support Circuit			MA8055	Marconi							
MIL-STD-1553B Dual Redundant Bus Controller and Remote Terminal Unit			UT1553-BCRT UTMC (4305)		40						
MPCC (multi-protocol communications controller) Bit and Byte Oriented 1 Mb/s 5 1.25 Mb/s 5 2 Mb/s 5			SCN2652A ° Signetics μPD7201A NEC MC68652 Motorola (2926) MC68652-2 Motorola (2926) SCN2652A ° Signetics SCN68652 ° Signetics		45						

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

° Available in Surface Mount Package

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INTERFACE—Transmitters-Receiver (Cont'd)

Function	Max Serial Data Rate in kHz	Supply Voltage, V	Device	Source	Line	Function	Max Serial Data Rate in kHz	Supply Voltage, V	Device	Source	Line
Transceiver, RS-232 with Power Supply Generator	—	5	LT1130C LT1130M	LinearTech † LinearTech		Dual RS-232 Transmitter/Receiver		5	DS1228 DS232	◊ Dallas ◊ Dallas	
Transceiver, Serial T1	—	5	DS2180	Dallas		Dual RS-232 Transmitter/Receiver and Power Supply		5	TSC232	TeledyneS (3278)	55
Transmitter/Decoder (Bi-Phase, IBM 3270)	—	5	DP8340	National		Triple RS-232 Transmitter/Receiver		5	DS1229	◊ Dallas	
Transmitter/Encoder (Bi-Phase)	3500	5	DP8342	National		Octal Asynchronous Receiver/Transmitter		19.2	TCM78808	TI	
UART, MIL-STD-1553A	1000	5	COM1553B	◊ SMC	5	Octal UART		38.4	5	SCC2698	◊ Signetics (3112)
UART (Universal Asynchronous Receiver-Transmitter)			TC8570P TC8570F TC8570P	Toshiba Toshiba (3339) Toshiba (3339)							
UART (Universal Asynchronous Receiver-Transmitter) (complete serial to parallel and parallel to serial interface)	625	5	NS82C50	National	10						
UART (Universal Asynchronous Receiver-Transmitter) (complete serial to parallel and parallel to serial interface)	30 38.5 40	5 5 5	AY3-1015D SCC2691 COM8017 COM8018 COM8502	Microchip ◊ Signetics (3110) SMC SMC SMC	15						
	56	5	INS8250 VL16C450 VL82C50 VL82C50A WD16C450 WD2123	National VLSI Tech (3363) VLSI Tech VLSI Tech Western (3395) ◊ Western	20						
	60	5	TR1863-00 TR1865-00	◊ Western ◊ Western							
	100	5	CDP1854AC † GE/RCA HD6406 ◊ † Harris HD6406-Cell ◊ † Harris HS82C52RH † Harris MD82C52 † Harris 82C52 ◊ † Harris 82C52-Cell ◊ † Harris	(2644) (2743) (2743) (2725) (2739) (2739)	25						
	150	5	TR1863-02 TR1865-02	◊ Western ◊ Western	30						
	200	5	IM6402 IM6402M IM6403 IM6403M CDP6402D † GE/RCA CDP6402E GE/RCA HD6402-Cell ◊ Harris TR1863-04	GE/Intersil † GE/Intersil GE/Intersil † GE/Intersil (2644, 2653) (2644, 2653) (2743) ◊ Western	35						
	800 1000 2000	5 5 5	MB8868A CDP65C51-1 † GE/RCA CDP65C51-2 † GE/RCA	Fujitsu (2644) (2644)	40						
UART, Eight Channel Universal	50/19.2K		COM78808	◊ SMC							
UNITS (User Network Interface Termination for Switches)	0.192	5	T7252A	AT&T (2509)	45						
Universal Asynchronous Receiver/Transmitter			SSI73M450	SiliconSys (3255)							
Universal Asynchronous Receiver/Transmitter (UART)	5		UART	◊ † SMC							
Universal Data Bus Dumb Remote Terminal Unit (hybrid)			BUS65201	† ILC-DDC							
Universal Data Bus Transceiver (hybrid)			BUS63102	† ILC-DDC							
USYNRT (universal synchronous receiver/transmitter) Multi-Protocol, Bit and Byte Oriented	1500	5,12	COM5025	SMC	50						
X.25 Packet Network Interface (LAPB)	1100	5, 12	WD2511A	Western (3399)							
Dual Asynchronous Receiver/Transmitter	1000	5	MC2682	Motorola							

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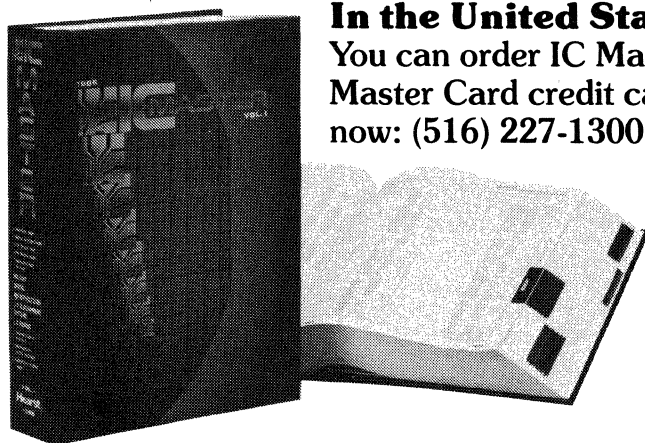
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INTRODUCTION TO LINEAR

The Linear Section includes parameters on over 1100 operational amplifiers. Since there are so many devices, separate lists are provided for those having special characteristics such as High Speed, High Voltage or Wide Bandwidth. If you have located an op amp in a specialized category, you can review its characteristics by finding it in the Part Number or Product Indexes and looking it up in the Operational Amplifier Characteristics Section.

After the special lists, the "Operational Amplifier Characteristics" listings categorize amplifiers by input parameters. They are arranged in order of increasing offset voltage, bias current, offset current and then voltage drift. The column labeled "Comp" indicates the number of external components normally used for compensation; for example "0" means no compensation is required.

Consumer circuits such as audio amplifiers, AM, FM, and TV circuits as well as some digital devices (watches, calculators, etc.) are covered by model number in the Consumer Circuit Section. Linear devices that do not fit in conventional categories are listed under the heading "Other Linear Devices"

Category	
Amplifiers, Special Purpose	1202
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IC MASTER

LINEAR—Amplifiers, Special Purpose

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
AC Amplifier, Quad, Single Supply	CA3048	† GE/RCA (2650, 2657)	5	Buffer Amplifier	LM6321	National	45	Differential Amplifier (Gain is Fixed, $A \pm 10$)	INA106B	Burr-Brown (2545)	90
	CA3052	GE/RCA (2650, 2655, 2657)			LM6325	National			INA106K	Burr-Brown (2545)	
AF Power Amplifier, Two Channels (10 W)	LA4280	Sanyo		Buffer Amplifier, Fast FET	LH4010	† National		Differential Amplifier (Instrumentation Amp. Building Block)	INA105A	Burr-Brown (2545)	
	LA4265	Sanyo			LH4010C	National			INA105B	Burr-Brown (2545)	
AGC Amplifier, Low Distortion (adjustable attack, release time and threshold voltage)	LC403	Gennum (2691)	10	Buffer Amplifier, Industrial Process Control (1500V Isolation)	ISO102	Burr-Brown (2547)	50		INA105K	Burr-Brown (2545)	95
	LD403	† Gennum		Buffer Amplifier, Industrial Process Control (3500V Isolation)	ISO106	Burr-Brown (2547)		Differential Amplifier, Unity Gain	INA117	Burr-Brown (2545)	
AGC Generator, for SSB Receivers	SL621C	Plessey		Buffer Amplifier, Precision RF Closed Loop	LH4003	† National		Differential Amplifier (Instrumentation Amp. Building Block)	INA105U	Burr-Brown (2545)	
	SL620C	Plessey			LH4003C	National		Differential/Cascode Amplifier (dc to rf)	CA3028A	† GE/RCA (2649, 2657)	100
AGC Generator (voice operated gain adjusting device)	SL6270	◊ Plessey	15	Buffer Amplifier, Wide Bandwidth	HOS200A	AD (2429)	55		CA3028B	† GE/RCA (2649, 2657)	
	SL6270	◊ Plessey			HOS200S	† AD (2429)			CA3053	† GE/RCA (2649, 2657)	
Amplifier for IR Remote Control (1300 dB gain, 8 kHz bandwidth)	U250	Telefunken		Buffer Amplifier, Wideband	LH4002	† National		Differential Input/Differential Output Amplifier (bandwidth less than 2 MHz)	CA3000	† GE/RCA (2649)	
	U3043M	Telefunken			LH4002C	National			MC1590	† Motorola	105
Amplifier, Half-Bridge (3 A output)	UC3176	Unitrode	20	Buffer Amplifier, Wideband FET-Input	LH4004	† National	60	Differential/Video Amplifier	CLC103AM	† Comlinear	
	UC3176	Unitrode			LH4004C	National			LM592	National	
Amplifier, Loudspeaker	TEA7031	SGS-Thomson		Buffer Amplifier, Wideband, High Slew Rate	HA5002-2	◊† Harris (2765)		Differential Video Amplifier, 120 MHz Bandwidth, Adjustable Gain	μA592C	National	
	TEA7031	SGS-Thomson			HA5002-5	◊ Harris (2765)			μA592M	† National	110
Amplifier, Low Voltage (1–1.6 V)	VA7505J	VTC (3384)	25	Class A Amplifier (with 3 independent gain blocks and schottky diodes)	LS509	Gennum	65	Fiber Optic Receiver Amplifier	LH0082	† National	
	VA7505K	VTC (3384)		Compression Amplifier	LD512	Gennum			LH0082C	National	
	VA7505L	VTC (3384)		CRT Driver, High Voltage (class A)	TKDD10P	Tektronix		Floppy Disc Read Amplifier System	XR3470A	◊ Exar	
				Current Amplifier (unity gain, 100 mA output)	3329	† Burr-Brown	70		XR3470B	◊ Exar	115
Amplifier, Microphone	SL792	Plessey	30		ELH0002	◊† Elantec		Floppy Disc Write Amplifier	XR2247	Exar	
	SL793	Plessey			ELH0002C	◊ Elantec		Floppy Disk Read-Chain Data	TL712	◊ TI	
Amplifier, Microphone (for telephone circuits)	ZN470AE	Plessey			HA5033	† Harris (2766)		Floppy Disk Read-Chain Data Comparator with MECL III and MECL 1000	TL721	◊ TI	
	ZN472E	Plessey	35		MC0002	† Micra	80	Front End Amplifier (for ultrasonic or infrared remote control systems)	TDA4180	Telefunken	120
	ZN475E	Plessey			MC0002C	† Micra		GaAs FET Amplifier (500 kHz to 1 GHz)	LH4200	National	
	ZN476E	Plessey			LH0002	◊† National		Instrumentation Amplifier	INA102	Burr-Brown (2545)	
	ZN477E	Plessey			LH0002C	◊ National		Instrumentation Amplifier Front End (CMOS switch building block)	LTC1043	LinearTech	
	ZN478E	Plessey	40		CLH0002	† TeledyneC	85	Instrumentation Amplifier, Medical	HINA524	Honeywell SPT	125
Amplifier, Sample and Hold	VA730J	VTC (3384)		Current Amplifier (unity gain, 150 mA output)	LT1010C	LinearTech			HINA624	Honeywell SPT	
	VA730S	VTC (3384)		Current Amplifier (unity gain, 200 mA output)	3553	† Burr-Brown (2542, 2544)		Instrumentation Amplifier (programmable gain)	AM551MC	Datel (2598)	
Amplifier with Photodiode	TFA1001W	Siemens			BB3553	† Maxim	90	Instrumentation (commutating auto zero)	ICL7605C	GE/Intersil (2674)	
Amplifier, Dual Control	MB3110A	Fujitsu	45	Current Amplifier (unity gain, 400 mA output)	HA5002-2	◊† Harris (2765)			ICL7605M	† GE/Intersil (2674)	
Audio Amplifier with Three NPN Transistors	LM389	National			HA5002-5	◊ Harris (2765)					
Audio Power Amplifier, Dual (5.8W)	MB3722	Fujitsu		Current Amplifier (unity gain, 500 mA output)	9910	OEI	95				
	MB3714A	Fujitsu	50	Current Amplifier (wideband, 100 mA output)	HOS100AH	AD (2429)					
	MB3715A	Fujitsu			HOS199SH	† AD					
Audio Power Amplifier (14W BTL)	MB3730A	Fujitsu		Current Booster, 100 mA Output (for op amp)	2035	† TeledyneP	100				
Audio Power Amplifier (15W BTL)	MB3736	Fujitsu	55	DAS (programmable gain, track and hold) Data Acquisition Amplifier (prog. gain, track and hold)	AD365	AD (2431)					
Audio Power Amplifier (18W BTL)	MB3731	Fujitsu		Data Acquisition System, (programmable gain, track and hold)	AD367	AD (2442)					
Audio Power Amplifier (20W BTL)	MB3733	Fujitsu									
Audio Power Amplifier (25W BTL)	MB3735	Fujitsu	60				105				
BTL Power Amplifier, Two Channels (12 W)	LA4700	Sanyo									
Buffer Amplifier	LM6121	† National									
	LM6125	† National					110				
	LM6221	National	65								
	LM6225	National									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◊ Available in Surface Mount Package

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LINEAR—Amplifiers, Special Purpose (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Instrumentation (commutating auto zero)				Isolation Amplifier				Logarithmic Amplifier (dc to 120 MHz bandwidth)			
		(Cont'd)				(Cont'd)					
	ICL7606C	GE/Intersil			290A	AD	55		AD640	AD	
		(2674)			292A	AD				(2433, 2452)	
	ICL7606M	† GE/Intersil			MP227	Analogic			Logarithmic Amplifier (25 MHz sideband) ^z	AD9521	95
		(2674)								AD	(2433)
Instrumentation, (different input, independent gain adjustment) AMP01 ‡ PMI				Isolation Amplifier (medical uses)				Low Noise, Low Level, Chopper Stabilized Amplifier MP221 Analogic			
					284J	AD					
					286J	AD					
				Isolation Amplifier, Optically Coupled							
					ISO100AP	Burr-Brown					
					3650HG	Burr-Brown					
						(2546)					
					3652HG	Burr-Brown					
						(2546)					
				Isolation Amplifier, Transformer Coupled							
					AD295	AD					
					3456	Burr-Brown					
					3656AG	Burr-Brown					
						(2546)					
				Isolation Amplifier (wideband)							
					289	AD					
						(2431)					
				Isolation Amplifier, Three-Port (Nonlinearity to 0.025% maximum)							
					AD210A	AD					
					AD210B	AD					
						(2431)					
				Isolation Amplifier (1000 Vdc)							
					AM227	Datel					
					SCM100A	Datel					
					SCM101	Datel					
						(2598)					
						(2598)					
						(2598)					
				Isolation Amplifier (2500V)							
					ISO100	Burr-Brown					
				Isolation Amplifier (3400V)							
					ISO103	Burr-Brown					
						(2548)					
					ISO108	Burr-Brown					
						(2548)					
					ISO113	Burr-Brown					
						(2548)					
					ISO122	Burr-Brown					
						(2547)					
				Isolation Amplifier (3535V)							
					ISO120	Burr-Brown					
						(2547)					
				Isolation Amplifier (5600V)							
					ISO107	Burr-Brown					
						(2548)					
					ISO121	Burr-Brown					
						(2547)					
				Isolation Amplifier (750V isolation)							
					52046	† Micropac					
				Linear-Antilog Amplifier, Dual (differential input, separate control inputs)							
					SSM2022	SSM Audio					
				Log Amplifier, Bipolar (module)							
					2531A	OEI					
				Log amplifier, wideband.							
					2930	OEI					
				Log/Antilog Amplifier, (antilog)							
					ICL8049C	GE/Intersil					
						(2674)					
					2910	† OEI					
					2920	OEI					
					SSM2100	PMI					
					SSM2100	SSM Audio					
				Log/Antilog Amplifier, (log)							
					4127	Burr-Brown					
						(2549)					
					ICL8048C	GE/Intersil					
						(2674)					
					2910	† OEI					
					2920	OEI					
					TL441AM	† TI					
				Log/Log Ratio Amplifier							
					LOG100	Burr-Brown					
						(2549)					
				(Continued)							
								Logarithmic Amplifier (dc to 120 MHz bandwidth)			
								AD640 AD (2433, 2452)			
								Logarithmic Amplifier (25 MHz sideband) ^z			
								AD9521 AD (2433)			
								Low Noise, Low Level, Chopper Stabilized Amplifier			
								MP221 Analogic			
								Low Voltage, Class A, <1.6V, peak clipping			
								LR505 Gennum			
								LS505 Gennum			
								LT505 Gennum			
								Low Voltage, Class A, <3V			
								LC505 Gennum			
								LC506 Gennum			
								LC507 Gennum			
								LD505 Gennum			
								LE507 Gennum			
								LV506 Gennum			
								Low Voltage, Class A, <3V, compression			
								LD501 Gennum			
								LD502 Gennum			
								LD511 Gennum			
								Low Voltage, Class A, 1 to 10V			
								LC508 Gennum			
								LP508 Gennum			
								Low Voltage, Class B, <3V			
								LC549 Gennum			
								LC550 Gennum			
								LC551 Gennum			
								LC552 Gennum			
								LD549 Gennum			
								LV549 Gennum			
								Microphone Amplifier, Buffer Amplifier for Electret Microphones			
								ZN482Z Plessey			
								Microphone Amplifier (for microphones in telephones)			
								TDD0246 Telefunken			
								U246 Telefunken			
								U446 Telefunken			
								U646 Telefunken			
								U647 Telefunken			
								Microphone Amplifier, Telecom Electret			
								PBL3747 Ericsson			
								Microphone/Headphone Amplifier			
								SL6310 ◊ Plessey			
								Microphone Preamplifier			
								SSM2015 PMI			
								SSM2016 PMI (3013)			
								SSM2011 SSM Audio			
								SSM2015 SSM Audio			
								SSM2016 SSM Audio			
								Microphone Preamplifier, Telephone Electret			
								LB1027AA AT&T			
								Microwave, 7 dB, 1–8 GHz			
								TQ9111 TriQuint			
								Mixer (to 200 MHz)			
								S042 Siemens			
								Monolithic Microwave IC Amplifier (MMIC, 0.5 to 5 GHz)			
								HMR10502 Harris			
								Monolithic Microwave IC Amplifier (MMIC, 1 to 5 GHz)			
								HMR10503 Harris			
								Monolithic Microwave IC Amplifier (MMIC, 6 to 18 GHz)			
								HMM11810 Harris			
								Op Amp, Wideband (with AGC)			
								VA702J VTC (3384)			
								VA712S VTC (3384)			
								Operational Amplifier/Voltage Comparator, Dual			
								LM192 † National			
								LM292 National			
								LM2924 National			
								LM392 National			
								Operational Amplifier, Dual with Dual Voltage Comparator			
								MC3405 Motorola (2958)			
								MC3505 † Motorola (2958)			

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Amplifiers, Special Purpose (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Power Amplifier, AF (28W)	μPC1318AV	NEC		RF Amplifiers (hybrid), 3 GHz	MWA0204 MWA0211	Motorola Motorola		Video, IF and RF Amplifiers		(Cont'd)	
Power Amplifier, AF (45W)	μPC2500H	NEC		RF Amplifiers (hybrid), 400 MHz	MWA110 MWA120 MWA130	Motorola Motorola Motorola	50	μPC1651	NEC		105
Power Amplifier, Bridge (20 W)	ULN3793W ULN3794W	Sprague Sprague		RF Amplifiers (hybrid), 600 MHz	MWA210 MWA220 MWA230	Motorola Motorola Motorola		μPC1652	NEC		
Power Amplifier (50 watt for automotive and entertainment applications)	TDA2025	Siemens	5	RF Amplifiers (hybrid), 900 MHz	MWA5121 MWA5157	Motorola Motorola	55	μPC1655	NEC		
Preamplifier, for IR Remote Control	μPC1473 μPC1474 μPC1475 TDA2320	NEC NEC NEC SGS-Thomson		RF Amplifiers, Hybrids	MHW590 MHW591 MHW592 MHW593 MHW709 MHW710 MHW720	Motorola Motorola Motorola Motorola Motorola Motorola	60	μPC1656	NEC		
Preamplifier, for Ultrasonic Remote Control	TDA3047	Signetics	10	RF Amplifiers, Hybrids for Cellular Radio	MHW802 MHW806 MHW806A MHW808A MHW820 NHW720A	Motorola Motorola Motorola Motorola Motorola	65	μPC1658	NEC		
Preamplifier, Infrared (74 dB gain, 100 kHz bandwidth)	TDA4050B	Siemens		Signal Sources Switch, (buffer amplifiers with input switches)	TDA1029	Signetics		μPC1659	NEC		110
Preamplifier, Low Noise (35 dB gain, 100 MHz bandwidth)	AH0013CA AH0013CB AH0013MA	OEI OEI † OEI	15	Telephone audio	MC34119	Motorola (2949, 2978, 2991)	70	SL1550	Plessey		
Preamplifier, Precision (to precede operational amplifiers)	LM121 LM121A LM221 LM221A LM321 LM321A	† National † National National National National National	20	Thermocouple Amplifier with Cold Junction Compensation	AD594A AD594C AD595A AD595C	AD (2434) AD (2434) AD (2434) AD (2434)		SL541	Plessey		115
Preamplifier, Protected FET	SI1000 SI1010 SI1020	Siliconix Siliconix Siliconix		Unity Gain Buffer Amplifier	VA003J VA003S	VTC (3384) VTC (3384)	75	SL550	Plessey		
Preamplifier, Temperature Controlled	μA727M	† National	25	Video Buffer Amplifier	HA5033-2 HA5033-5	† Harris (2766) Harris (2766)		SL560	Plessey		
Preamplifier, Dual Low-Noise	MB3106	Fujitsu		Video, Differential with AGC	MC1445 TL026C TL027C TL027M	TI TI TI † TI	80	SL610C	Plessey		
Preamplifier, Quad	MB43458 MB43468	Fujitsu Fujitsu		Video, IF and RF Amplifiers	CLC100 CLC102 CLC104AI CLC104AM CLC200AM CLC220AM	Comlinear Comlinear Comlinear † Comlinear † Comlinear † Comlinear	85	SL611C	Plessey		
Programmable Channel Op Amp (one of 4 input stages can be connected to single output)	HA2400 HA2404 HA2405 HA2406-5	◊† Harris Harris Harris Harris	30		μA733 μA733C NE592 SE592 CA3001 CA3011 CA3020A	† GE/Intersil GE/Intersil ◊ GE/Intersil † GE/Intersil † GE/RCA (2649) † GE/RCA (2657) GE/RCA (2652, 2657)	90	SL612C	Plessey		
Programmable Curve Fitting Amplifier (six programmable gain slopes)	51934	† Micropac			CA3040 HA17733 MC1733 MC1733C	† GE/RCA (2649) Hitachi † Motorola (2953, 2989) Motorola (2953, 2989)	95	SL612C	Plessey		
Programmable Gain Amplifier (digitally controlled gain)	3606	Burr-Brown (2545)	35		NE592 μA733C μA733M LM733	Motorola (2991) National † National ‡ National	100	SL612C	Plessey		
	HS2020 MN2020	HybridSys MicroNet						SL612C	Plessey		
Programmable Gain Amplifier, 8-Channel	PGA100	Maxim						SL612C	Plessey		
Read Amplifier/Preamplifier (for magnetic tape memory systems)	MC3467	Motorola (2980)						SL612C	Plessey		
RF Amplifier, Gated	MC1445 MC1545	Motorola † Motorola						SL612C	Plessey		
RF Amplifier, Low Voltage, Wideband	LA910	Gennum	40					SL612C	Plessey		
RF Amplifier, Wideband (10 to 500 MHz)	LB950	Gennum (2689)						SL612C	Plessey		
RF Amplifier, Wideband (10 to 200 MHz)	LB951	Gennum (2689)						SL612C	Plessey		
RF Amplifiers (hybrid), 1 GHz	MWA310 MWA320 MWA330	Motorola Motorola Motorola	45					SL612C	Plessey		

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

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LINEAR—Amplifiers, Special Purpose (Cont'd)

Function	Device	Source	Line
Quad Current Controlled Amplifier	SSM2024	PMI	
	SSM2024	SSM Audio	
Two Wire Transmitter (Sends current signal over same two lines from which it is powered.)			
	XTR100AM	† Burr-Brown (2546)	5
	XTR100AP	Burr-Brown (2546)	
	XTR100BM	† Burr-Brown (2546)	
	XTR100BP	Burr-Brown (2546)	
	XTR101	Burr-Brown (2546)	

† Military Temperature Range (–55° to 125°C) ‡ High Radiation Resistance *Typical Value °Macrocell ° Available in Surface Mount Package

LINEAR—Arrays

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Transistor Arrays				Dual Darlington Switch	ULN2061 ULN2062	Sprague (3258) Sprague (3258)		Dual Transistors, Monolithic PNP, Tightly Matched	IT130 IT130A IT131 IT132 MP350 MP351 MP352	GE/Intersil GE/Intersil GE/Intersil GE/Intersil MicroPwr MicroPwr	120
Darlington Pair and Two Matched NPN Transistors	CA3018 CA3018A CA3118 CA3118A	† GE/RCA (2650) † GE/RCA (2650) † GE/RCA † GE/RCA		Dual Differential Amplifiers (NPN), to 120 MHz	CA3026 CA3054 CA3054	GE/RCA (2649) GE/RCA (2649, 2655) Motorola (2951)	60	Quad Darlington Switch	ULN2068 ULN2074 L702 SG2064 SG2065 SG2066 SG2067 SG2068 SG2069 SG2070 SG2074 SG2075 SG2076 SG2077 UDN2841B	Motorola (2984) Motorola (2984) SGS-Thomson SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG Sprague	125
Darlington Transistors	IR2403 IR2405 IR2410 IR2411	Sharp Sharp Sharp Sharp	5	Dual Differential Amplifiers (NPN), to 500 MHz	CA3049 CA3102	† GE/RCA (2649, 2655, 2657) † GE/RCA (2649, 2655, 2657)	65	Quad Darlington Switch with Clamp Diode, 1.5 A	M2064	Mitsubishi	130
Differential Pair and Three NPN Transistors	CA3045 CA3046 CA3086 CA3146 CA3146A HA1127 MC3346	† GE/RCA (2650) † GE/RCA (2650) † GE/RCA (2650) GE/RCA (2650) GE/RCA (2650) † Hitachi † Motorola (2951, 2990)	10	Dual Differential Amplifiers (NPN) with Diode Bias String	CA3050 CA3051	† GE/RCA (2649) GE/RCA (2649)	70	Quad Darlington Switch, 1.5 A	M2065 M2067	Mitsubishi Mitsubishi	135
	MC3386 LM3045 LM3046 LM3086 LM3146 SL3045 SL3046 SL3145 CA3046 LM3045 LM3046 SG3045 SG3046 SG3086 SG3821 ULN2046A ULN2086A ULS2045H	† Motorola † National National National National † Plessey Plessey † Plessey † SGS-Thomson † SGS-Thomson ◊ SGS-Thomson ◊ SiliconG ◊ SiliconG ◊ SiliconG † SiliconG ◊ SiliconG Sprague Sprague † Sprague	15	Dual Transistors (f _t > 5 GHz)	SL2363C SL2364C	Plessey ◊ Plessey	75	Quad Schottky Array	UC1611 UC2611 UC3611	Unitrode Unitrode Unitrode	140
			20	Dual Transistors, Monolithic N-Channel JFET, Tightly Matched	MP3954 MP3954A MP3955 MP3956 MP3958 MP5905 MP5906 MP5907 MP5908 MP5909 MP5911 MP5912C MP830 MP831 MP832 MP833 MP840 MP841 MP842 MP843 MP844 MP845	MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr	80	Quad Transistors, Monolithic NPN, Tightly Matched	MAT04	† PMI	145
GaAs, Single-gate D-MESFETs, 9 single, 1 dual	16G020	GigaBit (2693)	25				85	Hex NPN Darlington	LB1274	Sanyo	150
GaAs, Dual-gate D-MESFETs, 8 single	16G021	GigaBit (2693)	30	Dual Transistors, Monolithic NPN, Logarithmic Conformance	MP318 MAT01 MAT01A MAT01G	MicroPwr ‡ PMI ‡ PMI † PMI	90	Two NPN and One PNP Transistor	LM195 LM395	† Unitrode Unitrode	155
NPN Quad, to 350 MHz	EN2016	◊ Elantec	35				95	Three Differential Amplifiers (NPN)	MC3350	Motorola	160
PNP, Matched Dual	MAT03	PMI (3007)	40	Dual Transistors, Monolithic NPN Tightly Matched	IT120 IT120A IT121 IT122 MP301 MP302 MP303 MP310 MP311 MP312 MP313 MP360 MP361 MP362 LM194 LM394 SL301L SL360 SL362	GE/Intersil GE/Intersil GE/Intersil GE/Intersil MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr MicroPwr † National National Plessey Plessey Plessey	100	Three NPN and two PNP Transistors	CA3096 CA3096A CA3096C	† GE/RCA (2650) † GE/RCA (2650) † GE/RCA (2650)	165
PNP Quad, to 350 MHz	EP2015	◊† Elantec	45				105	Four High Current NPN Transistors (core driver)	CA1724G CA1725G MHQ4001A MHQ4002A MHQ4013 MHQ4014 MPQ3303 MPQ3725 MPQ3725A FQ3724 FQ3725 TPQ3724 TPQ3725 TPQ3725A	† GE/RCA † GE/RCA Motorola Motorola Motorola Motorola Motorola Motorola Motorola National National Sprague Sprague Sprague	170
Thirty-Two Circuit High-Voltage MOS, Built-In Logic, 250 V	LZ1032AM LZ1132AM LZ1134R LZ1232M	Sharp Sharp Sharp Sharp	50	Dual Transistors, Monolithic NPN, Tightly Matched, Low Noise	MAT02A MAT02B MAT02E MAT02F	† PMI ◊† PMI PMI PMI	110	Four High Current PNP Transistors (core driver)	MHQ3467 FQ3467 FQ3468	Motorola National National	175
Transistor Array	IR2C17 IR2C19 IR2C30 IR2C32 IR2C33 IR2420 IR2424 IR2425 IR2426 IR2427 IR2428	Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp Sharp	55	Dual Transistors, Monolithic PNP, Logarithmic Conformance	MP358	MicroPwr		Four NPN Transistors	IR2C34	Sharp	
Transistor Array with Stable	IR2C22	Sharp									
Transistor Array (8-circuit high voltage)	LZ1008AM LZ1108AM	Sharp Sharp									
Dual Darlington (NPN-PNP quasi complementary)	TDA1410	Telefunken									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

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LINEAR—Arrays (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Transistor Arrays (Cont'd)				Seven High Current, High Voltage, NPN Darlington Amplifiers, Open Collector, to 50 V, 500 mA				Eight High Current, High Voltage NPN Darlington Amplifiers, Current Source (Cont'd)				
Five High Current NPN Transistors				(Cont'd)								
	CA3083	† GE/RCA (2650, 2653, 2656)	5		μA9668M	† National	60		UDS2981	† Sprague	125	
	CA3183	† GE/RCA (2650)			SG2001	◇ SiliconG			UDS2982	† Sprague		
	CA3183A	GE/RCA (2650)			SG2002	◇ SiliconG			UDS2983	† Sprague		
	SG3083	◇ † SiliconG			SG2003	◇ SiliconG			UDS2984	† Sprague		
	SG3183	◇ † SiliconG			ULN2001	◇ Sprague (3258)			ULN2801	◇ Sprague (3258)		
	SG3183A	◇ † SiliconG	10		ULN2002	◇ Sprague (3258)	65		ULN2802	◇ Sprague (3258)	130	
	ULN2083A	Sprague			ULN2003	◇ Sprague (3258)			ULN2803	◇ Sprague (3258)		
	ULS2083H	† Sprague			ULN2004	◇ Sprague (3258)			ULN2804	◇ Sprague (3258)		
					ULN2005	Sprague (3258)			ULN2805	◇ Sprague (3258)		
					ULN2011A	Sprague (3258)			ULN2811A	Sprague (3258)		
Five High Frequency NPN Transistors, (f _t > 5 GHz)					ULN2012A	Sprague (3258)	70		ULN2812A	Sprague (3258)	135	
	SL3127	◇ Plessey		ULN2013A	Sprague (3258)			ULN2813A	Sprague (3258)			
Five High Frequency NPN Transistors, (f _t > 5 GHz)					ULN2014A	Sprague (3258)			ULN2814A	Sprague (3258)		140
	CA3127	GE/RCA (2650, 2655)		ULN2015A	Sprague (3258)			ULN2815A	Sprague (3258)			
	CA3227	GE/RCA (2650, 2656)		ULN2021	◇ Sprague (3258)			ULN2821	◇ Sprague (3258)			
	CA3246	GE/RCA (2650, 2656)		ULN2022	◇ Sprague (3258)		ULN2822	◇ Sprague (3258)				
					ULN2023	◇ Sprague (3258)	75		ULN2823	◇ Sprague (3258)	145	
					ULN2024	◇ Sprague (3258)			ULN2824	◇ Sprague (3258)		
					ULN2025	◇ Sprague (3258)			ULN2825	◇ Sprague (3258)		
					ULN7002A	Sprague			ULS2801	† Sprague		
					ULN7003A	Sprague (3258)			ULS2802	† Sprague		
Five High Voltage, High Current NPN Darlington Amplifiers					ULN7004A	Sprague (3258)	80		ULS2803	† Sprague	150	
	LB1287	Sanyo		ULS2001	† Sprague			ULS2804	† Sprague			
	LB1288	Sanyo		ULS2002	† Sprague			ULS2805	† Sprague			
	UDN2957A	Sprague		ULS2003	† Sprague			ULS2811	† Sprague			
				ULS2004	† Sprague			ULS2812	† Sprague			
Five Low-Noise NPN Transistors					ULS2005	† Sprague	85		ULS2813	† Sprague	155	
	LS159	SGS-Thomson		ULS2011	† Sprague			ULS2814	† Sprague			
					ULS2012	† Sprague			ULS2815	† Sprague		
					ULS2013	† Sprague			ULS2821	† Sprague		
					ULS2014	† Sprague			ULS2822	† Sprague		
Six Inverted Darlington					ULS2015	† Sprague	90		ULS2823	† Sprague	160	
	IR2C05	Sharp		ULS2021	† Sprague			ULS2824	† Sprague			
	IR2C06	Sharp		ULS2022	† Sprague			ULS2825	† Sprague			
					ULS2023	† Sprague						
					ULS2024	† Sprague						
Six NPN Darlington					ULS2025	† Sprague	95				165	
	LB1272	Sanyo										
	LB1273R	Sanyo										
Six NPN Transistors							100				170	
	IR2C04	Sharp										
	IR2C23	Sharp										
	IR2C24	Sharp										
Sixteen Circuit High-Voltage MOS, Built-In Logic, 250 V							105				175	
	LZ1016AM	Sharp										
	LZ1116AM	Sharp										
Seven High Current Darlington							110				180	
	ULN2032A	Sprague										
	ULN2033A	Sprague										
Seven High Current, High Voltage, NPN Darlington Amplifiers, Open Collector, to 50 V, 500 mA							115					
	XR2001C	Exar (2619)										
	XR2002C	Exar (2619)										
	XR2003C	Exar (2619)										
	XR2004C	Exar (2619)										
	XR2011C	Exar (2619)	30				120					
	XR2012C	Exar (2619)										
	XR2013C	Exar (2619)										
	XR2014C	Exar (2619)										
	XR2201	◇ Exar (2619)										
	XR2201M	◇ † Exar (2619)	35				125					
	XR2202	◇ Exar (2619)										
	XR2202M	◇ † Exar (2619)										
	XR2203	◇ Exar (2619)										
	XR2203M	◇ † Exar (2619)										
	XR2204	◇ Exar (2619)	40				130					
	XR2204M	◇ † Exar (2619)										
	M2001	Mitsubishi										
	M2002	Mitsubishi										
	M2003	Mitsubishi										
	M2004	Mitsubishi	45				135					
	MC1411	Motorola (2984)										
	MC1412	Motorola (2984)										
	MC1413	Motorola (2984, 2989)										
	MC1416	Motorola (2984)	50				140					
	μA9665C	National										
	μA9666C	National										
	μA9666M	† National										
	μA9667C	National										
	μA9667M	† National	55				145					
	μA9668C	National										
(Continued)							150					
							155					
							160					
							165					
							170					
							175					
							180					

LINEAR—Arrays (Cont'd)

Function	Device	Source	Line
Special Arrays (Cont'd)			
Diode Array, Octal (1N5768, 1N5770 OR 1N5772) MIL-S19500		SiliconG	
Diode Array (6-element) CA3039		GE/RCA (2649)	
Diode Array (10 element) CA3141		GE/RCA (2649)	
MOS Array (16 circuit high voltage) LZ1016AD LZ1116AD		Sharp Sharp	5
MOS Array (32 circuit high voltage) LZ1032AD LZ1132BD		Sharp Sharp	
N-Channel Enhancement Mode D-MOS FETs, 8-Channel Arrays AN0110NA AN0120NA AN0130NA AN0140NA		TopazSemi TopazSemi TopazSemi TopazSemi	10
Printer Driver (12 Circuit) Plus Ribbon-Shift Driver (one circuit) IR2402		Sharp	
Schottky Diode Array, Programmable (8x10) CA416		Calmos	
Thyristor/Transistor Array (SCR, programmable unijunction transistor, PNP/NPN transistor pair, NPN transistor and zener diode) CA3097		† GE/RCA (2650)	
Dual High-Speed MOSFET Driver SG1626 SG2626 SG3626		† SiliconG SiliconG SiliconG	15
Dual Schottky Diode Bridge L6210		SGS-Thomson	
Quad High Voltage N-Channel MOSFET Array LH1162AAP		AT&T	
Octal High-Voltage N-Channel MOSFET Array AN0130		AT&T (2533)	20
Octal High-Voltage N-Channel MOSFET Array (enhancement-mode) AN0132NA		AT&T	
Octal High-Voltage P-Channel MOSFET Array AP0130NA		AT&T	
Eight P-Channel Enhancement Mode DMOS FETs AP0120NA AP0130NA		TopazSemi TopazSemi	
Eight P-Channel, Enhancement-Mode D-MOS FETs AP0140NA		TopazSemi	25

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Comparators

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
Comparators-Single										
0.025	100 pA		150				± 8 to ± 20	LMC669	National	
0.25	1.2 μA	80 nA	30	—	20K	—	5, -16	RC4805A RM4805A	Raytheon (3025) † Raytheon (3025)	
	1200 nA	80 nA	35 *	—	8000	—	5 to ± 18	CMP05C	† PMI	
0.3	4 μA	.2 μA	2.7	6			7, -7	μA685	National	5
0.375	500	200	75	5	10K		8/-8	HS3560RH	‡ Harris	
0.5			4.2		1K		5	HCPM96900	Honeywell SPT	
	3.0 nA	1000 nA	80 us				2.8 to 16	LTC1042C	LinearTech	
								LTC1042M	† LinearTech	
0.5 *	15 μA*	2 μA*	2.5 ns*	6	—	—	7, -7	AM6685C	AMD	10
								AM6685M	† AMD	
0.5	25 nA	3 nA	250	36	200K	5	± 18	LT1011AC	TI	
	35 nA	3 nA	250	36	200K	5	5	LT1011AC	LinearTech	
								LT1011AM	† LinearTech	
0.6	1.8 μA	150 nA	30	—	20K	—	5, -16	RC4805 RM4805	Raytheon (3025) † Raytheon (3025)	15
	1800 nA	150 nA	35 *	—	7000	—	5 to ± 18	CMP05B	† PMI	
								CMP05F	PMI	
0.8	50 nA	3 nA	270	11	200K		5 to ± 18	CMP02	‡ PMI	20
								CMP02E	PMI	
	600 nA	25 nA	180	11	200K		5 to ± 18	CMP01	‡ PMI	
								CMP01E	PMI	
1			35	± 10			5	AD790	AD (2426)	
	10 μA	1 μA	25	5	1500			MB4002	Fujitsu	
	100 nA	10 nA	200	30	200K	5	5 to ± 15	LT111A	† LinearTech	25
			250	30	200K	5	5 to ± 15	LT311A	LinearTech	
1.5	50 nA	4 nA	250	36	200K	5	± 18	LT1011C	TI	
							5	LT1011C	LinearTech	
								LT1011M	† LinearTech	
								LT1011AM	TI	30
								LT1011M	TI	
2			2.5	5			-5.2, 5	AD96685	AD (2426)	
	5 μA	500 nA	10	5			± 5	LT685C	LinearTech	
								LT685M	† LinearTech	
	5 μA	500 nA	10	5			± 5	VLC931	ThirdDomain	35
	10 μA	1 μA	2	± 5			± 7	AD9686B	AD (2426)	
								AD9686T	† AD (2426)	
			6.5	6			-5.2, 6	AM685L	◊ AMD	
								AM685M	◊† AMD	
	1.2 μA		12	6		5	-6, 5	AM686M	◊† AMD	40
	1 μA		50	5	1500			MB4001	Fujitsu	
	10 μA	1 μA	6.5	6			-5.2, 6	μA685	National	
	20 μA	3 μA	40	5	40K *	10	-3 to -12, 12	LM106	◊‡ National	
								LM206	National	45
								LM206	◊ TI	
			40 *	5	1250	1	-6, 12	μA710M	† National	
								LM710	† National	
								SFC2710	† SGS-Thomson	
2.5	13 μA	1.3 μA	9.5	± 16	800		-6 to 6.5	CMP08F	PMI	50
	500 nA	50 nA	80 ns	± 5		100 K		PM119	PMI	
2.8	100 nA	15 nA	270	11	100K		5 to ± 18	CMP02C	‡ PMI	
	900 nA	80 nA	180	11	200K		5 to ± 18	CMP01C	‡ PMI	
3	4 mA	1 mA	1.76	5	4K		5, -5.2	HCPM96850	† Honeywell SPT	
	5 μA	2 μA *	20	5	3K *	2	5, (-6, 5- ± 15)	LM261	National	55
	10 μA	1 μA	12	6			-6, 5	AM686C	◊ AMD	
		1.3 μA	10*	5	3K*		± 7	LT1016M	† LinearTech	
	16 μA	1.6 μA	12	± 16	800		-16 to 6.5	CMP08B	† PMI	
	25 nA	5 nA	9	6			± 5	MAX9686	† Maxim	
	50 nA	0.3 nA	180	30	200 K		± 15	PM111	◊† PMI	
	100 nA	10 nA	—	30	40K	5	5 to ± 15	LM111	† LinearTech	60
			200 *	30	200K *	5	5, 0 to ± 15	AD111	† AD (2470)	
								AD211	AD (2470)	
								LM111	† Motorola (2958)	
								LM211	Motorola (2958, 2989)	
								μA111M	† National	65

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

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LINEAR—Comparators (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
Comparators-Single										(Cont'd)
3	100 nA	10 nA	200 *	30	200K *	5	5, 0 to ± 15	LM111 LM211 LM111 LM211 LM111 LM211 SG111 SG211	‡ National National † Raytheon (3025) † SGS-Thomson SGS-Thomson † Signetics Signetics ♦ SiliconG ♦ SiliconG	(Cont'd) 5
	300 nA	150 nA	30 nS	± 18	15K		± 5 to ± 18	EL2018	† Elantec	10
3.5	10 μ A 280 nA	1 μ A 140 nA	14	5 ± 15	3K *		± 7 ± 15	LT1016C LS1113AC	LinearTech AT&T	
4	2 μ A 12 μ A 25 pA	0.5 μ A 3 μ A 50 pA	26 22 200	5 5 —	5K * 5K * 200K	2	5, (-6, 5- ± 10) 5, (-6, 5- ± 10) 36 *	SE527 SE529 LF111	† Signetics † Signetics † National	15
4.5	40 μ A	4 μ A	110	10	10K		5 to ± 15	LS1112A	AT&T	
5	5 μ A	5 μ A	6 6.5 8 8.5					VC7696J VC7696S VC7698J VC7698S	VTC VTC VTC VTC	(3384) (3384) (3384) (3384)
	10 μ A	5 μ A	2.2 2.7	5 5	— —	— —	5, -5.2 5, -5.2	AD9685 AD9687	♦ AD ♦ AD	(2426) (2426)
	10 nA	5 nA	1.4 1.8	5 5			-5.2, 5 -5.2, 5	MAX9685 MAX9690	† Maxim † Maxim	
	10 μ A	2 μ A 5 μ A	1.3 20 1.4 ns	3.5 5 5	300 3K *	2	-5.2, 5 (-6, 5 to ± 15)	TKCP10P LM361	Tektronix National	25
	20 μ A	3 μ A	14 *	5	3K *	4	± 5	LM260 LM360	National National	30
		5 μ A	1.4	3.5			± 6	VC7690J VC7690S	VTC † VTC	(3384) (3384)
	25 μ A	5 μ A	40 *	5	1000	1	-6, 12	μ A710C LM710C	National National	
	25 μ A	5 μ A	40	5	40K 40K *	10 10	-3 to ± 15 -3 to -12, 12	LM306 LM306	TI National	35
	75 μ A 100 nA 150 nA 300 nA	10 μ A 25 nA 50 nA 150 nA	40 * 300K 1300 * 20 nS	5 36 36 ± 18	750 200 200K * 103 dB		-6, 12 2 to 36 2 to 36 ± 5 to ± 18	TL710M TL331J TL331C EL2019	† TI TI TI † Elantec	40
6	2 μ A 20 μ A 60 μ A	0.75 μ A 5 μ A 7.5 μ A	26 22 25 *	5 5 5	5K * 5K * 5K *	2	5, (-6.5- ± 10) 5, (-6.5- ± 10) ± 4.5 to ± 6.5	NE527 NE529 μ A760C μ A760M	Signetics Signetics National † National	(3178) (3179)
	250 nA	100 nA	250	10	15K		± 6 to ± 18	AD351J AD351K AD351S	AD AD † AD	(2470) (2470) (2470)
7.5	100 nA	25 nA	1200	30	100K		36	LP211 LP311	TI TI	
						2	± 18 to ± 36			
	250 nA	50 nA	— 200 200 *	30 30 30	40K 200K 200K *	5 5 5	5 to ± 15 5, 0 to ± 15 5, 0 to ± 15	LM311 LM311 AD311 CA311 LM311 μ A311C LM311 LM311 LM311 SG311	LinearTech TI AD GE/RCA Motorola National National SGS-Thomson Signetics ♦ SiliconG	(2470) (2648) (2958, 2989)
			200*	30	200K*	5	5 to 15	LM311	Samsung	(3039)
	250 pA	50 pA	165 *	30	200K *	5	5, 0 to ± 15	LM211	♦ TI	
10	3 μ A 75 pA			11 —	1K 200K			MB4205 LF311	Fujitsu National	
20	50 μ A	1 μ A		± 15			-4.3 to 8	LS1115AC	AT&T	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

♦ Macrocell

♦ Available in Surface Mount Package

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LINEAR—Comparators (Cont'd)

Offset Voltage mV (25°C)	Bias Current μA (25°C)	Offset Current μA (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
Comparators-Single (Cont'd)										
30	20 μA	20 μA	15	5	100K	6	5	9915	OEI	
50	10 μA	10 μA		± 10			-0.5 to 14	MC14578	Motorola (2958, 2991)	
100	1 μA		25	5			-7 to 14	TL712	◊ TI	
Comparators-Dual										
0.5	0.3 nA		10000	16			2.8 to 16/ ± 2.8 to ± 8	LTC1040C LTC1040M	LinearTech † LinearTech	5
0.5 *	15 μA*	2 μA*	2.5 ns*	6	—	—	7,-7	AM6687C AM6687M	AMD † AMD	
1	15 nA	2 nA		40	300K	1	± 0.75 to ± 20	LT1017C LT1017M	LinearTech † LinearTech	10
	75 nA	8 nA		40	300K	1	± 0.75 to ± 20	LT1018C LT1018M	LinearTech † LinearTech	
	500 nA	—	80 *	5	20K	5	5 to ± 15	LT319A	LinearTech	
		75 nA	80 *	5	20K	2	5 to ± 15	LT119A	† LinearTech	
2			2.5	5			-5.2, 5	AD96687	AD (2426)	15
	-250 nA	50 nA	1300	36	200K		2 to 30, 1 to ± 18	LM239A	TI	
	0.2 nA	0.2 nA	650	12	50K	45	3 to 12	ALD2301A	◊† AdvLinear	
	10 μA	1 μA	8	6			-5.2, 5	AM687AM μA687A	◊† AMD † National	
			10	6			-5.2, 5	AM687M μA687	◊† AMD † National	20
	15 μA	3 μA	80	5	12.5K		-6, 12	TL514M TL820M	† TI † TI	
	20 μA	3 μA	40 *	5	1250		-6, 12	MC1514	† Motorola	
	20 μA	3 μA	30 *	5	1250	1	-6, 12	LM1514	† National	
	100 nA	25 nA	1300 *	36	50K		2 to 36	LM193A LM193A LM193A LM193A	† Motorola (2958) † National † SGS-Thomson † Signetics	25
	250 nA	50 nA	300	36	200K		5	LM293A	TI	
			1300	36	200K		± 1 to ± 18	LM339A	TI	30
							2 to 36	LM295A	TI	
			1300 *	36	50K		2 to 36	GL393A LM293A LM393A	GoldStar (2714) Motorola (2958, 2989) Motorola (2958, 2989)	35
								LM293A LM393A LM293A LM393A	National National ◊ SGS-Thomson ◊ SGS-Thomson	
					200K		2 to 36	LM393A	TI	
			1300*	36	50K		2 to 36	LM393A	Samsung (3039)	40
2.5	500	50	80		1000		5	PM219	PMI	
3	4 mA	1 mA	1.76	5	4K		5,-5.2	HCMP96870	† Honeywell SPT	
	5 μA	1 μA	1.8	± 6	350		-5.2, 5	BT687	Brooktree	
	10 μA	1 μA	8	6			-5.2, 5	AM687AL	◊ AMD	
			10	6			-5.2, 5	AM687L	◊ AMD	45
	25 nA	5 nA	9	6			-5, 5	MAX9691	† Maxim	
	100 nA	10 nA	200 *	30	200K *	5	5, 0 to ± 15	LH2111	Raytheon (3025)	
3.5	75 μA	10 μA	40 *	5	750	1	-6, 12	μA711M	† National	
4	0.5 μA	75 nA	80	—	40K	2	± 15	LM119	◊† National	50
	500 nA	75 nA	80 *	5	10K	2	5 to ± 15	LM119	† LinearTech	
							5, 0 to ± 15	LM119	◊† National	
								LM219	National	
								LM119	† SGS-Thomson	
								LM119	† Signetics	
								LM219	Signetics	55
5	.025 nA	20 nA	1300	36			2 to 36	LP2901	TI	
	0.005 nA *	0.001 nA *	2500 *	36	50K		-0.3 to 18	TLC3702C TLC3702I TLC3702M TLC393C	TI (3325) TI (3325) † TI (3325) TI (3325)	60

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Comparators (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain - V/V	Fan Out	Supply Voltage, V	Device	Source	Line
Comparators-Dual (Cont'd)										
5	0.005 nA *	0.001 nA *	2500 *	36	50K		-0.3 to 18	TLC393I TLC393M	TI † TI	(Cont'd) (3325) (3325)
	0.2 nA 5 μ A *	0.2 nA 1 μ A	650 2.7 *	12 30	50K	45	3 to 12 -5.2, 5	ALD2301B $\diamond$ † AdvLinear SP9685 Plessey SP9687 Plessey		5
	10 nA 10 μ A	5 nA 2 μ A 5 μ A	1.9 1.3 1.8 ns	5 3.5 5	300		-5.2, 5 -5.2, 5 5, -5.2	MAX9687 $\dagger$ Maxim TKCP15P Tektronix VC7697C VTC (3384) VC7697M $\dagger$ VTC (3384)		10
	25 nA	5 nA 20 nA	8000 8000	36 36	500K 500K		$\pm$ 18 to 36 $\pm$ 18 to 36	LP239 TI LP339 TI		15
	25 μ A	5 μ A	30 * 40 *	5 5	1000 1000	1	-6, 12 -6, 12	LM1414 National MC1414 Motorola		20
	100 μ A	15 μ A	40 *	5	700	1	-6, 12	μ A711C National SFC2711 SGS-Thomson		25
	100 nA	25 nA	1300 *	36	50K		2 to 36	LM193 $\dagger$ Motorola (2958) LM193 $\ddagger$ National LM193 $\dagger$ SGS-Thomson LM193 $\dagger$ Signetics		30
	250 mA 250 nA	50 nA 50 nA	1.3 * 1300	36 36	200 K 200K		36 2 to 36	HA17903 Hitachi LM293 TI LM329 TI LM339 TI		35
			1300 *	36	50K		2 to 36	HA17393 Hitachi LM293 Motorola (2958, 2989) LM393 Motorola (2958, 2989) LM293 National LM393 National LM293 $\diamond$ SGS-Thomson LM393 SGS-Thomson LM293 Signetics LM293A Signetics LM393A Signetics		40
					200K		2 to 36 $\pm$ 1 to $\pm$ 18	LM393 TI		45
			1300 *	36	50K		2 to 36	LM393 Samsung (3039)		50
	50nA		1300 *	36	50K		2 to 36	TLC193M $\dagger$ TI		55
5 (2 operational amplifiers, 2 comparators)	500 nA 75 nA		1300 *	36	200K *		3-36	MC3505 $\dagger$ Motorola (2958)		
6	40 μ A	10 μ A	2.4 *	30			-5.2, 5	SP9680 Plessey		
7	250 nA	50 nA	300 1500 *	36 36	100K 25K		2 to 36 2 to 36	LM2901 TI LM2903 Motorola (2958, 2989) LM2903 National LM2903 SGS-Thomson LM2903 Signetics LM2903 TI		40
7.5	20 μ A	5 μ A	18 25	6 6	5K * 5K *	10 10	$\pm$ 5 $\pm$ 5	NE521 Signetics (3176) SE521 $\dagger$ Signetics NE522 Signetics (3177) SE522 $\dagger$ Signetics		45
	250 nA	50 nA	200 *	30	200K *	5	5, 0 to $\pm$ 15	LH2311 GE/Intersil		50
8	-1 μ A 1 μ A 1 μ A	0.2 μ A 0.2 μ A 0.2 μ A	80 * 80 * 80 *	5 5 5	8K 8K 8K	2 2 2	5 to $\pm$ 15 5, 0 to $\pm$ 15 5, 0 to $\pm$ 15	LM319 LinearTech LM319 SGS-Thomson LM319 National LM319 Signetics		55
	250 nA	25 nA	600 *	40	—	1	4.5 to 40	SG3524A $\diamond$ SGS-Thomson UC3524A SGS-Thomson		
9 (2 operational amplifiers, 2 comparators)	10 500 nA		1300 *	36			3-36	MC3405 Motorola (2958)		
10	0.05 nA	0.001 nA	200	18	270K		2 to 18	TLC372C TI (3325) TLC372M $\dagger$ TI (3325)		

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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LINEAR—Comparators (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
Comparators-Dual (Cont'd)										
10	0.2 nA	0.2 nA	650	12	50K	45	3 to 12	ALD2301	† AdvLinear	5
	5 pA	1 pA	200	18	200K		5	TLC352C	TI	
								TLC372I	TI (3325)	
		50 nA	200	18			18, 2 to 30	TLC374I	TI (3325)	
20	40 pA	25 pA	200 *	36	50K	2	4 to 36	CA3290A	GE/RCA (2648)	10
	100 nA	25 nA	300 *	38	—	1	4.5 to 40	SG3524	† SGS-Thomson	
	0.2 nA	0.2 nA	650	12	50K	45	3 to 12	ALD2301C	† AdvLinear	
	50 pA	30 pA	200 *	36	25K	2	4 to 36	CA3290	GE/RCA (2648)	
30		100 pA	250	13	20K	1	3 to 15	HI8575	Holt (2776)	15
	500 nA	100 nA	1300	28	30K		2 to 28	LM3302	TI	
	50 pA	100 pA	240	13	20K	1	± 1.5 to ± 7.5	MC14575	Motorola (2958, 2991)	
			250	13	20K	1	± 1.5 to ± 7.5	MC14575	Motorola (2958, 2991)	
Comparators-Quad										
0.8	100 nA	25 nA	1300	36	50K	2	2-36/ ± 1- ± 18	CMP04B	† PMI	15
1 *	20 nA	1 nA *	5000 *	30	10K		± 18	CMP04F	PMI	
					20K		± 18	L161B	Siliconix	
								L161C	Siliconix	
1	50 nA	10 nA	3500	36	50K	2	2-36/ ± 1- ± 18	CMP404A	† PMI	20
2 *	20 μA	1 μA *	55	5	1.2K *	10	± 5	CMP404E	PMI	
			65	5	1.2K *	10	± 5	MC3430	Motorola (2958)	
								MC3431	Motorola (2958)	
2	100 nA	25 nA	1300 *	36	50K	2	2-36/ ± 1- ± 18	CA139A	† GE/RCA (2648)	25
								LM139A	† Motorola (2958)	
								LM139A	‡ National	
								PM139A	† PMI	
			3500	36	50K	2	2-36/ ± 1- ± 18	LM139A	† SGS-Thomson	30
								CMP404B	† PMI	
								CMP404F	PMI	
	250 nA	50 nA	1300 *	36	50K	2	2-36/ ± 1- ± 18	CA239A	GE/RCA (2648)	
								CA339A	GE/RCA (2648, 2653)	35
								LM239A	Motorola (2958, 2989)	
								LM339A	Motorola (2958, 2989)	
								LM239A	National	
								LM339A	National	40
								AN1339	Panasonic	
								LM239A	‡ SGS-Thomson	
								LM339A	‡ SGS-Thomson	
3	50 nA	20 nA	4000 *	36	500k *		4-36/or ± 2 to ± 18	LM339A	Samsung (3039)	45
					500K *		4-36/or ± 2 to ± 18	LP165	† Raytheon (3025)	
	75 nA	25 nA	130 *	15	400K *		5 to ± 15	LP365A	Raytheon	
	4 μA	0.5 μA *	0.8	4	20 *		5—10.2	HA4900-2	† Harris	
4	4 μA	0.5 μA *	0.8	4	20 *		5—10.2	SCC8004	STC	50
4 (octal unit)	4 μA *	0.5 μA *	0.8	4	20 *		5—10.2	SCC8008	STC	
5	0.005 nA *	0.001 nA *	2500 *	36	50K		-0.3 to 18	TLC339C	TI (3325)	
								TLC339I	TI (3325)	
								TLC339M	† TI (3325)	
								TLC3704C	TI (3325)	
								TLC3704I	TI (3325)	
								TLC3704M	† TI (3325)	
	0.2 μA	0.2 μA	250 ns	12	50K	30	2-12V	ALD4302A	‡ AdvLinear	
	2.5 nA *	0.5 nA *	8000	36	500K	2	2-36/ ± 1.5- ± 18	LP339	National	
	100 nA	25 nA	1300 *	36	200K *	2	2-36/ ± 1, ± 18	CA139	† GE/RCA (2648)	(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Comparators (Cont'd)

Offset Voltage mV (25°C)	Bias Current (25°C)	Offset Current (25°C)	Response Time ns	Max. Differential Voltage	Gain V/V	Fan Out	Supply Voltage, V	Device	Source	Line
Comparators-Quad								(Cont'd)		
5	100 nA	25 nA	1300 *	36	200K *	2	2-36/±1, ±18	LM139 μA139M LM139 PM139 LM139 LM139 LM139A	† Motorola (2958) † National ◊† National ◊† PMI † Raytheon (3025) † SGS-Thomson † Signetics	5
							2-36/±1, ±18	TLC139M	† TI	
	150 nA	35 nA	200	15	400K *	—	5 to ±15	HA4902-2	† Harris	
	250 nA	50 nA	300	36	200K		5	LM239	TI	10
			1300 *	15	200K *	1	3-15	MM54C909	† National	
								MM74C909	National	
				36	200K	1	1 to 18	MB4204	Fujitsu	
						2	±1, ±18	LM339	Samsung (3039)	
					200K *	2	2-36/±1, ±18	CA239 CA339	GE/RCA (2648) GE/RCA (2648, 2653)	15
								HA17339	Hitachi	
								LM239	Motorola (2958, 2989)	
								LM339	Motorola (2958, 2989)	
								μA239C	National	20
								μA339C	National	
								LM239	National	
								LM339	National	
								AN6912	Panasonic	
								LM339	Raytheon (3025)	25
								LM239	◊ SGS-Thomson	
								LM339	SGS-Thomson	
								LM239A	Signetics	
								LM339	Signetics	
	500 nA	±150 nA	430	±33	1000		±15	LS1114AC	AT&T	30
6	75nA	25nA	4000 *	36	500K *		4-36/or ±2 to ±18	LP365	Raytheon	
7	100 nA	50 nA	1000				2.5 to 28	M5N339	Mitsubishi	
	250 nA	50 nA	300 *	36	25K	—	36 or ±18 V	μA2901	National	
			1300 *	36	50K	2	2-36/±1-±18	LM2901	Motorola (2958, 2989)	35
								LM2901	National	
								LM2901	Raytheon	
								LM2901	SGS-Thomson	
								LM2901	Signetics	
7.5	150 nA	50 nA	130 *	15	400K *		5 to ±15	HA4905-5	◊ Harris	
10	0.05 nA	0.001 nA	200	18	270K			TLC374C	TI (3325)	40
								TLC374M	† TI (3325)	
	0.2 μA	0.2 μA	250 ns	12	50K	30	3-12V	ALD4302B	◊† AdvLinear	
	5 pA	1 pA	200	18	200K		5	TLC354C	TI	
15	0.2 μA	0.2 μA	250 ns	12	50K	30	2-12V	ALD4302	◊† AdvLinear	
20	50 pA	100 pA	250	13	20K	1	3 to 15	HI8574	Holt (2776)	45
	500 nA	3 nA *	2000 *	Vcc	2K	1	2 to 28	MC3302	Motorola (2958)	
								MC3302	◊ SGS-Thomson	
								TDF3302	SGS-Thomson	
								MC3302	Signetics	
		100 nA	300 *	28	2K	—	28 or ±14 V	μA3302	National	50
			1300 *	Vcc	2K	2	5 to ±15	LM3302	National	
30	50 pA	100 pA	250	13	20K	1	±1.5 to ±7.5	MC14574	Motorola (2958, 2991)	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

Macrocell

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LINEAR—Consumer Circuits

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Audio Circuits				Audio Power Amplifier (two 4.6W amps)	KA22062	Samsung		Music Voicing System	SSM2045	PMI	
AM/FM IF Tuner	GL5808	GoldStar (2712)		Audio Power Amplifier (two 5.8W amps)	KA2211	Samsung		SSM2045	SSM Audio		
Amplifier, Headphone	TA7688	Toshiba		CDP Servo Control	GL3630	GoldStar (2712)		Music Voicing System with Three VCAs	SSM2047	PMI	
Amplifier, Hearing Aid				Companador, Low Voltage	NE575	Signetics		SSM2047	SSM Audio		
LC505	Gennum		5	Controls (loudness, treble, bass)	TDA4290-2	Siemens		Music, Voltage Controlled Filter, Four Stage	SSM2044	PMI (3014)	105
LC506	Gennum			Controls, Stereo, DC Operated	TCA5550	Motorola (2949, 2951)		SSM2040	SSM Audio		
LC507	Gennum				TDA1524	Motorola (2949)		SSM2044	SSM Audio		
LC508	Gennum			DAC for Volume Control	M50601	Mitsubishi		Music, Voltage Controlled Oscillator	SSM2033	SSM Audio	
LC547	Gennum			M50602	Mitsubishi			Music, Voltage Controlled Transient Generator	SSM2056	SSM Audio	
LC549	Gennum			Digital Noise Source	MM5437	National		Muting Circuit (switching noise suppressor)	TA7324	Toshiba	110
LC550	Gennum			Distortion Suppressor	AH201-1	Analogic		TA7362	Toshiba		
LD501	Gennum		10	MP201A	Analogic			Noise Reduction, CX	HA12043	Hitachi	
LD502	Gennum			Distortion Suppressor, Dual	AH201-2	Analogic		HA12044	Hitachi		
LD505	Gennum			Dolby HX Pro System	μ PC1297CA	NEC		Noise Reduction, DNR	LM832	National	
LD511	Gennum			Dolby Noise Reduction (dual channel B)	HA12116	Hitachi		Noise Reduction, Dolby			
LD547	Gennum			HA12088	Hitachi			HA12045	Hitachi		115
LD548	Gennum			HA12090	Hitachi			HA12046	Hitachi		
LD549	Gennum			HA12091	Hitachi			HA12047	Hitachi		
LE507	Gennum			Dolby-B Type Noise Reduction Processor	μ PC1210C	NEC		HA12048	Hitachi		
LP508	Gennum			Dolby-B Type Noise Reduction System, Dual	μ PC1284G	NEC		HA12058MP	Hitachi		120
LR505	Gennum			Dynamic Range Processor with Dual VCAs	SSM2120	PMI (3015)		HA12088NT	Hitachi		
LS505	Gennum			SSM2122	PMI (3015)			HA12091MP	Hitachi		
LT505	Gennum			SSM2120	SSM Audio			LM1131A	National		
LU547	Gennum			SSM2122	SSM Audio			LM1131B	National		
LV506	Gennum			Electronic Graphic Equalizer, Serial Control	TC9170	Toshiba		LM1131C	National		
LV549	Gennum			Electronic Graphic Equalizer, Up/Down	TC9169	Toshiba		LM1894	National		125
WC535	Gennum			Equalizer Amplifier	GL5529	GoldStar (2712)		NE5240	Signetics		
WE530	Gennum			Filter, Hearing Aid, High-pass.	LF580	Gennum		NE645	Signetics		
WS531	Gennum			FM Front End	TDA7359	SGS-Thomson		NE646	Signetics		
WV530	Gennum			TDA7361	SGS-Thomson			NE649	Signetics		
WV535	Gennum			Graphic Equalizer, Digitally Controlled	LMC835	National		NE650	Signetics		
TCA1003	ITT			Level Sensor, dbx (RMS)	μ PC1253H2	NEC		TK10640	Toko		130
TCA1004	ITT			Mask Programmable	AY3-1350	Microchip		PLL Stereo Decoder	TEA5581	Signetics	
OM200	Signetics			Melody Circuit	SVM7910	S-MOS		Power Amplifier Driver			
Amplifier, Wideband with AGC	MC1490	Motorola		SVM7920	S-MOS			ICL8063C	GE/Intersil		
Amplifier, with AGC, for Recorders	TDA7137	Toshiba		SVM7930	S-MOS			ICL8063M	† GE/Intersil		
TDA7137-ST	Toshiba			SVM7940	S-MOS			MC3320	Motorola		135
Attenuator, Digital	AD7115K	AD (2471)		SVM7950	S-MOS			LM391	National		
Attenuator, Digital (logarithmic D/A converter)				SVM7960	S-MOS			Power Amplifier Driver, Dual			
AD7111K	◊ AD (2412, 2462)			SVM7970	S-MOS			μ PC1225	NEC		
AD7111L	◊ AD (2412, 2462)			SVM7990	S-MOS			STK3042	Sanyo		
AD7111T	◊† AD (2412, 2462)			Motor Speed Controller for Direct Drive Turntables	TC9142	Toshiba	100	STK3062	Sanyo		140
AD7111U	◊† AD (2412, 2462)							STK3082	Sanyo		
AD7118T	◊† AD (2462, 2470)							Power Amplifier Driver (30—50 W)			
AD7118U	◊† AD (2462, 2470)							μ PC1225H	NEC		
Attenuator, Digital (with loudness compensation switch), 0 to 88.5 dB Attenuation in 1.5 dB Steps								μ PC1270H	NEC		
AD7110K	◊ AD (2470)							Power Amplifier Driver (50—80 W)			
AD7118K	◊ AD (2462, 2470)							μ PC1298V	NEC		
AD7118L	◊ AD (2462, 2470)							Power Amplifier Protector			
Attenuator, Dual	LC7500	Sanyo						HA12002	Hitachi		
Audible Signal Device (generates two tone frequencies)	SAE0700	Siemens						μ PC1237HA	NEC		145
Audio Amplifier (2 W mono)	TDA7233	SGS-Thomson						Power Amplifier with Pre-amplifier and ALC (0.45 W)			
Audio Level Detection System, Linear and logarithmic outputs	SSM2110	PMI						μ PC1350C	NEC		
SSM2110	SSM Audio							Power Amplifier, Single, > 10 Watts			
Audio Power Amplifier (auto-reverse pre-amp, two 69mW)	KA22131	Samsung						HA13001	Hitachi		
Audio Power Amplifier (dc motor speed controller, two 28mW)	KA22135	Samsung						HA13112	Hitachi		
Audio Power Amplifier (dual pre-amplifier)								HA13113	Hitachi		
KA2221	Samsung							HA13116	Hitachi		
KA22241	Samsung							HA13117	Hitachi		
KA22261	Samsung							HA13118	Hitachi		
								HA13119	Hitachi		
								HA13121A	Hitachi		
								HA13125	Hitachi		
								HA13131	Hitachi		
								LM1875	National		155
								TDA1102	SGS-Thomson		
								(Continued)			

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Audio Circuits (Cont'd)				Power Amplifier, Single, 5–10 Watts				Power Amplifier, Dual, 5–10 Watts			
Power Amplifier, Single, > 10 Watts (Cont'd)				LM2002	National		70	HA13108	Hitachi		140
TDA1111	SGS-Thomson			LM383	National			HA13119	Hitachi		
TDA2030	SGS-Thomson			LM383A	National			HA13132	Hitachi		
TDA1520A	Signetics			LM384	National			HA1377	Hitachi		
TDA2030	Telefunken			TDA2002	National			HA1394	Hitachi		
TA7237A	Toshiba		5	TDA2002A	National		75	LM2878	National		
Power Amplifier, Single, < 5 Watts				TDA2003	National			LM2879	National		
KA2201	Samsung			μPC2002	NEC			μPC1185HC	NEC		145
KA2212	Samsung			LM386	Samsung (3040)			KA2206	Samsung		
KA2213	Samsung			LA4140	Sanyo		80	KA2209	Samsung		
TBA820	SGS-Thomson			LA4422	Sanyo			KA2210	Samsung		
Power Amplifier, Single, > 10 Watts				LA4440	Sanyo			TDA2004	SGS-Thomson		150
MB3720	Fujitsu		10	STK4017	Sanyo			TDA2005	SGS-Thomson		
MB3730	Fujitsu			STK4019	Sanyo			TEA2021	SGS-Thomson		
MB3731	Fujitsu			STK4332	Sanyo		85	TEA2024	SGS-Thomson		
HA1384	Hitachi			STK4352	Sanyo			TDA1510	Signetics (3148)		155
HA1388	Hitachi			STK4362	Sanyo			TDA1515A	Signetics (3149)		
HA1392	Hitachi		15	L149	SGS-Thomson			TA7227	Toshiba		
HA1393	Hitachi			TBA800	SGS-Thomson			TA7240A	Toshiba		
HA1396	Hitachi			TBA810	SGS-Thomson			TA7241A	Toshiba		
HA1397	Hitachi			TCA940	SGS-Thomson		90	TA7252	Toshiba		
LM2005	National			TDA1905	SGS-Thomson			TA7263	Toshiba		160
μPC1188H	NEC		20	TDA1908	SGS-Thomson			TA7264	Toshiba		
LA4460	Sanyo			TDA1908A	SGS-Thomson			TA7270	Toshiba		
LA4461	Sanyo			TDA1910	SGS-Thomson			TA7271	Toshiba		
STK4021	Sanyo			TDA2002	SGS-Thomson		95	Power Amplifier, Dual (7 W)			
STK4023	Sanyo			TDA2002A	SGS-Thomson			μPC1185H2	NEC		
STK4025	Sanyo		25	TDA2003	SGS-Thomson			Power Amplifier (0.25 W)			
STK4392	Sanyo			TDA2006	SGS-Thomson			μPC1218HA	NEC		
TDA2008	SGS-Thomson			ULN2002A	SGS-Thomson			Power Amplifier (1W)			
TDA2009	SGS-Thomson			TDA1037	Siemens		100	μPC1212C	NEC		165
TDA2030A	SGS-Thomson			TDA1010A	Signetics			Power Amplifier (2.4 W)			
TDA2040	SGS-Thomson		30	TDA1020	Signetics			μPC1213C	NEC		
TDA1512	Signetics (3150)			TDA2611A	Signetics			Power Amplifier (2W)			
TA7268	Toshiba			ULN3784B	Sprague			μPC575C2	NEC		
Power Amplifier, Single, < 5 Watts				TBA800	Telefunken		105	Power Amplifier (10 W)			
CA3020	† GE/RCA (2652, 2657)			TBA810	Telefunken			μPC1238	NEC		
CA3094	† GE/RCA (2648, 2656)			TDA2003	Telefunken			Power Amplifier (18 W)			
GL386	† GoldStar (2712)		35	TDA2006	Telefunken			μPC1308V	NEC		
MC13060	Motorola (2949, 2990)			TA7205A	Toshiba		110	Power Amplifier (25 W)			
MC1454	Motorola			TA7217A	Toshiba			μPC1274V	NEC		170
MC1554	† Motorola			TA7222A	Toshiba			μPC1280V	NEC		
LM2895	National			TA7238	Toshiba			Preamplifier			
LM380	National		40	Power Amplifier, Dual, > 10 Watts				MA106	AnalogSys		
LM386	National			HA13115	Hitachi			CA3080	GE/RCA (2647)		
LM388	National			HA13127	Hitachi			CA3080A	† GE/RCA (2647)		175
LM389	National			HA13130	Hitachi			HA12017	Hitachi		
LM390	National			Power Amplifier, Dual, < 5 Watts				LM1837	National		
μPC1212	NEC		45	HA13122	Hitachi		115	LM3080	National		
μPC1213	NEC			HA13126	Hitachi			LM3080A	National		
LA4137	Sanyo			LM1877	National			μPC1158H2	NEC		180
LA4138	Sanyo			TEA2025	SGS-Thomson			μPC566	NEC		
LA4180	Sanyo			TA7230	Toshiba		120	μPC566HA3	NEC		
LA4182	Sanyo			TA7232	Toshiba			SL561B	Plessey		
LA4220	Sanyo		50	TA7233	Toshiba			SL561C	Plessey		
TBA820M	SGS-Thomson			Power Amplifier, Dual BTL				ZN459	† Plessey		185
TDA1904	SGS-Thomson			μPC1260G	NEC			ZN459C	† Plessey		
TDA2822M	SGS-Thomson			μPC1288V	NEC			ZN459CP	† Plessey		
TDA1011	Signetics		55	μPC2005V	NEC			ZN460	† Plessey		
TDA1013A	Signetics			Power Amplifier, Dual, < 5 Watts				ZN460C	Plessey		190
TDA1015	Signetics			LM1895	National		125	ZN460CP	Plessey		
ULN2280B	Sprague			LM1896	National			LA3170	Sanyo		
TCA830	Telefunken			LM2877	National			LM1837	SGS-Thomson		
U410	Telefunken		60	LM2896	National			TDA3410	SGS-Thomson		
U411	Telefunken			LM377	National		130	TDA3420	SGS-Thomson		
U412	Telefunken			LM378	National			TA7063	Toshiba		195
U413B	Telefunken			TDA7050	Signetics (3147)			TA7120	Toshiba		
U420	Telefunken			ULN3750B	Sprague			TA7122B	Toshiba		
TA7140	Toshiba		65	TA7215	Toshiba			TA7129A	Toshiba		
TA7207	Toshiba			TA7269	Toshiba			TA7136A	Toshiba		
TA7313A	Toshiba			Power Amplifier, Dual (1.2 W)				TA7322	Toshiba		
TA7336	Toshiba			μPC1263C2	NEC		135	Preamplifier, Microphone			
Power Amplifier, Dual (2.5 W)				μPC1278H	NEC			SSM2015	PMI		200
Power Amplifier, Dual (4.2 W)				Power Amplifier, Dual (4.2 W)				SSM2016	PMI (3013)		
								SSM2011	SSM Audio		
								(Continued)			

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Audio Circuits (Cont'd)				Speech Synthesis Processor	LR3681	Sharp		Ignition Circuit	U2029	Telefunken	90
Preamplifier, Microphone	SSM2015	SSM Audio		Stereo Sound Control System	CA3259	GE/RCA (2653, 2657)	55	Inductive Load Driver, Quad	U2128B	Telefunken	
	SSM2016	SSM Audio			HA12412	Hitachi		HA13007A	Hitachi		
Preamplifier with ALC	μPC1158HA2	NEC			MC1355	Motorola		HA13415	Hitachi		95
	KA2220	Samsung		Stereo, Volume, Bass, Treble, Balance	TCA5550	Motorola (2949, 2951)		HA13416	Hitachi		
Preamplifier, Dual					TDA1524	Motorola (2949)		HA13444	Hitachi		
	XR4739	Exar (2619)	5	Tone Control, Serial	TC9156	Toshiba		Injector Drive Controller	LM1949	National	
	XR4739M	† Exar (2619)		Tone Control System, Stereo	TDA1524A	Motorola (2949)	60	Injector Driver Control	L583	SGS-Thomson	
	GL5501	GoldStar (2712)		Tone Control, Up and Down	TC9155	Toshiba		Lamp Flasher	U243	Telefunken	
	μA739C	National		Tone Controller w/ Source Inputs, Active, I ² C	TEA6300	Signetics		Low Coolant Detector	ULN2429A	Sprague	
	LM1897	National		VDP Time Base Error Correction	GL3640	GoldStar		Sealed Lead-Acid Battery Charger	UC2906	Unitrode	100
	LM381	National	10	Voice Recognition/Synthesis Circuit	SP1000	Microchip		Solenoid Driver	MC3484V2	Motorola	
	LM382	National						MC3484V4	Motorola		
	LM387	National		Voice Recording/Reproducing (using delta-modulation with external DRAM, for answering machines, message alarm clocks, and talk-back toys)	STBC1	Microchip	65	Speed Control	CA3228	GE/RCA (2653)	
	μPC1032HA	NEC		Voice Synthesizer	UM5000	UMC		Speedometer and Mileage Indicator	SAY115	ITT	
	μPC1228HA	NEC						Switch, Engine RPM	MC3344	Motorola	105
	KA1222	Samsung		Voltage Controlled Amplifier, dbx	μPC1252H2	NEC		Traffic Information Broadcast Decoders	UAA1009	ITT	
	KA2222	Samsung		Voltage Controlled Oscillator for Electronic Music	SSM2038	SSM Audio		Voltage Regulator	TCA700	ITT	
	KA2227	Samsung		Volume Balance Tone Control, Dual	GL3230	GoldStar (2712)	70		MC3325	Motorola	
	LA3160	Sanyo		Volume Control, Serial	TC9154	Toshiba			μPC2605H	NEC	
	LA3161	Sanyo		Volume Control System, Automatic	HA12039	Hitachi			μPC2610H	NEC	110
	L387	SGS-Thomson	20	Volume Control, Up and Down	TC9153	Toshiba		Quad Driver, See also Interface—Memory and Peripheral Drivers	DS3656	National	
	TDA2320A	SGS-Thomson		Dual DC Operated Tone/Volume/Balance Circuit	LM1036	National		20-Watt Automotive Power Amplifier	LM2005	National	
	NE542	Signetics			TA7630	Toshiba	35				
	TA7325	Toshiba		Dual DC Operated Tone/Volume/Balance Circuit with Stereo Enhancement	LM1040	National		Calculator Circuits			
	TA7359	† Toshiba	25					Calculator	KS6022	Samsung	115
	TA7658	Toshiba							KS6024	Samsung	
	TA7685	Toshiba						Calculator, Printing			
	TA7709	Toshiba						HD38510	Hitachi		
Preamplifier, Dual (with ALC)	μPC1313HA	NEC						HD38513	Hitachi		
	KA2224	Samsung						HD38546	Hitachi		
	KA2225	Samsung						HD38550	Hitachi		
	KA2226	Samsung						HD38560	Hitachi		120
	KA2227	Samsung						HD38570	Hitachi		
Preamplifier, Quad	XR4212	Exar						HD38580	Hitachi		
Preamplifier, Two-Channel	TK10360	Toko						HD38585	Hitachi		
Preamplifier, Two-Channel Recording, ALC	TK10531	Toko						Camera Circuits			
Preamplifier, Two-Channel Recording and Playback	TK10562	Toko						Exposure Control	CS102	Cherry Semi	125
Preamplifier, 4-Input	μPC3410C	NEC						Strobe Light Controller	U2000	Telefunken	
Receiver System								Video Camera Encoder	HA11720	Hitachi	
	TDA2220	SGS-Thomson						CB Radio Circuits			
	TDA7220	SGS-Thomson						Channel Selector/Display Driver	LC7181	Sanyo	
Record/Playback Audio Head Switch	μPC1290C	NEC							LC7191	Sanyo	
Signal Delay	MN3001	Panasonic						FM IF System	HA12442V	Hitachi	130
	MN3010	Panasonic						Programmer, for PLL	LC7120	Sanyo	
	MN3204	Panasonic						Synthesizer Set, 40 Channel, BCD Channel Setting	LC7131	Sanyo	
	MN3207	Panasonic									
Sound Generator	AY3-8910A	Microchip									
	AY3-8912A	Microchip									
Sound Generator Controller for Microprocessor-Based Systems	NCR8496	NCR									
	SN76494	TI									
Sound Generator, Programmable	AY3-8913	Microchip									
Sound Recording and Playback LSI Chip	LR3990	Sharp									
Speech Processor	SP0256A	Microchip									
	SP0264	Microchip (2900)									
Speech Processor, Supports Allophone Synthesis	SP0256A-AL2	Microchip									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Clock/ Watch Circuits				Watch (LCD), Digital				Toy Organ				
Alarm Clock	HD38980	Hitachi	5	MS680	RTC	60	SAA1900	ITT	100			
	HD38991C	Hitachi		MS681	RTC		KS5390	Samsung				
	HD43115	Hitachi		MS682	RTC		Dual Voltage Controlled Amplifier					
	HD43890	Hitachi		MS683	RTC		SSM2022	SSM Audio				
	MM5402	National		KS5198	Samsung		Radio Circuits, AM					
	MM5405	National		KS5199A	Samsung		AM IF and Detector, Double Conversion					
	KS5171	Samsung		Watch (LCD), Digital Chronograph			SL6700A	Plessey				
	KS5204	Samsung		LC5613			SL6700C	Plessey				
	KS5205	Samsung		Watch (LCD), Digital Chronograph/Alarm			AM Receiver for AM Stereo					
	KS5206	Samsung		KS5189			TDA4010	Siemens				
KS5207	Samsung	10	Watch (LCD), Digital with Alarm			AM Stereo Front End and Tuner Stabilizer						
LM8361	Sanyo		KS5194			MC13023	Motorola (2949)					
Alarm Clock Radio			World Time Clock			AM Tuner						
MM5455	National		UM3280	UMC	μPC1216V2	NEC						
MM5456	National		Music			AM Tuner, FM-IF System with Quadrature Detector						
MM5457	National		Accompaniment Generator for Chords, Arpeggi, Keyboard or Pedalboard Bass			μPC1222C	NEC					
MM5462	National		M151	SGS-Thomson	AM Tuner for ETR							
MM5463	National		20	Digital-to-Audio Converter			μPC1248V	NEC				
MM5466	National			PCM53	Burr-Brown (2553)	μPC1296G	NEC					
LM8363	Sanyo			PCM54	Burr-Brown (2553)	AM Tuner System (converter, IF amp, detector)						
LM8364	Sanyo	PCM55		Burr-Brown (2553)	KA22461	Samsung						
Analog Clock with Electronic Melody Generator				PCM56	Burr-Brown (2554)	AM One-Chip Radio						
LR34651	Sharp	PCM58		Burr-Brown (2554)	KA22421	Samsung						
Analog Clock (4.19 MHz crystal)				Digitally Controlled Analog Music Voice, Nine Octave			Amplifier with Demodulator and Volume Control					
LR3428	Sharp	SSM2060		SSM Audio	TDA1048	SGS-Thomson	CQUAM AM Stereo Decoder					
LR3429	Sharp	Dolby Surround Sound			MC13020	Motorola (2949)	Frequency Synthesizer					
Analog Clock (32 KHz crystal)				LA2770	Sanyo	DS8910	National	High-Level Mixer				
LR3464	Sharp	25	Electronic Attenuator			SL6440C	Plessey	Mixer, IF, AGC				
Clock Automotive, with Vacuum Fluorescent Display Drivers			XR13600	Exar	ULN2243A	Sprague	Noise Reduction System					
SCL5458	Sprague		MC3340	Motorola	HA12429	Hitachi	Radio System for Electronically Tuned Radios					
SCL5466	Sprague		Frequency Divider, 7-Stage			LM1863	National	Receiver System				
SCL5467	Sprague		M740	SGS-Thomson	CA3088	† GE/RCA (2653, 2657)	HA1197					
SCL5604	Sprague		M741	SGS-Thomson	HA1199	Hitachi	HA12432					
Clock Circuits (See Also: Digital—CMOS Oscillators/Dividers. Linear—Other Linear Devices—Oscillator)			M747	SGS-Thomson	HA12440	Hitachi	MC13041					
HD44010	Hitachi		Melody Generator (automatic)			Motorola (2949, 2972, 2990)	ZNA15E					
SAJ300	ITT		LR34611	Sharp	PNPlessey	ZNA16E						
MM53110	National		Melody Generator (by piezo-electric buzzer)			PNPlessey	TCA440					
SAF3019	Signetics (3194)	LR34621	Sharp	UMC	TDA1072							
SCL5233	Sprague	Melody Generator (with accompaniment)			UM3491	UMC	ULN3839A					
SCL5238	Sprague	30	Monophonic Synthesizer			M110	SGS-Thomson	TDA1072				
SCL5455	Sprague		Music Selector (9 program, random)			KA2230	Samsung	TA7641B				
SCL5463	Sprague		Noise Generator			MM5837	National	Receiver System (AM radio circuit)				
SCL5468	Sprague		Organ with Rhythm			UM3525	UMC	ULN3841				
SCL5474	Sprague		Polyphonic Sound Generator			M112	SGS-Thomson	RF, IF Detector				
SCL5601	Sprague		Sound Generator, stereo, for Music and Sound Effects			SAA1099	Signetics	LM3820				
Digital LCD Watch (with alarm)			Sound Generator (three gun)			UM3562	UMC	RF, IF, Detector, AGC				
UM3216	UMC		Tone Generator			Stereo Decoder			ZNA14Z			
MM58142	National		M082			SGS-Thomson	SL623C			Plessey		
LCD Analog Alarm Watch			M082AA	SGS-Thomson	Stereo Decoder			MC13022				
UM3211	UMC	M083			SGS-Thomson	Motorola (2949, 2990)			ULN3820A			
LCD Analog Watch			M083AA	SGS-Thomson	Stereo Decoder, C-QUAM (tuning stabilized)			MC13021				
UM3210	UMC	M086			SGS-Thomson	Motorola (2949)			Stereo Demodulator			
LCD Digital Clock			M086AA	SGS-Thomson	Tuner for Car Radio			HS3604				
LR3441	Sharp	35	Top Octave Generator			HA12427AV	Hitachi	HA12428				
LCD Watch, Multifunction			MK50240	SGS-Thomson	HA12428	Hitachi	(Continued)					
UM3217	UMC		Watch, Analog (See also Digital—CMOS Oscillators/Dividers)			ICM7047			GE/Intersil			
Melody Circuit, for Clocks			KS5310A			Samsung	KS5310B					
KS5310B			Samsung	KS5310C			Samsung	KS5311A				
KS5311A			Samsung	KS5311B			Samsung	KS5311C				
KS5311C			Samsung	KS5313			Samsung	KS5314				
KS5313			Samsung	KS5340			Samsung	KS5380				
KS5340			Samsung	KS5380			Samsung	KS5380				
KS5380			Samsung	KS5380			Samsung	KS5380				

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

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LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Radio Circuits, AM (Cont'd)												
Tuner for Car Radio	TA7402 TA7616	Toshiba Toshiba	5	Radio Frequency Display	MM5430	National	45	FM Stereo Demodulator with Noise Canceller	μ PC1287G	NEC	95	
Tuner System	LA1130 LA1240 LA1245	Sanyo Sanyo Sanyo		Radio Frequency Display Driver and Clock	T1400	Toshiba		FM Stereo Multiplex Decoder (PLL, lamp driver)	KA2262 KA2265	Samsung Samsung		
				Receiver System	GL5901 LM1866 LA1210 TDA1220A TDA1220B TDA1220L MC3361 NE605 NE615 TEA5570 ULN2204A ULN2241A ULN3803A TDA1083 U416 U417 U418 KB4454 TK10311 TA7613A	GoldStar National Sanyo SGS-Thomson SGS-Thomson SGS-Thomson Signetics Signetics Signetics Sprague Sprague Sprague Telefunken Telefunken Telefunken Telefunken Toko Toko Toshiba		FM Stereo Multiplex Demodulator	MB4104 MB4105	Fujitsu Fujitsu		
Radio Circuits, AM/FM												
AM/FM IF Amplifier with AM Detector	KA1241	Samsung	10	Receiving Frequency Display Driver for DTS-6/8 Digital Tuning System	TC9158 TC9159	Toshiba Toshiba	65	FM Tuner (one chip)	μ PC1265G	NEC	100	
AM/FM System for Cassette Tape Recorder	HA12430	Hitachi		RF Amplifier, Mixer	ULN3869M	Sprague		FM-IF Amplifier	μ PC1163HA μ PC577HA	NEC NEC		
AM/FM Tuner System (AM RF converter, IF amp and detector, FM IF amp and detector)	KA22471	Samsung		Sound (IF detector, dc volume control, preamplifier)	TBA120C	Motorola (2951)		FM-IF Amplifier with Differential Peak Detector	μ PC1028HA	NEC		
AM/FM One-Chip Radio	KA22424	Samsung	15	Stereo/Bridge AF Amplifier (class B)	TDA4935	Siemens	70	FM-IF System with Differential Peak Detector	μ PC1245V	NEC	105	
AM Tuner, FM-IF Amplifier	μ PC1018C	NEC		Stereo (volume, bass, treble, and balance control)	MC3340	Motorola		FM-IF System with PLL Detector	μ PC1211V	NEC		
AM Tuner with AM/FM IF	KA2247 KA2248	Samsung Samsung		Superheterodyne Receiver (Mobile Radio, Radio Pagers)	CA422	Calmos		FM-IF System with Quadrature Detector	μ PC1167C2	NEC		
Broadband Demodulator System (Configurable for AM or FM Based Signals)	LM1211	National	20	Tone Control System, Stereo	TDA1524A	Motorola (2949)	75	FMX Decoder	LA3440	Sanyo	110	
Cellular Radio Receiver (bipolar)	CA412	Calmos		Transmitter, FM/FSK	MC2831A	Motorola (2972, 2990)		Front End	HA12438AFP KA2249 TDA1574 TA7358	Hitachi Samsung Signetics Toshiba		
Digital Tuning System	TC9140 TC9146 TC9147	Toshiba Toshiba Toshiba		Tuner (car radios and home receivers)	TUA1574	Siemens		Front End, Low Voltage	TDA7211 TDA7212 TDA7215	SGS-Thomson SGS-Thomson SGS-Thomson		
Digital Tuning System, 4-bit microcomputer	MB88561 MB88562	Fujitsu Fujitsu	25	Tuner, PLL	SDA2121	Siemens	80	Front End Timer	TDA1094 TA7335	Telefunken Toshiba	115	
Display Driver for Receiving Frequency Digital Display	TD6301A	Toshiba		Tuner, Radio Frequency Display and Clock	LC7250	Sanyo		Front-End, VHF	U4062B	Telefunken		
FM IF System, Low Power	NE614	Signetics (3158)		Tuning Synthesizer	SAA1057	Signetics		IF/Amp Detector	MC3361	Signetics		
FM Receiver for Data, Two Chip Set (bipolar)	CA408 CA410 S411	Calmos Calmos Calmos	30	Radio Circuits, FM				85	IF Amplifier	CA3002	† GE/RCA (2649, 2657)	120
FM Receiver, Two Chip Set (bipolar)	CA404 CA406 S407	Calmos Calmos Calmos		FM Front End	μ PC1255C μ PC1276G	NEC NEC	CA3005		† GE/RCA (2649, 2657)	125		
Frequency Counter; for 3 1/2 Digit VF Displays	MSM5525	OKI		FM IF and PLL Detector with RF Mixer	SL6691C	Plessey	CA3006		† GE/RCA (2649, 2657)			
IF Amplifier	LM1868 U2416 TA7060A TA7061B	National Telefunken Toshiba Toshiba	35	FM IF and Quadrature Detector with RSSI (received signal strength indicator)	SL6652C SL6653C	Plessey Plessey	CA3012 CA3028	† GE/RCA (2657) † GE/RCA (2649, 2657)	130			
IF, Narrowband (FM/FSK)	MC3367 MC3371	Motorola (2972, 2990) Motorola (2972, 2990)		FM IF Quadrature Detector (with RSSI)	NE604A NE605	Signetics (3157) Signetics	CA3075 CA3089	† GE/RCA (2657) † GE/RCA (2653, 2657)		135		
IF System	HA12413	Hitachi		FM Multiplex Stereo Demodulator	μ PC1026C μ PC1161C3 μ PC1197C μ PC1223C μ PC1227V μ PC1235C μ PC587C2	NEC NEC NEC NEC NEC NEC NEC	CA3189 CA3209 CA3215	GE/RCA (2653, 2657) GE/RCA (2653, 2657) GE/RCA (2657)				
IF System (low supply voltage)	TA7640A TA7757	Toshiba Toshiba	FM Front End	μ PC1255C μ PC1276G	NEC NEC	HA11225 HA12411 HA12412	Hitachi Hitachi Hitachi	140				
IF System (3 volt use)	TA7687A	Toshiba	FM IF and PLL Detector with RF Mixer	SL6691C	Plessey	MC1355 MC1357 MC1358 LM1865	Motorola Motorola Motorola National					
Interprogram Sensor (one program skipping)	TA7341	Toshiba	FM IF and Quadrature Detector with RSSI (received signal strength indicator)	SL6652C SL6653C	Plessey Plessey							
Mixer (to 200 MHz)	TBB042	Siemens	FM IF Quadrature Detector (with RSSI)	NE604A NE605	Signetics (3157) Signetics			(Continued)				
PLL Tuning Circuit (TV tuning system, prescaler)	μ AA4802	Motorola	FM Multiplex Stereo Demodulator	μ PC1026C μ PC1161C3 μ PC1197C μ PC1223C μ PC1227V μ PC1235C μ PC587C2	NEC NEC NEC NEC NEC NEC NEC							

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line		
Radio Circuits, FM (Cont'd)				Prescaler (for digital tuning)				Driver, for IR Transmitter Diodes					
IF Amplifier/Detector (Cont'd)	LM3089	National	5	TD6104	Toshiba	60	60	U427	Telefunken	110			
	LM3189	National		Radio Circuit, FM, Single Chip				U428	Telefunken				
	LM3361	National		TDA7021T	Signetics			TA7344	Toshiba				
	μPC1245	NEC		Receiver for Cellular Radio				Preamplifier, for Infrared Control					
	TBA750	Plessey		CA412	Calmos			μPC1473	NEC				
	KA2243	Samsung		Receiver Subsystem, Dual Conversion				μPC1474	NEC				
	LA1140	Sanyo		MC3362	Motorola (2972, 2990)			μPC1475	NEC				
	LA1150	Sanyo		MC3363	Motorola (2972, 2990)			TDA2320	SGS-Thomson				
	LA1231N	Sanyo		Receiver System				Preamplifier, for Ultrasonic Control					
	TCA3089	SGS-Thomson		TBB1469	Siemens			TDA3047	Signetics				
	SO41	Siemens		TBB2469	Siemens		65	Radio Control, Programmable 7-Channel RC Decoder		115			
	TBA120	Siemens		TBB469	Siemens			NE5045	Signetics				
	TBA129-2	Siemens		TDA7000	Signetics (3161)			Radio Control, Programmable 7-Channel RC Encoder					
	TBA229-2	Siemens		TDA7010T	Signetics (3162)			NE5044	Signetics				
	TDA1047	Siemens		TDA7020	Signetics (3163)			Receiver, Infrared					
	TDA4210-3	Siemens		KB4420B	Toko			TDA3047	Signetics				
	CA3089	Signetics		Receiver System, Direct Conversion, (Two-chip set)				TDA3048	Signetics				
	CA3089D2	Signetics		CA408	Calmos			UAA4000	SGS-Thomson				
	ULN2111A	Sprague		CA410	Calmos			Remote Control Amplifier, Infrared					
	TBA120	Telefunken		Receiver System with Squelch and Scan Control				CA3237	GE/RCA (2657)				
	TDA1093	Telefunken		MC3357	Motorola (2972, 2990)			Remote Control, Infrared					
	TDA4210	Telefunken		Receiver System (Two-chip set)				TDA8160	SGS-Thomson				
	U414	Telefunken		CA404	Calmos			TDA8162	SGS-Thomson				
IF Amplifier, Narrow Band				CA406	Calmos			SAA3004	Signetics				
IF Amplifier, PLL, Squelch, Narrow Band	MC3359	Motorola (2972, 2990)	25	RF/IF Amplifier				SAA3027	Signetics				
	MC3361	Motorola (2972, 2990)		CA3127	GE/RCA (2650, 2655)			SAA3028	Signetics				
	IR3N06	Sharp		Stereo Decoder				Remote Control Receiver					
	ULN3859A	Sprague		CA3195	GE/RCA (2653, 2657)			LR3715M	Sharp				
	ULN3862A	Sprague		HA1196	Hitachi			LU59002	Sharp				
	IF and Detector System			TCA4500A	Motorola (2949)			TA7657	Toshiba				
	KA2244	Samsung		LM1310	National		75	Remote Control Transmitter		130			
	KA22441	Samsung		LM1800	National			TA7333	Toshiba				
	KA2245	Samsung		LM1870	National			RF Amplifier/Mixer					
	IF Multiplex System for Headphone Audio												

♦ Available in Surface Mount Package

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LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Remote Control Circuits (Cont'd)				Speech Interface Control Logic	SPR000	Microchip		Auto Reverse and Auto Eject Plunger Driver	TD6304A	Toshiba	
Transmitter/Receiver (encoder/decoder), 2 device sets (Cont'd)				Speech Network Circuit	IR3N82	Sharp		TD6308A	Toshiba		
ML924	Plessey							TD6309	Toshiba		
ML926	Plessey			Speech Processor, ADPCM (for SRAM interface)	MSM6309	OKI		Automatic Cuing Circuit	LC7510	Sanyo	90
ML927	Plessey							LC7512	Sanyo		
ML928	Plessey			Speech Processor	TSP50C50	TI	50	Automatic Music Selection	TC9165	Toshiba	
ML929	Plessey							TC9167	Toshiba		
SL490	Plessey			Speech Recognition	MSM6253	OKI		Automatic Music Selection, Index Scan	TC9166	Toshiba	
SCL5284	† Sprague			Speech Recognition LSI	T6658A	Toshiba (3339)		Automatic Program Search	TC9138A	Toshiba	95
SCL5285	† Sprague							TC9139A	Toshiba		
U1334	Telefunken			Speech Scrambler/Descrambler	COM9046	SMC		Broad Band Compander	NE572	Signetics (3154)	
U3034	Telefunken							NE575	Signetics		
U3036	Telefunken			Speech Synthesis (Male/Female)	PCF8200	Signetics	55	Broadband Compander	U401	Telefunken	100
U3037	Telefunken			Speech Synthesis Processor	SP0256A	Microchip		U407	Telefunken		
U3038	Telefunken				SP0264	Microchip (2900)		U408	Telefunken		
U3043	Telefunken			Speech Synthesis Processor	MM54104	National		Controller (mode change, absence recording)	TC9121	Toshiba	
U318	Telefunken				MEA8000	Signetics (3168)		Digital Audio Tape (DAT) System, Drum Capstan Driver	HA13403	Hitachi	
U321	† Telefunken				SC01	Votrax		Digital Audio Tape (DAT) System, Error Control Circuit	HD49204	Hitachi	
U327	† Telefunken			Speech Synthesizer	UM5000	UMC		Digital Audio Tape (DAT) System, Filter	HD49202	Hitachi	105
U334	Telefunken							Digital Audio Tape (DAT) System, PLL Data Strobe	HA12062	Hitachi	
U336	Telefunken			Speech Synthesizer, Microprocessor and Memory	TSP50C40A	TI		Digital Audio Tape (DAT) System, Pre-Record Amplifier	HA12109	Hitachi	
U337	Telefunken				TSP50C41	TI		Digital Audio Tape (DAT) System, Record and Play Control	HD49203	Hitachi	
U338	Telefunken				TSP50C42	TI		Digital Audio Tape (DAT) System, Sample and Hold Circuit	HA12077	Hitachi	110
TC9132	† Toshiba				TSP50C43	TI		Digital Audio Tape (DAT) System, Servo Control	HD49207	Hitachi	
TC9134	Toshiba				TSP50C44	TI		Digital Audio Tape (DAT) System, 16 Bit ADC	HA12107	Hitachi	
TC9148	† Toshiba			Speech Synthesizer, ADPCM	MSM5205	OKI		Digital Audio Tape (DAT) System, 16 Bit DAC	HA12096	Hitachi	
TC9149	Toshiba				MSM5248	OKI		Digital Audio Tape (DAT) System, 16 Bit DAC/Sample and Hold	HA12108	Hitachi	
TC9150	Toshiba				MSM6212	OKI		IC Switch (cassette)	TC9143	Toshiba	115
					MSM6243	◊ OKI		TC9144	Toshiba		
Transmitter/Receiver, Preamplifier	TEA1009	ITT			L6212	SGS-Thomson		Motor Speed Control (automatic stop, dc manual stop, biasing and erasing oscillator)	TDA7770	SGS-Thomson	
6-channel Address-D/A Control Circuit	U3042	Telefunken		Speech Synthesizer, Voice, Music and Sound Effects	SC02	Votrax		Motor Speed Control, Stop, Pause, Cassette Ejection	TDA7270	SGS-Thomson	
Speech Circuits				Synthesized Speech Custom Masked ROM	TSP6100	TI		Power Amplifier (cassette)	TA7283	Toshiba	
Dedicated Mask ROM for Voice Synthesis (128K)	T6684	Toshiba		Talk-Back Circuit	UM5108	UMC		Power Amplifier (minicassette)	TA7331	Toshiba	
Dedicated Mask ROM for Voice Synthesis (64K)	T6772	Toshiba		Voice Recording/Reproducing LSI	T6668	Toshiba (3339)		Preamplifier, for auto-reversing systems	LM1837	National	120
Delta Modulation System, Continuously Variable Slope	HC55536	Harris		Voice Recording/Reproducing (using delta-modulation with external DRAM, for answering machines, message alarm clocks, and talk-back toys)	STBC1	Microchip		LM1837	SGS-Thomson		
HC55564	◊ Harris			Voice Synthesis LSI, Single Chip ADM	T6667	Toshiba (3339)		Preamplifier, Low-Noise Dual, for Autoreverse Car Stereo	TA7405	Toshiba	
Microphone Buffer Amplifier, Dual	μPC1273C	NEC		Voice Synthesis Processor	TSP5110A	TI		Preamplifier with ALC	LA3210	Sanyo	
Read-Only Memory	TSP60C20	TI		TSP5220C	TI			TDA2054	SGS-Thomson		
Recorder, ADPCM (stand alone)	MSM6258	OKI		Voice Synthesis, 4-Channel ADPCM	MSM6295	OKI		Preamplifier with ALC (cassette)	TDA1054M	SGS-Thomson	125
Recording/Playback Amplifier System, Dual	μPC1281G	NEC		Voice Synthesizing LSI	T6721A	Toshiba (3339)		Preamplifier with ALC (minicassette)	TA7330	Toshiba	
Recording/Playback Amplifier, Dual	μPC1272C	NEC			T6803	Toshiba (3339)					
Recording/Playback Preamplifier System	μPC1217G	NEC		Tape Recorder Circuits, Audio							
Recording/Reproduction (SRAM/EPROM)	TC8830F	Toshiba (3339)		Amplifier System (for cassette recorders)	TA7738	Toshiba					
Recording/Reproduction (1 MB DRAM type)	TC8831F	Toshiba (3339)		Amplifier, with AGC, for Recorders	TA7137	Toshiba					
Speaker Driver/Amplifier	MSC1161	OKI		TA7137-ST	Toshiba						
Speech Analysis and Synthesis LSI	T6831	Toshiba		Audio System	LM1818	National					
Speech Analyzer/Synthesizer, ADPCM	MSM5218	OKI									
Speech Encoding A/D Converter	PCM75	Burr-Brown (2558)									
Speech Generator	UAA1003	ITT									
	UAA1103	ITT									

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Tape Recorder Circuits, Audio (Cont'd)				CATV Amplifiers (hybrid) (Cont'd)				Channel Display and Clock			
Preamplifier with ALC, Dual	TA7668B	Toshiba	5	BGY59	Amperex	(Cont'd)	45	MM58146	National	95	
Recording and Playback System	HA12051	Hitachi		BGY60	Amperex			MM9016	National		
Tape Deck Amplifier System	TA7663	Toshiba		BGY61	Amperex			Channel Display Driver/Decoder	U143		
Tape Deck Amplifier, Dual Channel	TA7639	Toshiba		BGY65	Amperex			U143	Telefunken		
Tape Play System for Stereo Headphones	HA12052CFP	Hitachi		BGY67	Amperex		50	Channel Selection			
Voice Recording/Reproducing (using delta-modulation with external DRAM, for answering machines, message alarm clocks, and talk-back toys)	STBC1	Microchip		BGY67A	Amperex			μPC1361	NEC		
Single-Key On-Tape Program Selector	HA12054	SGS-Thomson		BGY70	Amperex			μPC1362	NEC		
Dual Preamplifier for Auto-Reverse Car Stereo	TA7705	Toshiba		BGY71	Amperex			μPC1363	NEC		
Tape Recorder Circuits, Video				BGY84	Amperex			IR2P01	Sharp		
Amplifier, Recording/Playback	U4100	Telefunken		BGY84A	Amperex			IR2P02	Sharp		
Compandor, DNS	U4200	Telefunken	10	BGY85	Amperex	55	Character Generator (indicates tuning voltage scale and band info on screen)	U191	Telefunken		
FM Limiter	HA11703	Hitachi		BGY85A	Amperex		Chroma Circuit	KA2154			
Slow/Still Motion Control	GL3667	GoldStar (2711)		BGY85H	Amperex		Chroma Circuit (horizontal/vertical, digital video)	HA11532			
Switchable Amplifier	U252	Telefunken		BGY86	Amperex		Chroma Circuits and Horizontal & Vertical Processor	KA2153			
Timer/Driver, Precision 16 Channel	CD22401	GE/RCA (2646)		BGY87	Amperex		Chroma Circuits (demodulators, IF amplifiers, luminance control, signal processors, and various combinations)				
VCR Audio Play/Record	GL3615	GoldStar (2711)		BGY88	Amperex		60	CA1398	GE/RCA (2658)	105	
Television Circuits				CATV Amplifiers (hybrid), 12 dB, 330 MHz				CA3070	GE/RCA (2658)		
Microprocessor Interface	M206	SGS-Thomson	MHW1122	Motorola	5			CA3071	GE/RCA (2658)		
A-D Converter 8-Bit Real Time	7532	OEI	CATV Amplifiers (hybrid), 14 dB, 450 MHz					CA3072	GE/RCA (2658)		
AGC Amplifier for Direct Broadcast Satellite TUR0 Receiver	μPC1476	NEC	MHW5141A	Motorola	65	CA3121	GE/RCA (2658)	110			
Auto Focus	RF3L06	Ricoh	MHW5142A	Motorola		CA3125	GE/RCA				
Bilingual Signal Processor	GL3813	GoldStar (2711)	CATV Amplifiers (hybrid), 14 dB, 550 MHz				CA3126		GE/RCA (2655, 2658)		
Cable TV Channel Processor	SDA2110	Siemens	MHW6141	Motorola		CA3151	GE/RCA (2658)		115		
Camera Sync. Generator	HD44007A	Hitachi	MHW6142	Motorola		CA3156	GE/RCA (2655, 2659)				
	3262A	National	CATV Amplifiers (hybrid), 17 dB, 330 MHz				CA3170			GE/RCA (2659)	
	3262B	National	MHW3171	Motorola	70	CA3172	GE/RCA				
	ZNA134E	Plessey	MHW3172	Motorola		CA3194	GE/RCA (2655, 2659)				
	ZNA134J	† Plessey	CATV Amplifiers (hybrid), 17 dB, 450 MHz				CA3217	GE/RCA (2655, 2659)			
CATV Amplifiers (hybrid)			15	MHW5171A		Motorola	GL3320	GoldStar (2711)	120		
BGD102	Amperex	MHW5172A		Motorola	75	HA11247	Hitachi				
BGD102E	Amperex	CATV Amplifiers (hybrid), 18 dB, 330 MHz				HA11431NT	Hitachi				
BGD104	Amperex	MHW3181		Motorola		HA11436A	Hitachi				
BGD104E	Amperex	MHW3182		Motorola		HA11480	Hitachi				
BGD502	Amperex	CATV Amplifiers (hybrid), 18 dB, 550 MHz				HA11494	Hitachi				
BGD504	Amperex	MHW6181		Motorola	80	MC1377	Motorola (2950, 2989)				
BGY56	Amperex	MHW6182		Motorola		TDA3301	Motorola (2950)	125			
BGY57	Amperex	CATV Amplifiers (hybrid), 22 dB, 330 MHz				TDA3303	Motorola (2950)				
BGY58A	Amperex	MHW3222		Motorola	90	TDA3330	Motorola (2950)				
BGY584	Amperex	CATV Amplifiers (hybrid), 22 dB, 450 MHz				TDA3333	Motorola (2950)				
BGY584A	Amperex	MHW5222	Motorola	KA2151		Samsung					
BGY585	Amperex	CATV Amplifiers (hybrid), 22 dB, 550 MHz				TDA3300	SGS-Thomson				
BGY585A	Amperex	MHW6222	Motorola	TEA1030		SGS-Thomson					
BGY586	Amperex	CATV Amplifiers (hybrid), 27 dB, 330 MHz				TEA5030	SGS-Thomson				
BGY587	Amperex	HSW3272A	Motorola	85	TDA3505	Signetics					
CATV Amplifiers (hybrid), 27 dB, 450 MHz					MHW5272A	Motorola	TDA4555		Signetics		
CATV Amplifiers (hybrid), 34 dB, 330 MHz					CATV Amplifiers (hybrid), 27 dB, 450 MHz				TBA520	Telefunken	
CATV Amplifiers (hybrid), 34 dB, 450 MHz					MHW3342	Motorola	TBA530		Telefunken		
CATV Amplifiers (hybrid), 34 dB, 550 MHz					CATV Amplifiers (hybrid), 34 dB, 330 MHz				TBA540	Telefunken	
CATV Amplifiers (hybrid), 38 dB, 450 MHz				MHW5342A	Motorola	80	TBA560	Telefunken	135		
CATV Feed Forward Amplifier (hybrid)				MHW6342	Motorola		TBA990	Telefunken			
CATV Power Doubling Amplifier (hybrid)				CATV Amplifiers (hybrid), 34 dB, 450 MHz				TDA2140		Telefunken	
CATV Reverse Amplifiers (hybrid), 200 MHz				MHW6342	Motorola		TDA2150	Telefunken			
				MHW5382A	Motorola		TDA2151	Telefunken			
				CATV Feed Forward Amplifier (hybrid)				TDA2160		Telefunken	
				MHW4524F	Motorola		TDA2161	Telefunken			
				CATV Power Doubling Amplifier (hybrid)				TDA3506		Telefunken	
				MHW5185	Motorola	85	TDA3560A	Telefunken		145	
				MHW6185	Motorola		TDA3562A	Telefunken			
				CATV Reverse Amplifiers (hybrid), 200 MHz				TA7141A	Toshiba		
				MHW1134	Motorola		TA7193	Toshiba			
				MHW1184	Motorola		TA7607A	Toshiba			
				MHW1224	Motorola		TA7611A	Toshiba			
				MHW1244	Motorola		TA7621	Toshiba			
				CATV Reverse Amplifiers (hybrid), 200 MHz				TA7622A	Toshiba		
								(Continued)			

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

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Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Television Circuits (Cont'd)											
Chroma Circuits (demodulators, IF amplifiers, luminance control, signal processors, and various combinations) (Cont'd)				Digital Tuning 1.3 GHz PLL SDA3202 Siemens				40 In-Set TV Pattern Control Logic NCM3010Z NCM			
				Display Controller, 20 characters x 9 lines MB88303 Fujitsu (2636)				Intercarrier Frequency Modulator NCM4002Y NCM			
TA7659 Toshiba				East-West Pincushion Correction Circuit TDA4950 SGS-Thomson				Intercarrier Frequency Modulator (internal PLL and Comparator) 4002Y-A NCM			
TA7660 Toshiba				Electronic Program Memory, 32-Station M293 SGS-Thomson				IR Amplifier, Narrow Band IR3N37/N Sharp			
TA7661 Toshiba				FM/IF Amplifier and Demodulator for TV/STEREO U2829B Telefunken				IR Remote Control Amplifier CA3237 GE/RCA (2657)			
TA7675A Toshiba				Frequency Synthesizer SAB3035 Signetics				45 Line Buffer for NTSC TV (910x8-bit) μ PD41101-1 NEC			
TA7676 Toshiba				Frequency Synthesizer for TV tuner U6316 Telefunken				μ PD41101-2 NEC			
TA7678A Toshiba				Gray Scale Enhancer, Real Time 2545 OEI				μ PD41101-3 NEC			
Chroma Signal Processor (SECAM) μ PC1364C2 NEC				Horizontal & Vertical Processor CA3202 GE/RCA (2656, 2659)				Line Buffer for NTSC TV (1135x8-bit) μ PD41102-1 NEC			
Chroma, Video Line Drivers (3) MC1379 Motorola				CA3223 GE/RCA (2656, 2659)				μ PD41102-2 NEC			
Chroma/Y-Mixer (digital video) HA11525 Hitachi				GL1150 GoldStar (2711)				μ PD41102-3 NEC			
Circle Generator 4006Z NCM				GL3401 GoldStar (2711)				μ PD42101-1 NEC			
Clock Synchronizer RCS401 ThirdDomain				HA11235 Hitachi				μ PD42101-2 NEC			
Color Bar Generator Chip NCM4322Z NCM				HA11441 Hitachi				μ PD42101-3 NEC			
Color Transient Improvement Circuit TDA4565 Signetics				HA11461NT Hitachi				Line Selector 4003Z NCM			
Color TV, Small-Signal Subsystem TDA4505 Signetics				HA11517 Hitachi				Luma/Chroma Circuit (horizontal/vertical with on-screen display) HA11531 Hitachi			
Composite Video Overlay Synchronizer for Color TV MC1378 Motorola (2950, 2989)				LM1880 National				Luma/Chroma Processor HA11431 Hitachi			
CRT Controller RP5C16 Ricoh				KA2921 Samsung				60 MATV Amplifiers (hybrid) OM320 Amperex			
DC Restorer and Sync Separator 6286 RSS102 ThirdDomain				TEA2017 SGS-Thomson				OM321 Amperex			
DC Volume, Dual μ PC1406HA NEC				TDA2578A Signetics				OM323 Amperex			
Decoder, 1 of 16 M054 SGS-Thomson				TDA2595 Signetics (3189)				OM323A Amperex			
M055 SGS-Thomson				Horizontal Processor CA1391 GE/RCA (2656, 2659)				OM335 Amperex			
Deflection Signal Processor μ PC1377C NEC				CA1394 GE/RCA (2656, 2659)				OM336 Amperex			
Deflection Signal Processor (b/w tv) μ PC1379C NEC				CA3210 GE/RCA (2656, 2659)				OM337 Amperex			
Deflection System (AFC, sync separator, noise detector, horiz. osc./buffer, vert. osc./driver amp) KA2134 Samsung				TBA940 ITT				OM337A Amperex			
Deflection System (AFC, vert. osc./driver output, sawtooth gen., horiz./osc. predriver) KA2133 Samsung				TBA950 ITT				OM339 Amperex			
Digital Tuning SAB3035 Signetics				TDA1950 ITT				OM345 Amperex			
SAB3036 Signetics				TDA9500 ITT				OM350 Amperex			
SAB3037 Signetics				TDA9503 ITT				OM360 Amperex			
Digital Tuning Device Set SAA1075 ITT				TDA9513 ITT				OM361 Amperex			
SAA1274 ITT				MC1391 Motorola (2951)				OM370 Amperex			
SAA1276 ITT				MC1394 Motorola				Modulator Circuit TDA5660 Siemens			
Digital Tuning, Divider +64 SDA2311 Siemens				LM1391 National				Modulator Circuit for Video Tape Recorders and Disc Players MC1374 Motorola (2950)			
Digital Tuning, Keyboard Encoder U3040 Telefunken				TBA920 SGS-Thomson				Modulator for TV, Video and Sound Signals TDA5665 Siemens			
U340 Telefunken				TDA1180 SGS-Thomson				Modulator Oscillator, to 600 MHz MC13024 Motorola (2949, 2990)			
Digital Tuning, PLL SDA3112 Siemens				TDA2593 Signetics				Monochrome TV, Small-Signal Subsystem TDA4503 Signetics			
Digital Tuning System Memory Controller TA7619A Toshiba				TDA2594 Signetics				NTSC Color Decoder TDA3567 Signetics			
Digital Tuning System (PLL) TC9137B Toshiba				TDA1940 Telefunken				NTSC Color Difference Decoder TDA4570 Signetics			
Digital Tuning, 1.3 GHz Divider +64 SDA4212 Siemens				TDA1950 Telefunken				NTSC TV Synchron Generator NCM3009Z NCM			
				TDA2591 Telefunken				On Screen Channel Display M191 SGS-Thomson			
				TDA2593 Telefunken				M192 SGS-Thomson			
				Horizontal System (AFC, osc/preamp, pulse width adj.) KA2135 Samsung				On-Screen Display (32 characters, 2 lines by 6 columns) μ PC6140C/G NEC			
				Horizontal System (sync separator, osc., output stage, protection circuit) KA2137 Samsung				On-Screen Display (48 characters, 2 lines by 12 columns) μ PD6141C/G NEC			
				IF and PLL Detector System MC13011 MC44301 Motorola (2951, 2991)				On-Screen Display (64 Characters, 12 lines by 24 columns) μ PD6142C/G NEC			
				IF Circuit HA11440 Hitachi							
				HA11485 Hitachi							
				HA11540 Hitachi							
				IF, Video, Chroma, Deflection Signal Processor μ PC1800CA NEC							
				Image Colorizer, Real Time (256 colors) 6730 OEI							

♦ Available in Surface Mount Package

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LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Television Circuits (Cont'd)				Sound Circuits (Cont'd)				Tuner Controller			
On-Screen Display (64 characters, 2 lines by 16 columns)	μPD6143C/G	NEC		μPC575	NEC			GL3711	GoldStar (2711)		
On-Screen Display (64 characters, 6 lines by 16 columns)	μPD6144C/G	NEC		TBA750	Plessey			SL952	Plessey		95
On-Screen Display (128 characters, 12 lines by 24 columns)	μPD6145C/G	NEC		KA2101	Samsung			Tuner Controller (2 device set)			
PAL/NTSC Decoder w/ RGB Inputs	TDA2582	Signetics		KA2102A	Samsung			SAA1020	ITT		
Pattern Generator	4001Z	NCM	5	LA1365	Sanyo		50	SAA1121	ITT		
Picture Tube Bias Circuit, Automatic	CA3224	GE/RCA (2656)		TDA1190	SGS-Thomson			SAA1220	ITT		
Program Memory (32x16)	U3070	Telefunken		TDA3190	SGS-Thomson			Tuner, VHF Mixer-Oscillator			
Radio	M755	SGS-Thomson		TDA4190	SGS-Thomson			TDA5030	Signetics (3159)		
Reference Voltage Regulator for Tuning	μPC574J	NEC	10	TDA8190	SGS-Thomson			TV Camera Sync Generator			
Remote Control Receiver, PCM	M104	SGS-Thomson		TBA130-2	Siemens		55	CD22402	GE/RCA (2655)		100
Remote Control Transmitter (key in/out, driver, output control, osc., data register)	KS5803A	Samsung (3040)		TDA6220	Siemens			TV Multiplexer/Demodulator (Europe)			
Remote Control Transmitter, PCM	M709	SGS-Thomson		TDA2545A	Signetics			IR3P02	Sharp		
RF Modulator	CA1890	GE/RCA (2655, 2657)	15	TDA2546A	Signetics			TV RGB Pattern Generator			
RGB Amplifier	TDA8153	SGS-Thomson		ULN2111A	Sprague			NCM4001Z	NCM		
RGB Interface	μPC1397C	NEC		TBA120	Telefunken		60	TV Synchron Generator			
RGB Interface (clamp, amplifier, contrast control, brightness control, switching pulse generator)	KA6101	Samsung		TA7130	Toshiba			NCM2001Z	NCM		
RGB Pattern Generator	NCM4011Z	NCM		TA7176A	Toshiba			NCM2011Z	NCM		
RGB to NTSC Converter	6291	OEI		TA7243	Toshiba		65	U. S. Multi-Sound Decoder			
RGB Video Amplifier System (for high resolution RGB color monitors)	LM1203	National		TA7314	Toshiba			μPC1870CA	NEC		105
RGB/YUV Switch	TDA8443	Signetics		TA7632	Toshiba			VCR Data-Back LSI Circuit			
Signal Processor, Bilingual	CA3142	GE/RCA (2656, 2659)		Sound Circuits, Stereo				LR3727	Sharp		
SMPS Controller	TDA4601B	SGS-Thomson		U828	Telefunken			Vertical Deflection			
Sound and Picture Processor	GL3120	GoldStar (2711)		Sound IF Processing, Sound Output (b/w tv)				GL1130	GoldStar (2711)		
Sound Circuits	HA11485ANT	Hitachi		μPC1353C	NEC			GL1170	GoldStar		
	CA1190	GE/RCA (2658)		Sound IF Signal Processor (dc volume)				LA7800	Sanyo		
	CA1191	GE/RCA (2658)		μPC1382C	NEC			TDA1170	SGS-Thomson		110
	CA3065	GE/RCA (2658)		Sound IF Signal Processor for Multi-Sound				TDA1170D	SGS-Thomson		
	CA3075	† GE/RCA		μPC1391HA	NEC			TDA1170N	SGS-Thomson		
	CA3134	GE/RCA (2658)		Sound Muting			70	TDA1670	SGS-Thomson		
	GL3201	GoldStar (2711)		KA2103	Samsung			TDA1770	SGS-Thomson		115
	HA1125	Hitachi		Sound Muting & Auto Power OFF				TDA2270	SGS-Thomson		
	TDA1235	ITT		KA2104	Samsung			TDA8170	SGS-Thomson		
	TDA1236	ITT		Sound, Parallel IF				TDA8172	SGS-Thomson		
	MC1358	Motorola		GL3202	GoldStar (2711)			TEA2015	SGS-Thomson		
	TBA120	Motorola (2951)		TDA4445	Telefunken			TDA2653	Signetics (3190)		120
	TDA1190	Motorola (2951)		Stereo Decoder			20	TDA2653A	Signetics (3190)		
	TDA1190P	Motorola (2951)		LM1884	National			TDA3653	Signetics (3192)		
	TDA3190P	Motorola (2951)		Stereo Sound Control				TDA1170	Telefunken		
	μPC1406	NEC		TDA6200	Siemens		75	TDA1770	Telefunken		
(Continued)				Synchron Generator				U2170B	Telefunken		
				2001Z	NCM			TA7242	Toshiba		125
				Sync Generator				Vertical Deflection Output Circuit			
				CA3254	GE/RCA (2655)			TDA3654	Signetics		
				CA3255	GE/RCA (2655)			Vertical Oscillator and Output			
				HD440072	Hitachi			μPC1031H2	NEC		
				Sync Generator with External Genlock				Vertical Output (driver, output, flyback gen., pulse shaper)			
				6750	OEI		80	KA2131	Samsung		
				Sync Separator				Vertical Output (14 to 21 inch CRT tube)			
				HA11423	Hitachi			μPC1488H	NEC		
				6288	OEI			Vertical Output (22 to 29 inch CRT tube)			
				Sync Separator (phase inverter, horiz. sync separator, vert. sync separator, composite sync separator, vert./horiz filter)				μPC1498H	NEC		130
				KA2605	Samsung			Vertical System (osc./driver output, sawtooth generator)			
				KA2606	Samsung			KA2130A	Samsung		
				Synchronization and Deflection Circuit				Vertical System (osc flyback, generator, sync, pre-power amp, ramp generator)			
				LA7801	Sanyo		85	KA2132	Samsung		
				LA7802	Sanyo			VHF Mixer			
				LA7806	Sanyo			U4777B	Telefunken		
				Synchronization Circuit				VHF Mixer/Oscillator, Low Power			
				TDA2579	Signetics (3191)			NE612	Signetics (3156)		
				Test Pattern Generator				VHF Tuner			
				ZNA234	Plessey			TUA2000-4	Siemens		135
				Tone Control				Video & Sound Circuit			
				TDA1524A	Signetics		90	KA2913	Samsung		
				Traffic Camera Controller				KA2914	Samsung		
				4004Z	NCM			Video Amplifier (single channel, 100 MHz)			
				Tuner Band Switching				HA11505	Hitachi		
				TA7315B	Toshiba			Video Amplifier (triple channel 100 MHz)			
				Tuner, CATV (to 700 MHz)				HA11533	Hitachi		
				TUA2007	Siemens			Video, Chroma Deflection Signal Processor			
								μPC1401CA	NEC		140
								μPC1420CA	NEC		

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Television Circuits (Cont'd)				Video IF (VCR connection and quasi-parallel sound)	TDA5830-2	Siemens	65	Sync Signal Generator	HD44007A	Hitachi	
Video Chroma (PAL) and RGB Matrix	GL3361	GoldStar		Video Line Driver	VLD212	ThirdDomain		HD61927	Hitachi		
Video, Chroma Signal Processor (NTSC)	μPC1352C	NEC		Video Op Amp	HA2544	Harris (2764)		TV/μP Interface	M106	SGS-Thomson	105
Video, Chroma Signal Processor (PAL)	μPC1365C	NEC		VOA901	ThirdDomain			Video Amplifier for VTR (AGC, FM limiter, demodulator, sync separator, output amplifier)	KA2945	Samsung	
Video Circuits (IF amplifiers, detectors, AGC, AFC, and various combinations)				Video Output Amplifier	HA11465	Hitachi		Video and Sound IF System	KA2917	Samsung	
CA3068	GE/RCA			Video Signal Controller	VSC920	ThirdDomain	70	KA2918	Samsung		
HA11440A	Hitachi		5	Video Switch	HA11477NT	Hitachi		KA2919	Samsung		
HA11466	Hitachi			TDA5850	Siemens			Video and Sound IF System (with deflection)	KA2915	Samsung	110
HA11476	Hitachi			Video Switch (high-speed multiplex)	HA11544	Hitachi		Video Camera Auto White Balance	HA11777MP	Hitachi	
MC13001	Motorola (2951)			Video Switch/Multiplexer	VSM912	ThirdDomain		Video Camera Color Separator and Detector	HA11774MP	Hitachi	
MC13001X	Motorola (2951)		10	Video Switch (pin programmable)	HA118088	Hitachi		Video Camera 4-Channel Processor	HA11767AMP	Hitachi	
MC13002	Motorola (2951)			Video Switch, 30 MHz Bandwidth (1x1)	LR401	Gennum	75	HA11776AMP	Hitachi		
MC13002X	Motorola (2951)			Video Switch 30 MHz Bandwidth (4x1)	LR404	Gennum		Video Display Generator	MC6847	Motorola (2932)	115
MC13010	Motorola (2951)		15	Video Sync Separator	LM1881	National		Video Modulator (interfaces audio, color, difference, and luminance signals to TV antenna terminals)	HA11466	Hitachi	
MC13014	Motorola (2951)			Video Sync Stripper (standard video input levels of 1–1.4 V p-p)	RSS100A	ThirdDomain		MC1372	Motorola		
MC1330A1	Motorola (2951)			Video Sync Stripper	RSS100C	ThirdDomain	80	LM1889	National		
MC1330A2	Motorola (2951)			RSS100M	† ThirdDomain		μPC1507	NEC			
MC1349	Motorola		20	Video Sync Stripper and Decoder	RSS102C	ThirdDomain		Write/Read Amplifier for VTR	KA2944	Samsung	120
MC1350	Motorola (2951)			RSS102M	† ThirdDomain			4-Channel Processor	HA11882A	Hitachi	
MC1352	Motorola			VIF and SIR Circuit	GL3130	GoldStar (2711)	30	Miscellaneous			
MC1372	Motorola			Volume Control, Digital (up/down counter, D/A, RC osc., voltage regulator)	KA2611	Samsung	35	Appliance Controller, D/A Converter	DAC1200	Burr-Brown (2553)	
MC1373	Motorola			Video Game Circuits				DAC1201	Burr-Brown (2552)		
LM1822	National			Audio Processor for VTR (record/playback, line muting)	KA8401	Samsung		DAC1600	Burr-Brown (2552)		
LM1823	National			Audio Processor for VTR (record/playback preamplifier, muting control)	KA2983	Samsung	40	Brushless Motor Speed Control, Two-Phase	μPC1295C	NEC	125
LM1886	National			Auto White Balance Circuit	HA11844B	Hitachi		Burner Controller	HA16605W	Hitachi	
LM1889	National			Color Encoder	HA11478	Hitachi	45	Capacitive Touch Light Dimmer Circuit	HI2410	Holt	
LM2889	National			Control Amplifier for VTR (CTL amp, FG amp, doubler)	KA8302	Samsung		HI2413	Holt		
TDA2540	National			Encoder Circuit	HA11883	Hitachi	50	Digital Lock	LS7220	LSI Comp (2883)	
TDA440	National			Filter Circuit	HA118003	Hitachi		LS7225	LSI Comp (2883)		
SL1430	Plessey			LED/Lamp Driver for VTR (4 NPN transistor array)	KA2615	Samsung (3040)	55	LS7226	LSI Comp (2883)		
SL1431	Plessey			KA2616	Samsung (3040)			LS7228	LSI Comp (2883)		
SL1432	Plessey			KA2617	Samsung (3040)			LS7229	LSI Comp (2883)		
TDA440	Plessey			KA2618	Samsung (3040)			Encoder/Decoder	UM3750	UMC	135
TDA440	Samsung			Motor Driver for VTR (preamp, logic circuit, driver)	KA8301	Samsung		UM3751	UMC		
KA2911	Samsung			Pre-Amplifier Circuit	HA118002	Hitachi	95	FG Motor Speed Control (frequency generator)	μPC1043C	NEC	
KA2912	Samsung			Sound IF Subsystem (IF amp, limiter, detector)	KA2105	Samsung	60	Ground Fault Interrupter	GL7101	GoldStar (2714)	
KA2916	Samsung			Sound IF Subsystem, Dual (IF amp, limiter, detector)	KA2106	Samsung		LM1851	National		
TBA1440G	SGS-Thomson			Sound Multiplexer (sound IF amp, limiter, detector, LED driver, VCO)	KA2268	Samsung		RV4143	Raytheon		
TBA1441	SGS-Thomson			Sound System (IF system and 2.4W audio power amp)	KA2102A	Samsung	100	RV4144	Raytheon		
TDA2540	SGS-Thomson							KA2803	Samsung		
TDA2541	SGS-Thomson							Infrared Signal Receiver	TDA4060	Siemens	
TDA2542	SGS-Thomson							TDA4061	Siemens		
TDA5400-2	Siemens							Micro Power Receiver (up to 200 kHz bandpass)	DS1203-200	◊ Dallas	
TDA5835	Siemens							Micro Power Receiver (up to 50 kHz bandpass)	DS1203-50	◊ Dallas	145
TDA4501	Signetics										
TDA4502	Signetics										
TDA440	Telefunken										
TDA4400	Telefunken										
TDA4410	Telefunken										
TDA4421	Telefunken										
TDA4426	Telefunken										
TDA4427	Telefunken										
TDA4428	Telefunken										
TDA4430	Telefunken										
TDA4431	Telefunken										
TDA4432	Telefunken										
TDA4440	Telefunken										
TDA4442	Telefunken										
TDA4450	Telefunken										
Video Control Combo Circuit w/ Auto Cut-Off Control	TDA4580	Signetics									
Video, IF and RF Amplifier	VA592	VTC (3384)									
	VA733	VTC (3384)									
Video IF and RF Amps	MC3361	Signetics									
	NE604A	Signetics (3157)									
	NE605	Signetics									
Video IF Signal Processor	μPC1356C2	NEC									
Video IF Signal Processor (b/w tv)	μPC1366C	NEC									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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LINEAR—Consumer Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line
Miscellaneous (Cont'd)				Tachometer Circuit	CS189	Cherry Semi	
Modulator Oscillator, to 600 MHz	MC13024	Motorola (2949, 2990)			XR2917	Exar	
Motor, Brushless DC Motor Commutator, 3 Phase	LS7262	LSI Comp (2883)			LM2907	National	
Motor, Brushless DC Motor Speed Controller, 4 Phase	LS7264	LSI Comp (2883)			LM2917	National	
Motor Controller, D/A Converter	DAC710	Burr-Brown (2552)		Tone Synthesizer for Doorchimes, Toys	AY3-1350	Microchip	55
	DAC711	Burr-Brown (2552)	5	Touch Activated Light Dimmer Circuit	HI1220	Holt	
Motor Controller, DC	HA16628P	Hitachi		Toy Radio Control Actuator	KA2302	Samsung	
	HA16629P	Hitachi			KA2303	Samsung	
Motor Driver, for 3-Phase brushless dc motors	HA13406W	Hitachi		Traffic Light Control Circuit	4004Z	NCM	
Motor Speed Regulator	CS2917	Cherry Semi		Tuning Voltage Stabilizer, for use with Variable Capacitance Diodes	TCA720	ITT	60
	μPC1470H	NEC			μPC574J	NEC	
Motor Speed Regulator and Driver for 3-Phase brushless dc motors	HA13426	Hitachi			KA33V	Samsung	
	HA13431	Hitachi		Universal Infrared Locking System (EEPROM 1K bit)	SDE2506	Siemens	
	HA13432	Hitachi		Universal Infrared Locking System (pre-amp with demodulator)	TDE4061	Siemens	
Music Chimes	SAB0600	Siemens		Universal Infrared Locking System (receiver)	SLE5002	Siemens	65
	SAB0601	Siemens		Universal Infrared Locking System (transmitter)	SLE5001	Siemens	
	SAB0602	Siemens		VU Meter LED Driver	KA2288	Samsung	
Peak Power Meter Driver, Dual (for hi-fi stereo)	TA7318	Toshiba		Zero Voltage Switch	KA2804	Samsung	
	TA7332	Toshiba		3 1/2-Digit A/D Converter (LCD/LED)	UM7106	UMC	
PROM, 30-Bit Field Programmable	CA414	Calmos			UM7107	UMC	70
Protector Circuit (overcurrent detection for OCL and speaker)	TA7317	Toshiba		4-Digit Countdown/Countup Timer	UM3206	UMC	
Revolution Counter Pulse Shaper	SAK215	ITT					
Servo Driver	NE544	Signetics					
Smoke Detector	CS235	Cherry Semi					
	MC14467	Motorola					
	LM1801	National					
	SCL5331-5	Sprague					
	SCL5331-6	Sprague					
	SCL5332	Sprague					
	SCL5334	Sprague					
	SCL5341	Sprague					
	SD2	Supertex					
	SD3A	Supertex					
Smoke Detector, Photoelectric with I/O	MC145010	Motorola					
Switch, Video and Audio	TDA8440	Signetics					
Switches	SAS560	Hitachi					
	SAS570	Hitachi					
	SAS6710	Telefunken					
Switches, DC-Controlled, Audio	LM1037	National					
	LM1038	National					
	TDA1029	Signetics					
Switches, Proximity	TDA0159	SGS-Thomson					
	TDA0161	SGS-Thomson					
	TDA0162	SGS-Thomson					
	TCA305	Siemens					
Switches, Touch-Sensitive Light Dimmer	LS7231	LSI Comp (2883)	45				
	LS7232	LSI Comp (2883)					
	LS7233	LSI Comp (2883)					
	LS7234	LSI Comp (2883)					
	LS7235	LSI Comp (2883)					
	LS7237	LSI Comp (2883)	50				

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

♦ Available in Surface Mount Package

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LINEAR—Followers

Bias Current nA 25°C	Offset Voltage mV 25°C	Voltage Drift μV/°C	Unity Gain Bandwidth MHz min	Slew Rate v/μs	Output V @ mA	Supply Range, V	Comments	Device	Source	Line
0.1	5	100	100 *	1000	9@100	± 5 to ± 20	Fast follower	LH0033A	Maxim	5
	10	25 *	100 *	1000	9@100	± 5 to ± 20	Fast Follower	ADLH0033	† AD (2429, 2461)	
								ELH0033	† Elantec	
								MC0033	† Micra	
								MP0033	MicroPwr	
								LH0033	◊† National	
								TP0033-HR	† TeledyneP	
		25*	100*	1000	9@100	± 5, ± 20	Fast Follower	CLH0033	TeledyneC	10
		100	100 *	1000	9@100	± 5 to ± 20	Fast Follower	LH0033	† Maxim	
	50	400	200	3000	10@200	± 11 to ± 18	Very Fast, FET	9963	OEI	
0.15	20	25 *	100 *	1000	9@100	± 5 to ± 20	Fast Follower	ADLH0033C	AD (2429, 2461)	15
								ELH0033C	Elantec	
								MC0033C	Micra	
								LH0033C	◊ National	
								TP0033	TeledyneP	
0.2 *	50	300 *	300 *	2000	10@200	± 5 to ± 20	Gain 0.094 (50 Ohm) Gain 0.92 (50 Ohm)	BB3553	† Maxim	20
								3553	† Burr-Brown (2542, 2544)	
0.25	15	100	100 *	1000	9@100	± 5 to ± 20	Fast follower	LH0033AC	Maxim	
0.4	6	90	55 *	220	10@22	± 6 to ± 18	Very Fast Follower	BUF03E	PMI	
		100	55 *	220	10@21	± 6 to ± 18	Very Fast Follower	BUF03A	◊ PMI	25
0.5	20	100	100 *	1000	9@100	± 5 to ± 20	Fast Follower	LH0033C	Maxim	
0.7	15	150	50 *	180	10@25	± 6 to ± 18	Very Fast Follower	BUF03F	PMI	
			170	50 *	180	± 6 to ± 18	Very Fast Follower	BUF03B	† PMI	
1	0.25	100	100	100	9@100	± 5 to ± 20	Fast Follower	LH0033/HR	† Maxim	30
3	4	6 *	20 *	30 *	10@1	± 5 to ± 18	Follower, Replaces 102	LM210	National	
								SFC2210	SGS-Thomson	
		12 *	20 *	30 *	10@1	± 5 to ± 18	Follower, Replaces 102	LM110	† National	
5	0.1	100	100	100	9@100	± 5 to ± 20	Fast Follower	LH0033A/HR	† Maxim	35
	0.5	25	140	1000	9@100	± 5 to ± 20	High Accuracy, Fast Follower	MAX460M	† Maxim	
					9@100	± 5 to ± 20	High Accuracy, Fast Follower	EL2005	† Maxim	
	20.0	100	200	1000	10@500	± 11 to ± 18	Fast, High Current	9911	OEI	
7	7.5	10 *	20 *	30 *	10@1	± 5 to ± 18	Dual 310 Follower Follower, Replaces 102	LH2310	GE/Intersil	40
								LM310	National	
10	1	25	140	1000	9@100	± 5 to ± 20	High Accuracy, Fast Follower	MAX460I	Maxim	
					9@100	± 5 to ± 20	High Accuracy, Fast Follower	EL2005C	Maxim	
	5	6 *	10 *	10 *	10@1.25	± 12 to ± 18	Follower	LM102	† National	45
20	20	100	39	1500	10@100	± 6 to ± 18	Video Line Driver	AH001-D	† OEI	
	20.0	100	60	2000	10@100	± 6 to ± 18	Very Fast Follower	9910	OEI	
25	0.2	200 *	100	2000	10@200	± 5 to ± 20	Very Fast Follower	MC0063	† Micra	
	0.5	300 *	200 *	2000	10@200	± 5 to ± 20	Very Fast Follower	LH0063	† Maxim	50
								LH0063	† National	
30	15	20 *	10 *	10 *	10@1.25	± 12 to ± 18	Follower	LM302	National	
	20	100	25	1000	10@± 50	± 3 to ± 15	6 Identical Sections	MZ320	AnalogSys	
35	15	33 *	250 *	1300	10@100	± 5 TO ± 20	Video Buffer	HA5033-2	† Harris (2766)	55
								HA5033-5	Harris (2766)	
50	0.5	300 *	200 *	2000	10@200	± 5 to ± 20	Very Fast Follower	LH0063C	Maxim	
								LH0063C	National	
5000	5	25	125 *	1400	12@100	—	Fast Follower	HOS100A	AD (2429)	55
								HOS100S	† AD (2429)	
	10	33	300*	1800	3.5@100	± 3 to ± 6		VA033	VTC (3384)	
7000	20	10 *	110	1300	10@100	± 5 to ± 22	Monolithic Buffer	HA5002-5	◊† Harris (2765)	
			110 *	1300	10@100	± 5 to ± 22	Monolithic Buffer	HA5002-2	◊† Harris (2765)	55
15000	1.5	33	275	2500	10@100	± 5 to ± 16	Gain = 0.99 (1k ohm)	OPA633A	† Burr-Brown (2542, 2544)	
20000	10	25	100	1000	± 4@ ± 100		Wideband, high speed amplifier/buffer/current booster.	EHOS200SH	† Elantec	
					± 12@ ± 100		Wideband, high speed amplifier/buffer/current booster.	EHOS200SH	† Elantec	55
							Wideband, high speed amplifier/buffer/current booster.	EHOS100SH	† Elantec	
							Wideband, high speed amplifier/buffer/current booster.	EHOS100SH	† Elantec	
	20	100	24 *	1500 *	10@100	± 6 to ± 18	Follower, Current Booster	AH0010C	OEI	
								AH0010F	◊ OEI	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Followers (Cont'd)

Bias Current nA 25°C	Offset Voltage mV 25°C	Voltage Drift μV/°C	Unity Gain Bandwidth MHz min	Slew Rate v/us	Output V @ mA	Supply Range, V	Comments	Device	Source	Line
25000	5 *		100	1200 *	-12@ ± 105					
					± 2.5 to ± 18	± 2.5 to ± 18	Video line driver/Video buffer.	EL2003	♦ † Elantec	
					± 12@105	± 2.5 to ± 18	Video line driver/Video buffer.	EL2033	† Elantec	
	25	25	100	1000	± 4@ ± 100		Wideband, high speed amplifier/buffer/current booster.	EHOS200AH	Elantec	
					± 12@ ± 100		Wideband, high speed amplifier/buffer/current booster.	EHOS100AH	Elantec	
					40		Wideband, high speed amplifier/buffer/current booster.	EHOS100AH	Elantec	
					± 12@ ± 100			EHOS100AH	Elantec	
					± 12@ ± 100			EHOS100AH	Elantec	

† Military Temperature Range (-55° to 125°C) ‡ High Radiation Resistance *Typical Value °Macrocell ♦ Available in Surface Mount Package

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LINEAR—Operational Amplifiers

Function	Device	Source	Line	mA V	Device	Source	Line	mA V	Device	Source	Line
General Purpose				High Output Current							
Dual Amplifiers. The 1458 (0°C to 70°C) and the 1558 (–55°C to 125°C) offer approximately the same performance as the 741. Compensation is built in.				30000@68 PA03 Apex (2480)				200@215 PA85 Apex (2480)			
XR1458 Exar				20000@100 PA04 Apex (2480)				200@10 μ A759C National			
CA1458 GE/RCA (2647)				15000@43 OPA512 Burr-Brown (2544)				μ A759M $\uparrow$ National			
HA17458 Hitachi				15000@43 PA12A $\uparrow$ Apex (2480)				150@160 PA08 Apex (2480)			
MC1458 Motorola (2954, 2989)				10000@39 PA12 Apex (2480)				PA08M $\uparrow$ Apex (2480)			
LM1458 National				10000@39 PA12M $\uparrow$ Apex (2480)				140@7 LB1032BC AT&T			
MC1458 Signetics				10000@32 PA51A $\uparrow$ Apex (2480)				130@13 ELH0041 $\uparrow$ Elantec			
NE5512 Signetics				10000@32 PA51M $\uparrow$ Apex (2480)				ELH0041C $\uparrow$ Elantec			
NE5514 Signetics				10000@28 PA51 Apex (2480)				MC0041 $\uparrow$ Micra			
SE5512 $\uparrow$ Signetics				10000@26 OPA501S $\uparrow$ Burr-Brown (2544)				MC0041C $\uparrow$ Micra			
SE5514 $\uparrow$ Signetics				10000@20 OPA501 Burr-Brown (2544)				130@13 LH0041 $\diamond$ National			
Dual Amplifiers. The 1458 (0°C to 70°C) and the 1558 (–55°C to 125°C) offer approximately the same performance as the 741. Compensation is built in.				OPA501A Burr-Brown (2544)				100@15 CA3094 $\uparrow$ GE/RCA (2648, 2656)			
μ A1458 National				10000@39 PA61A Apex (2480)				100@10 HOS060S $\uparrow$ AD (2428, 2461)			
The 101A series consists of the 101A (–55°C to 125°C), the 201A (–25°C to 85°C) and the 301 (0°C to 70°C). These units require an external compensation capacitor which permits the bandwidth to be optimized for particular applications.				10000@38 PA61 Apex (2480)				3329 Burr-Brown			
LM101A $\uparrow$ LinearTech				PA61M $\uparrow$ Apex (2480)				3554A Burr-Brown			
LM101A $\uparrow$ Motorola (2952)				5000@45 PA07 Apex (2480)				3554B Burr-Brown (2543)			
LM101A $\uparrow$ Raytheon (3024)				5000@44 PA10A $\uparrow$ Apex (2480)				3554S Burr-Brown (2543)			
The 101A series consists of the 101A (–55°C to 125°C), the 201A (–25°C to 85°C) and the 301 (0°C to 70°C). These units require an external compensation capacitor which permits the bandwidth to be optimized for particular applications.				5000@37 PA10 Apex (2480)				CLC200AM $\uparrow$ Comlinear			
AD101A $\uparrow$ AD (2470)				PA10M $\uparrow$ Apex (2480)				HA2542 Harris (2763)			
LM101A $\diamond$ National				5000@22 PA73 Apex (2480)				LH0003 $\uparrow$ National			
SG101A $\diamond$ SiliconG				5000@20 OPA511 Burr-Brown (2544)				TP3554 TeledyneP			
TA7506 Toshiba				5000@18 PA01 Apex (2480)				100@215 PA88 Apex (2480)			
The performance of the 741 series is similar to the 101. These units include internal compensation to make the device stable and to eliminate the need for an external capacitor.				5000@45 PA07M $\uparrow$ Apex (2480)				100@10 AD3554A AD (2470)			
AD741 $\uparrow$ AD (2427, 2462)				5000@22 PA73M $\uparrow$ Apex (2480)				AD3554S $\uparrow$ AD (2470)			
CA741 GE/RCA (2647)				5000@15 PA02 Apex (2480)				75@145 1480 TeledyneP			
MC1741 $\uparrow$ Motorola (2953, 2989)				PA02M $\uparrow$ Apex (2480)				75@40 3583 Burr-Brown (2544)			
LM741 $\uparrow$ National				4000@35 PA19 Apex (2480)				75@140 PA83 Apex (2480)			
μ A741 SGS-Thomson				3500@24 SG1173 SiliconG				PA83M $\uparrow$ Apex (2480)			
μ A741 $\uparrow$ Signetics				2500x2@18 PA21 Apex (2480)				75@4 LB1032AC AT&T			
SG741 $\diamond$ SiliconG				2000@32 PA09 Apex (2480)				60@30 3580J Burr-Brown (2544)			
TA7504 Toshiba				2000@22 LH0101 Maxim				60@30 PA80J Apex (2480)			
FET Input. The "741" of the FET input devices has yet to be established. Such a device requires very low cost, several sources, and many users. Commercial devices in the 155 series above meet some of these criteria, however, devices from the series below are generally lower in cost.				LH0101A $\uparrow$ Maxim				50@10 AD380S $\uparrow$ AD (2428, 2462)			
CA3140 $\uparrow$ GE/RCA (2647, 2657)				LH0101AC Maxim				AD382S $\uparrow$ AD (2428, 2462)			
CA3160 $\uparrow$ GE/RCA (2647)				LH0101C Maxim				9918 OEI			
CA3260 GE/RCA (2647, 2658)				2000@20 3573 Burr-Brown (2544)				AMP01 $\ddagger$ PMI			
LF351 Motorola (2953, 2989)				2000@12 MC0021 $\uparrow$ Micra				1430 TeledyneP			
LF13741 National				LH0021 $\uparrow$ National				50@10 AM500MM Datel (2598)			
LF351 National				2000@11 ELH0101 $\uparrow$ Elantec				9914A OEI			
FET Input. Bipolar/JFET available in standard (155), wideband (156) and uncompensated (157) versions, premium performance (A and B suffixes), and various temperature ranges (155, 255, 355, etc are available.) Some versions approach the low cost of the units below.				ELH0101A $\uparrow$ Elantec				47@14 LH0020 $\uparrow$ National			
PM155 $\uparrow$ PMI				ELH0101AC Elantec				LH0020C National			
				LH0101 $\uparrow$ National				40@143 PA84 Apex (2480)			
				LH0101A $\uparrow$ National				30@70 3581J Burr-Brown (2544)			
				LH0101AC National				25@10 * HA2541 Harris (2762)			
				2000@100 PB50 Apex (2480)				10@35 OPA541 Burr-Brown (2544)			
				2000@32 PA09M $\uparrow$ Apex (2480)							
				1100@11 ELH0021 Elantec							
				1000@10 ELH0021C Elantec							
				750@34 1461 TeledyneP							
				500@10 LH0061 $\uparrow$ National							
				200@10 3553 $\uparrow$ Burr-Brown (2542, 2544)							
				CLC103AM $\uparrow$ Comlinear							
				BB3553 $\uparrow$ Maxim							

$\uparrow$ Military Temperature Range (–55° to 125°C)

$\ddagger$ High Radiation Resistance

*Typical Value

$\diamond$ Macrocell

$\diamond$ Available in Surface Mount Package

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LINEAR—Operational Amplifiers (Cont'd)

Unity Gain Slew Rate (V/ μ s min)				Unity Gain Slew Rate (V/ μ s min)				Maximum Supply Voltage			
Device	Source	Line		Device	Source	Line		Device	Source	Line	
High Speed				High Voltage							
8000	CLC220AM	† Comlinear		100	HA5160 HA5162	Harris Harris	(Cont'd)	65	450/±225	PA85 PA88	Apex Apex (2480)
6000	CLC103AM	† Comlinear							350/±175	PA08V	Apex (2480)
4000	WA01	Apex (2480)							300/±150	PA08M PA82J PA84M	† Apex (2480) Apex (2480) † Apex (2480)
2000	AD844	AD (2428, 2451)	5						300	PA08 PA83 PA83M PA84	Apex (2480) Apex (2480) † Apex (2480) Apex (2480)
1500	ADLH0033	† AD (2429, 2461)							200/±100	PA04 PB50	Apex (2480) Apex (2480)
	HOS100S	† AD (2429)							150/±75	PA81J	Apex (2480)
1400	ADLH0033C	AD (2429, 2461)							150	PA03	Apex (2480)
	AD9615	AD (2428, 2451)							100/±50	PA07M	† Apex (2480)
	HOS100A	AD (2429)	10						100	PA07 PA10A PA12A	Apex (2480) † Apex (2480) † Apex (2480)
1000	AD3554	AD (2470)							90/±45	PA10M PA12M PA61 PA61M	† Apex (2480) † Apex (2480) Apex (2480) † Apex (2480)
	AD3554S	† AD (2470)							90	PA10 PA12	Apex (2480) Apex (2480)
	3554	Burr-Brown (2543)							80/±40	PA09 PA09M PA19	Apex (2480) † Apex (2480) Apex (2480)
	AM500GC	Datel (2598)	15						80	PA51A PA51M	† Apex (2480) † Apex (2480)
	AM500MC	Datel (2598)							72	PA51	Apex (2480)
	AM500MM	Datel (2598)							60/±30	PA73M	† Apex (2480)
	AH9914	OEI							60	PA73	Apex (2480)
	9914A	OEI							56/±28	PA01	Apex (2480)
600	HA2539	◊ Harris (2760)							±150	3582J 3583 3584	Burr-Brown (2544) Burr-Brown (2544) Burr-Brown (2544)
500	ADLH0032	† AD (2428, 2461)	20						±85	LB1013AD	AT&T
	ADLH0032C	AD (2428, 2461)							±75	3581J	Burr-Brown (2544)
	1430	TeledyneP							±40	HA2640 HA2645 MC1536 LH0004 LH0004C LM143 LM144 LM1536 SG143 SG1536 SG343 1332	† Harris Harris † Motorola (2954) † National National † National † National † National † SiliconG ◊† SiliconG SiliconG TeledyneP
	1430HR	† TeledyneP							±35	OPA550 3580J	Burr-Brown (2544) Burr-Brown (2544)
400	AD840	◊ AD (2428)	25						±34	MC1436 LM344 SG1436	Motorola (2953, 2989) National ◊ SiliconG
	HA2540	◊ Harris (2761)							±30	MC1436C LM343 SG1436C	Motorola (2953, 2989) National ◊ SiliconG
	MC0024	† Micra									
	LH0024	† National									
350 *	AD842	AD (2428)									
350	ELH0032	† Elantec	30								
	ELH0032C	Elantec									
350 *	HA2542	Harris (2763)									
350	MC0032	† Micra									
	MC0032C	Micra									
	LH0032C	◊ National									
300	AD848	AD (2428)	35								
	AD849	AD (2428)									
	HOS050	† AD (2428, 2461)									
	HOS050A	† AD (2428, 2461)									
	HOS050C	AD (2428, 2461)									
	HOS060S	† AD (2428, 2461)	40								
	AM1435MC	Datel									
	AM1435MM	Datel									
	9916	OEI									
250	AD841	AD (2428)	45								
	AD843	AD (2428, 2451)									
	3551J	Burr-Brown (2543)									
	3551S	† Burr-Brown (2543)									
	HA2541	Harris (2762)									
	MC0024C	Micra									
	LH0024C	National	50								
	9906	OEI									
	1435	† TeledyneP									
200	AD380S	† AD (2428, 2462)									
160	HA5190	◊ Harris	55								
	HA5195	Harris									
135	HA2529	Harris									
120	HA2525	Harris									
100	AD509K	AD (2428, 2462)	60								
	AD509S	† AD (2428, 2462)									
	OPA605	Burr-Brown (2543)									
	3550K	Burr-Brown (2543)									
	HA2520	◊† Harris									
	HA2544	Harris (2764)									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers (Cont'd)

Current pA 25°C	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Low Bias Current				Low Drift				(Cont'd)			
0.01	ICH8500A	GE/Intersil (2673)		0.05	AM7650	Datel (2598)		1	LM11	† National	
0.075	AD515L	AD (2427, 2470)		0.2	RC4207	Raytheon	45		LM11C	† National	
	OPA104CM	Burr-Brown			RC4227	Raytheon			LM725A	† National	
	3528C	Burr-Brown			RM4207	† Raytheon		1.0 (dual unit)	MP5510A	† MicroPwr	115
0.1	OPA106W	† Burr-Brown	5		RM4227	† Raytheon			MP5510B	MicroPwr	
	ICH8500	GE/Intersil (2673)			OP07M	† TI			MP5510E	MicroPwr	
0.15	AD515K	AD (2427, 2470)		0.5	AD510L	AD (2462, 2470)	50	1.2	HA5134A	Harris (2768)	
	OPA104BM	Burr-Brown			3510C	Burr-Brown		1.3	HA5135-5	◊ Harris	
	OPA106V	† Burr-Brown			LT1002A	† LinearTech		1.8	HA5127	Harris	120
	3528B	Burr-Brown	10		LT1002AC	LinearTech			HA5137	Harris	
0.2	ADOP07	◊† AD (2427, 2429, 2462)		0.6	OPA27A	† Burr-Brown (2540, 2542, 2544)			HA5147	Harris (2770)	
	HA5180	Harris						2.0	HA5134	Harris (2768)	
	HA5180A	Harris			OPA27E	Burr-Brown (2540, 2542, 2544)		5	OPA2107	Burr-Brown (2540, 2543)	
0.25	AD523L	AD (2471)			OPA37A	† Burr-Brown (2540, 2542)					
0.3	AD515J	AD (2427, 2470)	15		OPA37E	Burr-Brown (2540, 2542)	60				
	OPA104AM	Burr-Brown			AM430B	Datel (2598)					
	OPA106U	† Burr-Brown			HA5127A	Harris					
	3528A	Burr-Brown			HA5130	Harris					
0.5	AD504M	AD	20		HA5130-5	Harris					
	AD510L	AD (2462, 2470)			HA5137A	Harris	65				
	AD517L	AD (2429, 2462)			HA5147A	Harris (2770)					
	AD523K	AD (2471)			LT1001AC	LinearTech					
	3510C	Burr-Brown			LT1001AM	† LinearTech					
	MP5505A	† MicroPwr			LT1007AC	LinearTech					
	LH0044A	† National	25		LT1007AM	† LinearTech	70				
	LH0044C	National			LT1037AC	LinearTech					
1	AD523J	AD (2471)			LT1037AM	† LinearTech					
	AD545K	AD (2427, 2470)			OP05E	LinearTech					
	AD545L	AD (2427, 2470)			OP07A	† LinearTech	75				
	AD545M	AD (2427, 2470)	30		OP27A	† LinearTech					
	OPA100C	Burr-Brown			OP27E	LinearTech					
	OPA103	Burr-Brown			OP37A	† LinearTech					
	OPA105	† Burr-Brown			OP37E	LinearTech					
	ICL8007AC	GE/Intersil (2673, 2675)			MP5507A	† MicroPwr	80				
	ICL8007AM	† GE/Intersil (2673, 2675)	35		MP5507E	MicroPwr					
	LH0052	† National			OP27A	† Motorola (2954)					
2	OPA103BM	Burr-Brown			OP27E	Motorola (2953)					
	3527B	Burr-Brown			OP37A	† Motorola					
3	OPA103AM	Burr-Brown			OP37E	Motorola					
5	CA3080	GE/RCA (2647)	40		μA714M	† National	85				
	CA3080A	† GE/RCA (2647)			OP05E	PMI					
50	HA5160	† Harris			OP07A	◊± PMI					
100	HA5170	◊† Harris			LT1007AM	TI					
					LT1007M	TI	90				
					LT1037AM	TI					
					LT1037M	TI					
					OP37A	TI					
					OP37C	TI					
				0.8	OPA627	Burr-Brown (2540, 2542)					
				1	AD504L	AD	95				
					AD504S	† AD					
					AD510K	AD (2462, 2470)					
					AD510S	† AD (2462, 2470)	100				
					AD517K	AD (2429, 2462)					
					AD517S	† AD (2429, 2462)					
					AD547L	AD (2427, 2429, 2462)					
					3291	Burr-Brown					
					3510B	Burr-Brown					
					3510S	† Burr-Brown	105				
					3521L	Burr-Brown					
					OP05	† LinearTech					
					MP5505A	† MicroPwr					
					μA725EC	National					
					LH0044	± National					
					LH0044C	National	110				
						(Continued)					

† Military Temperature Range (–55° to 125°C)

± High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers (Cont'd)

Supply Current $\mu A @ \pm 15V$	Device	Source	Line	Supply Current $\mu A @ \pm 15V$	Device	Source	Line	Supply Current $\mu A @ \pm 15V$	Device	Source	Line
Low Power				Programmable				$\mu A @ \pm 8V$			
Non-Adjustable				The current drain limits of these units are approximately 10–300 μA .							
9	OP215B	◊† PMI			LB1035AC	AT&T		20	ICL7611M	◊† GE/Intersil (2673, 2675)	
	OP215C	◊† PMI			ICL4250C	† GE/Intersil			ICL7631M	† GE/Intersil (2673, 2675)	70
	OP215F	◊ PMI			ICL8021C	◊ GE/Intersil (2675)			ICL7632M	† GE/Intersil	
	OP215G	◊ PMI			ICL8021M	◊† GE/Intersil (2675)			ICL7642M	† GE/Intersil (2673, 2675)	
15	ICL7713	GE/Intersil (2674)	5		CA3078	† GE/RCA (2647)	50		ICL7611M	◊† Maxim	
45	OP20B	† PMI			CA3078A	† GE/RCA (2647)			ICL7631M	◊† Maxim	75
	OP20C	† PMI			CA3094	† GE/RCA (2648, 2656)			ICL7632M	◊† Maxim	
	OP20F	PMI			CA3094A	† GE/RCA (2648, 2656)		200	ICL7611C	◊ GE/Intersil (2673, 2675)	
	OP20G	PMI			CA3094B	† GE/RCA (2648, 2656)			ICL7612C	◊ GE/Intersil (2673)	
	OP20H	◊ PMI	10		CA6078A	† GE/RCA (2648)			ICL7612M	◊† GE/Intersil (2673)	
65	HA5141A	Harris (2769)			GL386	† GoldStar (2712)	55		ICL7613C	GE/Intersil	80
	HA5142A	◊ Harris (2769)			HA2720	† Harris			ICL7613M	† GE/Intersil	
	HA5144A	◊ Harris (2769)			HA2725	Harris			ICL7614C	GE/Intersil	
80	HA5141	Harris (2769)			MC1776	† Motorola (2953, 2989)			ICL7615C	GE/Intersil	
	HA5142	Harris (2769)	15		MC1776C	Motorola (2953, 2989)			ICL7616C	GE/Intersil	
	HA5144	Harris (2769)			MC3476	Motorola	60		ICL7616M	† GE/Intersil	
150	ICL7712	GE/Intersil (2674)			MC3476	Motorola			ICL7621C	GE/Intersil (2673, 2675)	85
200	TL061 Series	◊ TI			$\mu A776C$	National			ICL7622C	GE/Intersil	
220	OP420B	† PMI			LM4250	† National			ICL7631C	GE/Intersil (2673, 2675)	
	OP420C	◊† PMI	20		LM4250C	† National			ICL7642C	GE/Intersil (2673, 2675)	
	OP420F	PMI			OP32	PMI	65		ICL7611C	◊ Maxim	
	OP420G	PMI			UC4250	† Solitron			ICL7612C	◊ Maxim	90
250	HA5151	† Harris (2771)			UC4250C	Solitron			ICL7612M	◊† Maxim	
	HA5152	† Harris (2771)			15–70 μA	$\mu PC253$	† NEC		ICL7614C	◊ Maxim	
	HA5154	† Harris (2771)	25						ICL7616C	Maxim	
275	OP21G	Burr-Brown							ICL7616M	† Maxim	95
350	OP21B	† PMI							ICL7621C	Maxim	
	OP21F	PMI							ICL7622C	Maxim	
400	LF442A	National							ICL7631C	◊ Maxim	
	OP21G	PMI	30						ICL7642C	◊ Maxim	
500	LF442	National							LB1035AC	AT&T	
600	LM108	◊† GE/Intersil									
	LM108	† Motorola (2952)									
	LM212	Motorola	35								
	$\mu A108$	† National									
	LM108	◊† National									
	LM112	† National									
	LM212	National									
	OP08	‡ PMI	40								
	OP12	‡ PMI									
	PM108	‡ PMI									
	LH2108A	Raytheon (3024)									
	LM108A	Raytheon (3024)									
	LM108	† SGS-Thomson	45								
	LM108	† TI									
								Programmable			
								Single (1 unit per package)			
									LB1030AB	AT&T	100
									LB1031AC	AT&T	
									LB1032AC	AT&T	
									LB1032BC	AT&T	
									LB1034AC	AT&T	
									LB1035AC	AT&T	105
									ICL4250C	† GE/Intersil	
									ICL7611C	◊ GE/Intersil (2673, 2675)	
									ICL7611M	◊† GE/Intersil (2673, 2675)	
									ICL7612C	◊ GE/Intersil (2673)	
									ICL7612M	◊† GE/Intersil (2673)	110
									ICL7613C	GE/Intersil	
									ICL7613C	GE/Intersil	
									ICL7613M	† GE/Intersil	
									ICL7616C	GE/Intersil	
									ICL7616M	† GE/Intersil	115
									ICL8021C	◊ GE/Intersil (2675)	
									ICL8021M	◊† GE/Intersil (2675)	
									CA3078	† GE/RCA (2647)	
									CA3078A	† GE/RCA (2647)	
									CA3094	† GE/RCA (2648, 2656)	120
									CA3094A	† GE/RCA (2648, 2656)	
									CA3094B	† GE/RCA (2648, 2656)	
									GL386	† GoldStar (2712)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers (Cont'd)

Function	Device	Source	Line	Supply Voltage, V	Device	Source	Line	Supply Voltage, V	Device	Source	Line
Programmable (Cont'd)				Single Supply				Dual Units			
Single (1 unit per package) (Cont'd)				Single Units				to 20			
	HA2720	† Harris		to 24	CA3094	† GE/RCA (2648, 2656)			OP215B	◊† PMI	80
	HA2725	Harris			GL386	† GoldStar (2712)			OP215C	◊† PMI	
	ICL7611C	◊ Maxim		to 30	OP32	PMI	50		OP215F	◊ PMI	
	ICL7611M	◊† Maxim		to 36	CA3094A	† GE/RCA (2648, 2656)			OP215G	◊ PMI	
	ICL7612C	◊ Maxim	5		CA3140	† GE/RCA (2647, 2657)		1 to 16	TLC252C	TI	
	ICL7612M	◊† Maxim			μA759C	National		2 to 30	HA5142	Harris (2769)	85
	ICL7616C	Maxim			μA759M	† National			HA5142A	◊† Harris (2769)	
	ICL7616M	† Maxim			μA77000	National			HA5152	† Harris (2771)	
	MC1776	† Motorola (2953, 2989)		to 44	CA3094B	† GE/RCA (2648, 2656)	55	3 to 16	TLC272C	◊ TI	
	MC1776C	Motorola (2953, 2989)	10		1 to 16	ICL7612C	◊ GE/Intersil (2673)	3 to 26	CA2904	GE/RCA (2647)	90
	MC3476	Motorola (2953)				ICL7612M	◊† GE/Intersil (2673)		HA17902	Hitachi	
	μA776C	National				ICL7616C	GE/Intersil		LM2902	Motorola (2956, 2989)	
	μA776M	† National				ICL7616M	† GE/Intersil		LM2904	Motorola (2955, 2989)	
	LM4250	† National				ICL7612C	◊ Maxim		LM2902	National	
	LM4250C	† National	15			ICL7612M	◊† Maxim		LM2904	National	
	μPC4250	† NEC				ICL7616C	Maxim	60	LM2902	Raytheon	95
	μPC802	† NEC				ICL7616M	† Maxim		LM2904	SGS-Thomson	
Dual (2 units per package)						TLC251C	◊ TI		LM2904	TI	
	ICL8022C	◊ GE/Intersil		2 to 30	HA5141	Harris (2769)	65	3 to 30	CA158	† GE/RCA (2647)	100
	ICL8022M	◊† GE/Intersil			HA5144A	◊† Harris (2769)			CA258	GE/RCA (2647)	
	LH24250	† National	20		HA5151	† Harris (2771)			CA358	GE/RCA (2647, 2653)	
	LH24250C	National							GL358	GoldStar (2714)	
Triple (3 units per package)									HA17358	Hitachi	
	ICL7632C	GE/Intersil		3 to 16	AD821	AD (2429)	70		LM158	† Motorola (2955)	105
	ICL7632M	† GE/Intersil			TLC271C	◊ TI			LM258	Motorola (2955, 2989)	
	ICL8023C	GE/Intersil (2675)		4 to 16	TLC271M	◊† TI			LM358	Motorola (2954, 2989)	
	ICL8023M	† GE/Intersil (2675)	25	5 to 16	CA3130	† GE/RCA (2647, 2653, 2657)	75		LM158	† National	
	CA3060	GE/RCA (2647, 2650)			CA3130A	† GE/RCA (2647, 2653, 2657)			LM158A	† National	
	CA3060A	GE/RCA (2647, 2650)			OP20B	† PMI			LM258	National	110
	CA3060B	GE/RCA (2647, 2650)			OP20C	† PMI			LM258A	National	
	ICL7632C	◊ Maxim			OP20F	PMI			LM358	National	
	ICL7632M	◊† Maxim	30		OP20G	PMI			LM358A	National	
	SG1253	◊† SiliconG			OP20H	◊ PMI			LM158	† Signetics	
	SG2253	◊ SiliconG		250	HA5151	† Harris (2771)			LM258	Signetics	115
	SG3253	◊ SiliconG							LM358	Signetics	
	L144A	† Siliconix							NE532	Signetics	
	L144B	Siliconix	35						SE532	† Signetics	
	L144C	Siliconix							LM158	◊† TI	
Quad (4 units per package)									LM258A	TI	120
	XR146	† Exar (2619)							LM358	TI	
	XR246	Exar (2619)							TL321C	TI	
	XR346	Exar							TL321M	† TI	
	XR4202	◊ Exar	40					4 to 16	TLC272M	◊† TI	
	XR4202M	◊† Exar						5 to 30	OP220	PMI	125
	MC3575	† Motorola							OP221	PMI	
	LM146	† National						8 to 36	TBA231	SGS-Thomson	
	LM246	National	45								
	LM346	National									
Quad (4 units per package)											
	XR34074	Exar (2619)									
	XR356	Exar (2619)									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers (Cont'd)

Supply Voltage, V	Device	Source	Line	Supply Voltage, V	Device	Source	Line	Unity Gain Bandwidth MHz	Device	Source	Line
Single Supply (Cont'd)				Wide Band							
Quad Units											
1 to 16	TLC254C	TI		5 to 30	OP420F	PMI		10	RC4560	Raytheon	65
2 to 30	HA5144	Harris (2769)			OP420G	PMI		15	4562	Raytheon	
	HA5144A	† Harris (2769)						40 *	AD380J	AD (2428, 2462)	
	HA5154	† Harris (2771)							AD380K	AD (2428, 2462)	
									AD380L	AD (2428, 2462)	
									AD380S	† AD (2428, 2462)	70
3 to 16	TLC274C	† TI	5					40	HA2400	† Harris	
3 to 26	LM2902	SGS-Thomson						40 *	HA2404	Harris	
3 to 30	CA124	† GE/RCA (2647)							HA2405	Harris	
	CA224	GE/RCA (2647)							HA2406-5	Harris	
	CA324	GE/RCA (2647, 2653, 2658)						40	HA2541	Harris (2762)	75
									HA2544	Harris (2764)	
	GL324	GoldStar (2714)	10					40 *	VA2705	VTC (3383)	
	HA17324	Hitachi							VA2706	VTC (3383)	
	LM124	† Motorola (2957)							VA2715	VTC (3383)	
	LM224	Motorola (2956, 2989)							VA2716	VTC (3383)	80
									VA4705	VTC (3383)	
	LM324	Motorola (2956, 2989)							VA4706	VTC (3383)	
									VA705	VTC (3383)	
									VA706	VTC (3383)	
	μA124M	† National	15					50 *	3551J	Burr-Brown (2543)	85
	μA224	National							3551S	† Burr-Brown (2543)	
	μA324C	National							CA3015	† GE/RCA (2647)	
	LM124	† National	20						CA3030	GE/RCA (2647)	
	LM224	National							CA3030A	GE/RCA (2647)	
	LM324	National							CA3038	† GE/RCA (2647)	90
	μPC324	NEC							CA3038A	† GE/RCA (2647)	
	LM124	† Raytheon (3025)						60	HA5112	† Harris	
	LM224	Raytheon (3025)							HA5114	† Harris	
	LM324	† Signetics	25						HA5137	Harris	
	LM224	Signetics						60 *	1430	TeledyneP	95
	LM324	Signetics							1430HR	† TeledyneP	
	SG124	† SiliconG						65 *	HA17715	Hitachi	
	SG224	† SiliconG							μA715C	National	
	SG324	† SiliconG	30						μA715M	† National	
	LM124	† TI						70 *	ADLH0032	† AD (2428, 2461)	100
3 to 36	XR3403	† Exar (2619)							ADLH0032C	AD (2428, 2461)	
	XR3503	† Exar						70	OPA602	Burr-Brown (2540, 2543)	
	MC3303	Motorola (2957)						70 *	OPA605	Burr-Brown (2543)	
	MC3403	Motorola (2956, 2990)	35						3554A	Burr-Brown (2543)	
									3554B	Burr-Brown (2543)	
	MC3503	† Motorola (2957)							3554S	Burr-Brown (2543)	105
	μA3303C	National							ELH0032	† Elantec	
	μA3403C	National							ELH0032C	Elantec	
	RC3403	Raytheon (3025)						70	HA2542	Harris (2763)	
	RM3503	† Raytheon	40					70 *	MC0024	† Micra	110
	MC3503	† TI							MC0024C	Micra	
3 to 44	MC33074	Motorola (2957)							MC0032	† Micra	
	MC34074	Motorola (2956, 2991)							MC0032C	Micra	
									LH0024	† National	
	MC35074	† Motorola (2957)							LH0024C	National	115
4 to 16	TLC274M	† TI	45						LH0032A	† National	
4 to 18	CA3401	† GE/RCA (2647)							LH0032C	† National	
	HA17301	Hitachi						90 *	AD3554	AD (2470)	
	MC3401	Motorola (2956, 2990)							AD3554S	† AD (2470)	
								100 *	HOS050	† AD (2428, 2461)	120
	LM3401	National							HOS050C	AD (2428, 2461)	
	RC3401	Raytheon	50						HOS060S	† AD (2428, 2461)	
4 to 28	MC3301	Motorola (2957)						100	AM500GC	Datel (2598)	
	LM3301	National							AM500MC	Datel (2598)	
	RC3301	Raytheon							AM500MM	Datel (2598)	
4 to 32	LM2900	Motorola (2957)							AM500MR	Datel (2598)	125
	LM3900	Motorola (2956, 2989)	55						HA2620	† Harris	
	LM2900	National									
	LM3900	National									
	LM2900	Raytheon									
	LM3900	Raytheon (3025)									
	LM2900	† TI	60								
5 to 30	OP420B	† PMI									
	OP420C	† PMI									

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers (Cont'd)

Unity Gain Bandwidth MHz	Device	Source	Line
Wide Band			
(Cont'd)			
100		(Cont'd)	
	HA5160	Harris	
	HA5162	Harris	
	9906	OEI	
	NE5539	Signetics (3141)	
	SE5539	† Signetics	5
	HA2622	† Harris	
	HA2625	Harris	
100 (–3db)	CLC200A	Comlinear	
	CLC200AM	† Comlinear	
120	HA5147	Harris (2770)	10
150	EHA5190	Elantec	
	EHA5195	Elantec	
	XR4560	Exar	
	HA5190	◊ Harris	15
	HA5195	Harris	
150 (–3db)	CLC103AM	† Comlinear	
170	OPA620	Burr-Brown (2543)	
200	9916	OEI	
	9918	OEI	
200 (–3db)	CLC220AM	† Comlinear	20
250	OPA621	Burr-Brown (2543)	
300	9914A	OEI	
400	EHA2540	Elantec	
	HA2540	◊ Harris (2761)	
500 *	1435	† TeledyneP	25
600	EHA2539	Elantec	
	HA2539	◊ Harris (2760)	
1000	WA01	Apex (2480)	
	OPA600/883B	Burr-Brown (2543)	
3000	OPA675	Burr-Brown (2543)	30
	OPA676	Burr-Brown (2543)	
150	LH4117	† National	
	LH4117C	National	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line	
Single Units													
In this list the 'Comp.' column indicates the number of compensation components required at unity gain. Thus 0 indicates a fully compensated amplifier. The bandwidth and slew rate are listed with the amplifier compensated for unity gain.													
± 0.5	± 0.02	± 0.02	± 10	1	5	100K	100	1	450 V Amplifier	PA88A	† Apex (2480)		
± 2	± 0.05	± 0.05	± 30	1	5	100K	100	1	450 V Amplifier	PA88	† Apex (2480)		
0.001	0.05	0.05	0.02	1	1		160	0		MAX425	◊† Maxim		
0.005	0.003	0.06	0.05	0.45 *	0.5 *	10M	120	0	Ultra Low Offset, ± 15V, Chopper Stabilized	MAX421 MIC421	† Maxim ◊† Maxim	5	
									Ultra Low Offset, ± 15V, Low Power Chopper Amp	MAX422 MAX423	† Maxim † Maxim		
0.01	0.0005	0.05	0.05	2	2.5	10M	120	0	Auto-Zeroed Chopper Stabilized	TSC7650 ICL7650C	TeledyneS GE/Intersil (2673)	10	
	0.005	0.01	0.01	2 *	2.5 *	10M	120	0		ICL7650C	◊ Maxim		
	0.02	0.05	0.05	2 *	2.5 *	5M	120	0	Chopper Stabilized	ICL7650	◊† Maxim		
0.015	0.5	0.2	0.2	1	4	1M	120	0	Auto-Zeroed Amplifier	TSC7650A	◊ TeledyneS		
0.03	0.06	0.05	0.05	0.45 *	0.5 *	1M	110	0	Chopper Stabilized	ICL7652	GE/Intersil (2673)	15	
										ICL7652	◊ Maxim		
				1	3 *	1M	120	0	Low Noise, Chopper Stabilized	LTC1052C LTC1052M LTC7652C LTC7652M	LinearTech † LinearTech LinearTech † LinearTech	20	
				0.1	0.5	0.5	1M	120	0	High Voltage Auto-Zeroed Amplifier	TSC9420 TSC9421	TeledyneS TeledyneS	
	0.060	0.05 *	0.45 *	0.5			130			SI7652B SI7652C	Siliconix Siliconix		
0.035	0.065	0.05	0.05	2.5	4	3M	120	0	Chopper Stabilized	LTC1050AC LTC1050AM	LinearTech † LinearTech	25	
0.05	0.0005 *	0.05	0.7 *	0.2 *	1M	110	0	0	Auto-Zeroed Chopper Stabilized	TSC900A	TeledyneS		
	0.1	0.05	2.5	4	1M	110	0	0		LTC1050M	† LinearTech		
0.06	0.06	0.1	1	2.5	500K	107			Chopper Stabilized	LMC668A	National		
0.075	0.125	0.05	2.5	4	1M	110	0	0	Chopper Stabilized	LTC1050C	LinearTech		
0.1	0.15	0.05	0.4	1	1M	120	2	0	Auto-Zeroed	TSC7652C	TeledyneS	30	
	0.2	0.05	0.125	0.125	1M	120	0	0	Ultra Low Offset Chopper with Capacitors.	MAX432C	Maxim		
				0.5	0.5	1M	120	0	Ultra Low Offset Chopper with Capacitors.	MAX430C	Maxim		
3	—	0.1	0.3	—	30K	88 *	0	0	Commutating Auto Zero, Compensated	ICL7600C ICL7600M	GE/Intersil † GE/Intersil		
								1	Commutating Auto Zero, Uncompensated	ICL7601C ICL7601M	GE/Intersil † GE/Intersil	35	
0.01	0.02	0.04	0.1	2 *	2.5 *	5M	120	0	Chopper Stabilized	ICL7650B	◊† Maxim		
	0.1	0.1	0.1	0.5	0.5	1M	120	2	Auto-Zeroed	TSC915C	TeledyneS		
			0.3	0.5	0.5	1M	120	0	High Voltage Auto-Zeroed Amplifier	TSC76HV52	TeledyneS (3272)		
			0.2	0.05	0.125	0.125	1M	120	0	Ultra Low Offset Chopper with Capacitors.	MAX432E	Maxim	40
				0.5	0.5	1M	120	0	Ultra Low Offset Chopper with Capacitors.	MAX430E	Maxim		
	1.2	0.3	0.1	0.6	0.3	12 M	120	0	Ultra-Low Offset Voltage	OP77	† PMI		
	2	2	0.3	0.4	0.1	500K	114	0	Ultra Low Offset, Low Drift.	MAX400M	† Maxim		
0.010	2	1.5	0.3	0.4	0.1	2.5K	120			RC4077A	◊† Raytheon (3024)		
0.015	0.03	0.06	0.1	0.45 *	0.5	5M	110	0	Chopper Stabilized	ICL7652B	◊ Maxim	45	
	0.05	0.25	1	1.2	400k	140				1701	TeledyneP		
		0.15	0.8	2	1M	120	0	0	Auto-Zeroed	TSC901C	TeledyneS (3272)		
	0.07	0.15	1.5 *	2.5 *	500K	120	0	0	Auto-Zeroed	TSC911	TeledyneS		
	0.08	0.0005 *	0.2	0.7 *	0.2 *	100K	100	0	Auto-Zeroed	TSC900B	TeledyneS		
	1.2	0.3	0.1	0.9	0.3	8M	130	0	Ultra-Low Offset Voltage	AD707	AD (2427, 2429)	50	
	2	2	0.3	0.4	0.1	500K	114	0	Ultra Low Offset, Low Drift.	MAX400C MAX400E	Maxim Maxim		
				0.6	0.4	0.1	450K	114	0	Ultra Low Offset, Low Drift	LT1001AM	† LinearTech	
				0.8	0.25		126	0	Precision Amplifier	LT1001AM	† Maxim		
				2	0.1	0.45K	114			LT1001	◊† Raytheon (3024)	55	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
0.025	0.02	0.1	0.6	0.9*	0.05	200K	108	0	Low power.	OP97A	† PMI	
	0.2	0.1	0.6	0.9*	0.05	200K	108	0	Low power.	OP97E	PMI	
	1	0.25	0.5	0.25 *	0.1 *	1M	110	0	Ultra Low Offset Voltage, Low Drift	AD517L	AD (2429, 2462)	
		2	0.6	1.2*	0.25*	300K	110	0	Ultra Low Offset Voltage, Low Drift	OP07A	† Solitron	
	2	1.5	0.3	0.4	0.1	5k	120		High Precision, High Gain	OP77	♦† Raytheon (3024)	5
		2	0.6	0.4	0.1	300K	110	0	Ultra Low Offset, Low Drift	OP07A	♦† Maxim	
						450K	114	0	Ultra Low Offset, Low Drift	LT1001AC	LinearTech	
				0.5 *	0.1	150K	110	0	Ultra Low Noise	OP07A	† Raytheon (3024)	
				0.6 *	0.17 *	300K	110	0	Ultra Low Offset Voltage, Low Drift	ADOP07A	♦† AD (2427, 2429, 2462)	10
				0.8	0.25		126	0	Precision Amplifier	LT1001AC	♦ Maxim	
				1.2 *	0.25 *	300K	110	0	Ultra Low Offset Voltage, Low Drift	MPOP07A	† MicroPwr	
										OP07A	♦‡ PMI	
				2.5 *	0.8 *	1M	100	0	Ultra Low Offset Voltage, Low Drift	HA5135-2	♦ Harris	
										HA5135-5	♦ Harris	
10	2.5	2	0.3 *	0.1 *	1M	110	0		Trimmed Offset	AD510L	AD (2462, 2470)	15
15	2.5	0.5	0.4 *	0.06 *	1M	120	1		Precision, Low Noise	LH0044A	† National	
										LH0044AC	National	
35				5	2.5	7000K		0	Low Noise, High Speed Precision Input	LT1007AC	‡ TI	
				60	15	7K			Low Noise, High Speed Bipolar	LT1037AC	TI	
40				8	2.8	1000K		0	Low Noise, High Speed	OP27E	TI	20
				63	17	1K			Low Noise, High Speed Bipolar	OP37E	TI	
	35	—	63 *	11 *	—	—	—	0	Low Noise, High Slew Rate	OP37A	† Raytheon (3024)	
										OP37E	Raytheon (3024)	
		0.2	25 *	18 *	1M	—	—	0	Ultra Low Noise, Low Offset	ADOP37A	† AD (2429)	25
										ADOP37E	AD (2429)	
										OP37A	‡ PMI	
										OP37E	PMI	
										OP37A	‡ TI	
		0.6	5	1.7	1M	114	0		Ultra Low Noise	ADOP27A	† AD (2429, 2462)	30
										ADOP27E	AD (2429, 2462)	
										AM427-1B	Datel	
										AM427-2B	Datel	
										MPOP27A	† MicroPwr	
										MPOP27E	MicroPwr	
										OP27A	‡ PMI	35
										OP27E	PMI	
										OP27A	† Solitron	
										OP27E	Solitron	
									Ultra Low Noise.	OP27A	† Maxim	40
										OP27E	Maxim	
						600K	114	0	Ultra Low Noise	OP27A	† Raytheon (3024)	
										OP27E	Raytheon (3024)	
			8 *	1.7	1M	114	0		Ultra Low Noise	OPA27A	† Burr-Brown (2540, 2542, 2544)	
										OPA27E	Burr-Brown (2540, 2542, 2544)	
			8.5 *	10	1M	114	0		Ultra-Low Noise	HA5127A	♦† Harris	45
			25*	18*	1M	114	0		Ultra Low Noise	OP37A	† Solitron	
										OP37E	Solitron	
			45	11	1M	114	0		Ultra Low Noise.	OP37A	† Maxim	
										OP37E	Maxim	
									Ultra Low Noise, Gain >5	MPOP37A	† MicroPwr	50
										MPOP37E	MicroPwr	
			63	11	1000K	114	0		Ultra Low Noise, Gain >5	OPA37A	† Burr-Brown (2540, 2542)	
										OPA37E	Burr-Brown (2540, 2542)	
			80 *	20 *	1M	114	1		Ultra-Low Noise	HA5137A	♦† Harris	55
			120	28	1M	114	2		Ultra-Low Noise	HA5147A	♦† Harris (2770)	
	40	10	90	40				0		VA711L	VTC (3383)	
										VA711S	† VTC (3383)	
										VA721L	VTC (3383)	
0.03	10000	200	10	1000	250	31.6K	80	1		1467	TeledyneP	60
										1467HR	† TeledyneP	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

♦Macrocell

♦ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
0.035	0.1	0.1	1.5	0.8*	0.1	300K	114	0	Precision Low Drift Bipolar	LT1012C	LinearTech	
	0.2	0.1	1.5	0.9*	0.2*	300K	114			PM1012A	† PMI	
0.04	60	100	0.3	8	5	1M	114		Fast Settling	VA701K	VTC (3383)	
	90	50	0.8	50	11	30K*	114		Low Noise Frequency Synthesizers	LT1028AC	LinearTech	
										LT1028AM	† LinearTech	5
0.05	0.05	0.05	45	7	13*	128	86	0	High Speed Instrumentation	AM543MC	Datel (2598)	
	0.15	0.15	1.5	0.8*	0.1	200K	110	0	Precision Low Drift Bipolar	LT1012M	† LinearTech	
	0.3	0.15	1.5	0.9*	0.2*	200K	110			PM1012G	◊ PMI	
	2	0.75	1	0.25*	0.1*	1M	100	0	Ultra Low Offset Voltage, Low Drift	AD517K	AD (2429, 2462)	
										AD517S	† AD (2429, 2462)	10
	5	0.5	0.3	0.57	3.5	10K	125	0	Instrumentation Amplifier	AMP01A	‡ PMI	
										AMP01E	PMI	
			0.5	0.2	—	2M	126	0	Precision Instrumentation	LM363A	† National	
	13	4	1	0.3*	0.1*	1M	110	0	Trimmed Offset	AD510K	AD (2462, 2470)	
										AD510S	† AD (2462, 2470)	15
	15	0.5	1.3	0.7*	0.25	1M	100	0	Single Supply	LT1006AC	LinearTech	
										LT1006AM	† LinearTech	
		10	0.5	—	5	1000	90	0	Precision Instrumentation	AD524C	AD (2431, 2461)	
	30	—	0.2	0.25	5	1K	115	0	Precision Instrumentation	AD624C	AD (2431, 2462)	
		5	0.5	0.4*	0.06*	500K	114	1	Precision, Low Noise	LH0044B	National	
			1	0.4*	0.06*	500K	114	1	Precision, Low Noise	LH0044	‡ National	20
	50	50	1	0.5*	—	1024	86	0	Low Drift Instrumentation	AM542MC	Datel	
	75	100	0.5	8	5	1M	114		Fast Settling	VA701S	† VTC (3383)	
0.06	4	3.8	1	0.4	0.1	400K	110	0	Low Offset Voltage	LT1001C	LinearTech	
										LT1001M	† LinearTech	25
	15	10	0.5	0.4*	0.8	1M	110	1	Low Drift	3510C	Burr-Brown	
	55			5	2.5	5000K		0	Low Noise, High Speed Precision Input	LT1007C	TI	
				60	15	5K			Low Noise, High Speed Bipolar	LT1037C	TI	
		50	1.3	5	1.7	1M	106	0	Ultra Low Noise	ADOP27B	† AD (2429, 2462)	
										ADOP27F	AD (2429, 2462)	
										OPA27B	† Burr-Brown (2540, 2542, 2544)	30
										OPA27F	Burr-Brown (2540, 2542, 2544)	
										MPOP27B	† MicroPwr	
										MPOP27F	MicroPwr	
										OP27B	† Motorola (2954)	35
										OP27F	Motorola (2953)	
										OP27B	◊‡ PMI	
										OP27F	PMI	
										OP27B	† Raytheon (3024)	
										OP27F	Raytheon (3024)	40
										OP27B	† Solitron	
										OP27F	Solitron	
									Ultra Low Noise.	OP27B	† Maxim	
										OP27F	Maxim	
				45	11	1M	106	0	Ultra Low Noise	OP37B	† Solitron	45
										OP37F	Solitron	
									Ultra Low Noise.	OP37B	† Maxim	
										OP37F	Maxim	
									Ultra Low Noise, Gain >5	ADOP37B	† AD (2429)	
										ADOP37F	AD (2429)	
										OPA37B	† Burr-Brown (2540, 2542)	50
										OPA37F	Burr-Brown (2540, 2542)	
										MPOP37B	† MicroPwr	
										MPOP37F	MicroPwr	
										OP37B	◊‡ PMI	55
										OP37F	PMI	
					25	100K	106	1	Very Low Noise	OP47F	Raytheon (3024)	
						500K	106	1	Very Low Noise	OP47B	† Raytheon (3024)	
				63*	11	1M	106	0	Ultra Low Noise, Gain >5	OP37B	† Raytheon (3024)	
										OP37F	Raytheon (3024)	60
0.060	4	3.8	1	0.8	0.25		126	0	Precision Amplifier	LT1001C	◊ Maxim	
										LT1001M	† Maxim	

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
0.070	0.1	0.0005 *	0.8	0.7 *	0.2 *	100K	98	0	Auto-Zeroed	TSC918	TeledyneS	
0.075	0.3	0.15	1.5	0.9*	0.05	150K	108	0	Low power.	OP97F	PMI	
	3	2.8	1.3	0.4	0.1	200K	110	0	Low Offset Voltage, Low Drift	OP07	† LinearTech	
				0.6 *	0.17 *	200K	110	0	Low Offset Voltage, Low Drift	ADOP07	◊† AD (2427, 2429, 2462)	5
				1.2 *	0.25 *	200K	110	0	Low Offset Voltage, Low Drift	OP07	◊† Maxim	
										MPOP07	† MicroPwr	
										μA714M	† National	
										OP07	◊† PMI	
										RC714	† Raytheon	
										RC714C	Raytheon	10
										RC714E	Raytheon	
									Ultra Low Offset Voltage, Low Drift	OP07	† Solitron	
4	3.8	0.2	0.4	0.2	0.1	150K	106	0	Low Offset Voltage, Low Drift	OP07E	TI	
		1.3	0.4	0.1	0.1	200K	110	0	Low Offset Voltage, Low Drift	OP07E	LinearTech	
			0.6 *	0.17 *	0.17 *	200K	123 *	0	Low Offset Voltage, Low Drift	ADOP07E	◊ AD (2427, 2429, 2462)	15
									Ultra Low Offset Voltage, Low Drift	MPOP07E	MicroPwr	
				1.2 *	0.25 *	200K	106	0	Low Offset Voltage, Low Drift	OP07E	◊ Maxim	
										μA714EC	† National	
										OP07E	◊ PMI	
									Ultra Low Offset Voltage, Low Drift	OP07E	Solitron	20
15	3	2	1.2 *	0.25 *	—	1M	120	0	Precision Instrumentation	CA3493A	† GE/RCA (2647)	
75	3	2	46	450	—	—	—	0	Very High-Speed Transimpedance	AD846	AD (2428)	
	60	45	17	—	—	—	—	—	Audio Op-Amp	MA362C	AnalogSys	
										MA362M	AnalogSys	
0.08	0.05	0.01	1.5	1 *	0.3 *	500K	114	0	Improved LM11	LM11A	† National	
	15	0.5	1.5	0.1 *	—	1M	105	0	Precision, Low Power	OP20B	† PMI	
	25	0.9	1.3	0.7 *	0.25	70K	97	0	Single Supply	LT1006C	◊ LinearTech	
										LT1006M	† LinearTech	
	180	100	1.0	50	11	30K*	110		Low Noise Frequency Synthesizers	LT1028C	LinearTech	
										LT1028M	† LinearTech	30
0.1	0.005	0.05	25	1.5	7	100k	60	1		1009	TeledyneP	
	2	0.4	0.5	0.5	0.3	1M	90	0		1018	TeledyneP	
	2.8	2.8	1.2	0.4	0.1	2M	100		Ultra-Low Offset	OP77G	◊ PMI	
	3	2.8	0.4 *	1.2 *	0.25 *	500K	—	0	Ultra Low Offset Voltage	OP207A	† PMI	
										OP207B	PMI	35
6	2	1	0.57 *	3	10k	115	0		Instrumentation Amplifier	AMP01G	◊ PMI	
15	3	1	0.57	3	10K	110	0		Instrumentation Amplifier	AMP01B	◊† PMI	
										AMP01F	◊ PMI	
20	15	0.5	—	5	1000	90	0		Precision Instrumentation	AD524B	AD (2431, 2461)	
25	0.7 *	0.5 *	0.5 *	0.1	1M	95	1		Selectable Input	OPA201C	Burr-Brown (2544)	40
	1	1	0.3 *	0.2	1M	100	0		Low Power	OPA21E	Burr-Brown (2540, 2544)	
	5	3	3 *	0.1 *	250K	94	0		Trimmed Offset	AD510J	AD (2462, 2470)	
35	5	1	0.4 *	0.06 *	500K	114	1		Precision, Low Noise	LH0044C	National	
40	1	0.8	—	1.7	1800	114	0		Ultra Low Noise	MPOP27	MicroPwr	
	40	10	90	40	—	—	0			VA711K	VTC (3383)	45
			500	150	—	—	0			VA721K	VTC (3383)	
										VA721S	† VTC (3383)	
50	—	0.5	0.25	5	1K	110	0		Precision Instrumentation	AD624B	AD (2431, 2462)	
	35	0.5	—	5	1000	90	0		Precision Instrumentation	AD524S	† AD (2431, 2461)	
70	1	0.8	—	0.01	100K	120	4		High-Gain Instrumentation	OP06A	† PMI	50
80			8	2.8	700K	—	0		Low Noise, High Speed	OP27G	TI	
			63	17	700	—	—		Low Noise, High Speed Bipolar	OP37G	TI	
	40	0.4 *	8 *	17	1800	114	0			MPOP37	MicroPwr	
	75	—	63 *	11 *	—	—	0		Low Noise, High Slew Rate	OP37C	† Raytheon (3024)	55
										OP37G	Raytheon (3024)	
			0.4 *	8 *	3.2 *	1200K	120	0	Ultra Low Noise	ADOP27G	AD (2429, 2462)	
										OP27G	Motorola (2953)	
						1200K *	120	0	Ultra Low Noise	ADOP27C	† AD (2429, 2462)	
										OP27C	Motorola (2954)	60
										OP27C	† PMI	
										OP27C	† Solitron	
										OP27G	Solitron	
										OP27C	TI	
				25 *	18 *	700K	120	0	Ultra Low Noise	ADOP37C	† AD (2429)	65
										ADOP37G	AD (2429)	

(Continued)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line	
Single Units										(Cont'd)			
0.1	80	75	0.4 *	25 *	18 *	700K	120	0	Ultra Low Noise	OP37C OP37G OP37C OP37G OP37C	‡ PMI ◊ PMI † Solitron Solitron ‡ TI	(Cont'd) 5	
			1.8	5	1.7	700K	100	0	Ultra Low Noise	AM427-1A AM427-2A OP27C OP27G MPOP27C MPOP27G OP27C OP27G	Datel Datel † LinearTech LinearTech † MicroPwr MicroPwr † Raytheon (3024) Raytheon (3024)	10	
									Ultra Low Noise.	OP27C OP27G	† Maxim Maxim	15	
					7	1M	100	0	Ultra-Low Noise	HA5127	◊† Harris		
				45	11	700K	100	0	Ultra Low Noise	OPA37C OPA37G	† Burr-Brown (2540, 2542) Burr-Brown (2540, 2542)		
									Ultra Low Noise.	OP37C OP37G	† Maxim Maxim	20	
									Ultra Low Noise, Gain >5	OP37C OP37G	† LinearTech LinearTech		
									Ultra Low Noise, Gain >5	MPOP37C MPOP37G	† MicroPwr MicroPwr		
					25	450K	100	1	Very Low Noise	OP47G	Raytheon (3024)	25	
				60	14	1M	100	1	Ultra-Low Noise	HA5137	◊† Harris		
				120	28	700K	100	2	Precision, High Slew	HA5147	◊† Harris (2770)		
100	—	1	0.25	5	1K	100	0		Precision Instrumentation	AD624S	† AD (2431, 2462)		
150	15	0.5	0.6 *	0.25	2M	110	0		Precision, Low Power	OP21B OP21F	† PMI PMI	30	
0.12	0.1	0.1	1.5	1*	0.1	200K	114	1	Precision Low Drift Bipolar	LT1008C LT1008M	LinearTech † LinearTech		
	0.3	0.15	1.5	0.5 *	0.1	2K *	114	0	Low Power	PM1008A PM1008G	† PMI PMI		
	25	15	1	0.4 *	0.8	1M	110	1	Low Drift	3510B 3510S	Burr-Brown † Burr-Brown	35	
			2	0.25	0.5	1M	110	1	Precision, Low Drift	3510V	† Burr-Brown		
0.13	12	6	0.2	0.4	0.2	100K	110	0	Low Offset Voltage	OP07D	TI		
0.14 *	0.000075 *	0.000030 *	5	1.0 *	3.0 *	700K	118 *	0	FET Electrometer	OPA128L	Burr-Brown (2541)		
	0.00015	0.000030 *	10	1.0 *	3.0 *		118 *	0	FET Electrometer	OPA128K OPA128S	Burr-Brown (2541) † Burr-Brown (2541)	40	
0.14	150	150	1	8	5	700K	100		Fast Settling	VA701J	VTC (3383)		
0.15	0.05	0.01	4.0	6.5*	10	150K	86		High Speed Instrumentation Amplifier	LT1055AC LT1055AM	LinearTech † LinearTech		
		0.010	4.0	6.5*	12	150K	86		High Speed Instrumentation Amplifier	LT1056AC LT1056AM	LinearTech † LinearTech	45	
	0.075	0.01	0.7 *	1 *	0.3 *	500K	114	0	Improved LM11	LM11AC	National		
2	0.2	2.5	0.8 *	0.12 *		80K	104	0	Improved 108 A, Low Bias, Compensated	OP12A OP12E	‡ PMI PMI		
								1	Improved 108 A, Low Bias	OP08A OP08E	‡ PMI PMI	50	
			2	0.9	1.2 *	0.25 *	300K	114	0	Instrumentation	MPOP05A OP05A	† MicroPwr ‡ PMI	
5	1	3	0.25 *	0.1 *		1M	94	0	Ultra Low Offset Voltage, Low Drift	AD517J	AD (2429, 2462)		
7	6	0.2	0.4	0.2		100K	100	0	Ultra-Low Offset Voltage	OP07C	TI		
		1.8	0.4	0.1		120k	100		Ultra-Low Offset	OP07C	◊ PMI		
						120K	100	0	Low Offset Voltage, Low Drift	OP07C	LinearTech		
(Continued)													

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line												
Single Units										(Cont'd)														
0.15	7	6	1.8								(Cont'd)													
				0.5 *	0.1	100K	100	0	Ultra Low Noise	OP07C	Raytheon (3024)													
				0.6 *	0.17 *	120K	100	0	Ultra Low Offset Voltage, Low Drift	ADOP07C	AD (2427, 2429, 2462)													
				1.2 *	0.25 *	120K	100	0	Low Offset Voltage, Low Drift	OP07C	Maxim													
									Ultra Low Offset Voltage, Low Drift	MPOP07C	MicroPwr													
				0.25*	120K	110	0	Ultra Low Offset Voltage, Low Drift	OP07C	Solitron	5													
				10	1.0	0.08	2M	110		OP90A	PMI													
									OP90E	PMI														
				12	6	2.5	0.5 *	0.1	100K	94	0	Ultra Low Noise	OP07D	Raytheon (3024)										
							0.6 *	0.17 *	120K	94	0	Ultra Low Offset Voltage, Low Drift	ADOP07D	AD (2427, 2429, 2462)										
			1.2 *	0.25 *	120K	94	0	Low Offset Voltage, Low Drift	OP07D	Maxim														
								Ultra Low Offset, Low Drift	OP07D	PMI														
			0.25*	120K	94	0	Ultra Low Offset Voltage, Low Drift	OP07D	Solitron	10														
35	20	2	0.4 *	0.8*	1M	110	1	Low Drift	3510A	Burr-Brown	15													
												100	4	1	0.6	0.25 *	1M	100	0	High Speed, Low Power	OP21A	PMI		
																							PMI	PMI

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LINEAR—Operational Amplifiers—Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift $\mu\text{V}/^\circ\text{C}$	Bandwidth MHz	Slew Rate V/ μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
0.25	0.010		2	1	1.8 *		86		Precision Low-Power BiFET	AD548	AD (2427, 2429, 2462)	5
	0.025	0.002	1	1	3	250K	80	2	Ultra Low Drift BiFET	AD547L	AD (2427, 2429, 2462)	
	0.010		3			200K			High-Speed BiFET	AD711C	AD (2427, 2462)	
0.03	0.03		3	200	75	250K	90	0	BiFET, 500 ms settling time	AD744	† AD (2428, 2462)	
0.05	0.01		5	8*	23	150K	86	0	Wideband, Low-Drift JFET	LT1022AC LT1022AM	† LinearTech † LinearTech	
0.5	25		5	12.8	100	250	110	0	JFET Input, Bipolar	AD845	† AD (2428)	10
1.5	0.005		2	1	1	300K	86		Precision Low Power BiFET	AD548C	AD (2427, 2429, 2462)	
2	2		0.6	2.5 *	0.5	1M	100	0	Ultra Low Drift	AM430B	Datel (2598)	
15	2				0.08	1M	107			OP90B	† PMI	
20	2.5				0.08	1M	104			OP90F	PMI	
50			7	1.5	6				Programmable gain = 1,10,100	PGA102S	† Burr-Brown (2545)	15
									Programmable gains = 1,10,100	PGA102B	Burr-Brown (2545)	
	0.005		5	5 *	30 *	60K	80	—	High Speed, Low Drift FET	AD381L	AD (2428, 2462)	
	35		0.5	—	5	1000	90	0	Precision Instrumentation	AD524A	AD (2431, 2461)	
80	75		1.8	5	1.7	700K	100	0	Ultra Low Noise, Gain > 5	OPA27C	† Burr-Brown (2540, 2542, 2544)	
										OPA27G	Burr-Brown (2540, 2542, 2544)	20
100	—		1	0.25	5	1K	100	0	Precision Instrumentation	AD624A	AD (2431, 2462)	
500			0.25	190						AD9615	AD (2428, 2451)	
0.26 *	0.000150 *	0.000065 *	20	1.0 *	3.0 *	700K	118 *	0	FET Electrometer	OPA128J	Burr-Brown (2541)	
0.3	0.05	0.01	1 *	1 *	0.3	100K	110	0	Improved 108 A, Low Power	LM11	Motorola (2953)	25
										LM11	† National	
	0.1	0.03	5	4	5	300K	100	0	Precision JFET Input	HA5170-2	† Harris	
		0.06	5	4	5	300K	100	0	Precision JFET Input	HA5170-5	◊ Harris	
2	0.2		3.5	0.8 *	0.12 *	80K	104	0	Improved 108 A, Low Power, Compensated	OP12B OP12F	‡ PMI PMI	
5	1		1.5	—	0.7 *	1M	100	0	Programmable Micropower	OP32E	PMI	30
				0.25	0.08	400K	82	0	Programmable Micropower	OP22A	PMI	
							88	0	Programmable Micropower	OP22E	PMI	
			2	—	0.7 *	1M	100	0	Programmable Micropower	OP32A	† PMI	
15			10	0.02	0.6	2K		0	Digitally Programmable in Binary Steps (From 1 to 2048)	MC4500	HyComp	
25	2		5	0.1 *	—	500K	90	0	Precision, Low Power	OP20H	◊ PMI	35
0.3 *	30	0.3 *		0.5 *	0.2 *		70			TA75254	Toshiba	
0.3	3500	100	5	400	400	400	110	0	Wideband, Fast Settling	AD840	† AD (2428)	
0.4	0.05	0.02	8.0	5.5*	7.5	120K	83		High Speed Instrumentation Amplifier	LT1055C LT1055M	LinearTech † LinearTech	
						9.0	120K	83	High Speed Instrumentation Amplifier	LT1056C LT1056M	LinearTech † LinearTech	
0.4 *	0.075		25	0.35*	1.0 *	25K	70	0	FET Electrometer	AD515L	Burr-Brown (2541)	40
	0.15		15	0.35*	1.0 *	40K	80	0	FET Electrometer	AD515K	Burr-Brown (2541)	
	0.3		50	0.35*	1.0 *	15K	94 *	0	FET Electrometer	AD515J	Burr-Brown (2541)	
0.4	25	20	6	0.3 *	0.1 *	1-1000	75	0	Instrumentation	AD522A	AD (2431, 2462)	
0.5		2000	4 *	100				0	Wideband, Fast Settling	AD9610B AD9610T	AD (2428, 2462) † AD (2428, 2462)	
	0.000075	0.00002	10	0.5 *	0.3	—	70	—	Ultra Low Bias FET	3528C	Burr-Brown	45
		0.00004	10	1 *	1.6 *	100K	80	0	Ultra Low Bias FET	OPA104CM	Burr-Brown	
	0.00015	0.00008	15	1 *	1.6 *	100K	66	0	Ultra Low Bias FET	OPA104BM	Burr-Brown	
	0.0003	0.00008	10	0.5 *	0.3	—	66	—	Ultra Low Bias FET	3528A	Burr-Brown	
	0.001	0.0001	5	1 *	1.5	100K	80	0	Precision FET	LH0052	† National	
		0.002 *	15	1 *	0.9	200K	76	0	Low Drift, Low Bias FET	OPA103BM	Burr-Brown	50

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
0.5	0.002	0.001	10	2	1			0		OPA111M/883B † Burr-Brown	(2540)	5
		0.0015	5	2	1	560K	90	1	Low Noise, Dielectrically Isolated	OPA111A Burr-Brown	(2540)	
										OPA111S † Burr-Brown	(2540)	
		0.002	5	4	24	25K	88	0	High-speed precision Di-FET	OPA602B Burr-Brown	(2540, 2543)	
										OPA602S † Burr-Brown	(2540, 2543)	
		0.003 *	25	1 *	0.9	200K	76	0	Low Drift, Low Bias FET	OPA103AM Burr-Brown		10
0.005	0.001	5	5	0.5 *	1	1M	100	0	JEFT	OP41A † PMI		
				2.4 *	5	100 K	95		Low Bias Current	OP43A † PMI		
			8	0.5 *	1	1M	100	0	JEFT	OP41E PMI		15
0.5*	0.005	0.004	10	2*	2*	320K	86	0	Dielectrically Isolated FET, Low Noise	OPA121K Burr-Brown	(2541)	
0.5	0.005	0.025	10	2 *	8	500K	80	0	Ion Implanted FET	AD611K AD	(2470)	
	0.01	0.01	10	—	20	800K	96	0	to ± 150V supply, 150mA output	PA08A Apex	(2480)	20
				1.3 *	3.5	100K	120 *	0	to ± 50V supply, 5A output	PA07A Apex	(2480)	
				5	12	30K	74	0	to ± 75 V supply, 30 A output	PA03A Apex	(2480)	
		0.02	10	20 *	70	63K	90	2	To ± 225 V Supply, 200 mA Output	PA85A † Apex	(2480)	25
0.015	0.006	10	10 *	5	50K	80	0	Low Noise, Wideband JFET	OPA101AM Burr-Brown	(2541, 2543)		
				10	50K	80	0	Low Noise, Wideband JFET	OPA102AM Burr-Brown	(2541, 2543)		
0.02	0.01	10	—	100 *	—	104 *	104 *	2	to ± 50V supply, 4A output	PA09A Apex	(2480)	30
			150*	600	150K*	100*	100*	1	± 40 V supply, 4 A output	PA19A Apex	(2480)	
0.025	0.002	2	1	3	250K	80	2	Ultra Low Drift BIFET	AD547K AD	(2427, 2429, 2462)		
		5	1	3	250K	80	2	Ultra Low Drift BIFET	AD547S AD	(2427, 2429, 2462)		35
			2	17 *	50K	80	0	High Speed Precision Bipolar JFET	AD544L AD	(2427, 2462)		
			10	5 *	30 *	40K	80	1	High Speed, Low Drift FET	AD382K AD	(2428, 2462)	40
					60K	80	—	High Speed, Low Drift FET	AD381K AD	(2428, 2462)		
	0.01	5	1 *	3	200K	80	0	Precision Bipolar JFET	AD542L AD	(2427, 2462)		
0.035	0.002	5	20	94 *	60K*	80	1	Wideband, Fast Settling	OPA605C Burr-Brown	(2543)		45
									OPA605K Burr-Brown	(2543)		
0.05	0.01	5	—	45	100K	86	—	Wideband, Decompensated, Settles to 0.01% in 1.5 μs	OP17A ‡ PMI			
			14 *	10	35K	85	0	Bias Compensated Bipolar-JFET	OP17E PMI			50
					100K	86	0	Bipolar-JFET, Bias Comp.	OP15E LinearTech			
									OP15A † LinearTech			
			19 *	18	35K	85	0	Wideband-JFET, Bias Comp.	OP15A ‡ PMI			55
									OP16A † LinearTech			
					100K	86	0	Wideband-JFET, Bias Comp.	OP16E LinearTech			
	0.025	10	1	1	50K	80	0	Low Power BIFET	OP16E ‡ PMI			60
			3	10	50K	80	0	Wideband JFET	OP16E PMI			
			3.4	18	200K	80		Precision High Speed BiFET	LF441A National			
									AD711B AD	(2427, 2462)		65
									AD711K AD	(2427, 2462)		
									AD711T † AD	(2427, 2462)		
0.1	—	50	15 *	150 *	100K	90	1	High Speed, High Power	1461HR † TeledyneP			70
0.10	0.02	5 *	2.5 *	5 *	50K	85	0	Bipolar—JFET	PM155 † PMI			
0.2	0.1	10 *	3	13	50K	80	0	BiFET, Low Offset	TL087I TI			
			8 *	30 *	50K	—	0		MC34081A Motorola	(2953, 2991)		75
									MC35081A † Motorola	(2954)		
									MC34080A Motorola	(2953, 2991)		
									MC35080A † Motorola	(2954)		80
0.4	0.05	10 *	3 *	13 *	25K	70	0	Low Offset JFET	TL087C TI			
1.5	0.005	5	1	1	300K	82		Precision Low Power BiFET	AD548B AD	(2427, 2429, 2462)		

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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LINEAR—Operational Amplifiers—Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
0.5	1.5	0.005	5	1	1	300K	82		Precision Low Power BiFET	AD548K	AD (2427, 2429, 2462)	
									Precision Low Power BiFET	AD548T	† AD (2427, 2429, 2462)	
2	0.2	5	1 *	0.3 *	80K	96	1		Precision Bipolar, Low Bias	AD208A	AD (2470)	
										LM108A	◊ † GE/Intersil	5
										LM108A	† LinearTech	
										LM108A	† Motorola (2952)	
										LM208A	Motorola (2952, 2989)	
										μA108AM	† National	10
										μA208AM	National	
										LM108A	◊ ‡ National	
										LM108AFRH	◊ ‡ National	
										LM208A	National	
										PM108A	◊ ‡ PMI	
										LM108A	† SGS-Thomson	15
										LM208A	SGS-Thomson	
1	5	220					0		Wideband, Fast-Settling	AD9611	AD (2428)	
3	2.8	2	0.6	0.25 *	200K	110	0		Instrumentation	MPOPO5	† MicroPwr	
										OP05	‡ PMI	
4	3.8	2	0.6	0.25 *	200K	107	0		Instrumentation	MPOPO5E	MicroPwr	20
										OP05E	PMI	
7	1	5	1 *	0.3 *	80K	96	1		Precision Bipolar	AD308A	AD (2470)	
										LM308A	◊ GE/Intersil	25
										LM308A	LinearTech	
										LM308A	Motorola (2952, 2989)	
										μA308AC	National	
										LM308A	National	
										LM308A	SGS-Thomson	
7.5	2	2	—	0.7 *	750K	95	0		Programmable Micropower	OP32B	◊ † PMI	
										OP32F	PMI	
				0.25	0.08	250K	80	0	Programmable Micropower	OP22B	PMI	30
							85	0	Programmable Micropower	OP22F	PMI	
26	2.5	1	1	27	100k	80	0			LF400AM	† National	
	5	10	16	27	100K	90	0			LF400AC	National	
30	2	8	0.8	0.25	100K	85	0		General Purpose	MPOPO2A	† MicroPwr	
										MPOPO2E	MicroPwr	35
	5	5	1 *	0.25 *	80K	90	1		High Accuracy 301	AD301AL	AD	
35	2	8	0.8	0.25	100K	90	0		General Purpose	OP02A	‡ PMI	
										OP02E	PMI	
40	10	5	1.2 *	0.25 *	100K	100	0		Precision, Instrumentation	CA3193	GE/RCA (2647)	40
										CA3493	GE/RCA (2647)	
50		7	1.5	6					Programmable Gain (G = 1,10,100)	PGA102A	Burr-Brown (2545)	
	4	1.4 *	0.3 *	0.2	500K	84	0		Low Power	OPA21G	Burr-Brown (2540, 2544)	
			0.5 *	0.1	1M	85	1		Selectable Input	OPA201A	Burr-Brown (2544)	
	5	5	1 *	0.5 *	50K	90	0		Higher Accuracy 741	AD741L	AD (2427, 2462)	
50 fA		50	0.3	0.3	1M	80	1			1035	TeledyneP	45
75	5	2	1	0.005 *	1000K	110	4		High Accuracy Instrumentation	μA725AM	† National	
80	5	2	—	0.01	1000K	120	4		High Gain Instrumentation	OP06B	‡ PMI	
										OP06F	PMI	
	10	0.5	0.3 *	0.12 *	1000K	110	1		Precision Low Noise	AD504M	AD	
		1	0.3 *	0.12 *	1000K	110	1		Precision Low Noise	AD504L	AD	50
										AD504S	† AD	
	100	10	90	40			0			VA711J	VTC (3383)	
			500	150			0			VA721J	VTC (3383)	
150	6	5	0.6	0.25	500k	84			Low Power	OP21H	◊ PMI	
500	200	15	0.3	—	—	72	0		Instrumentation	HC3020	HyComp	55
0.5 *	5000 *	5 *	95	4000	50K	60 *	0			CLC201A	Comlinear	
										CLC201AM	Comlinear	
				160	6000	50K	56 *	0		CLC203A	Comlinear	
										CLC203AM	Comlinear	

(Continued)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units											(Cont'd)	
0.5 *	5000 *		5 *								(Cont'd)	
				170	6500	50K	60 *	0		CLC221AI CLC221AM	Comlinear Comlinear	
0.50	0.005	0.0003 *	10	1 *	0.6	100K	76 *	0	Low Drift FET	3527A	Burr-Brown	
0.500	0.01	0.005	5	13*	25	100K	85	0	Wideband-JFET, Dielectrically Isolated	OPA606L	Burr-Brown (2540, 2543)	
0.6	0.05	0.02	9	8*	18	120K	82	0	Wideband, Low-Drift JFET	LT1022C LT1022M	† LinearTech † LinearTech	5
	0.1	0.01	5	1 *	0.3 *	100K	110	0	Precision, Low Input Current	LM11C LM11C	Motorola (2953) National	
0.7	30	2	5	2.5 *	18 *	50K	90	0	High Speed	MPOP01A MPOP01H OP01 OP01H	† MicroPwr MicroPwr ‡ PMI PMI	10
				2.5*	18*	50K	90	0	High Speed	OP01 OP01H	† Solitron Solitron	
0.75	0.010	0.002	7.5	2.4 *	5	500 K	85		Low Bias Current	OP43F	PMI	15
	0.075	2.8	1.3	0.5 *	0.1	150K	110	0	Ultra Low Noise	OP07	† Raytheon (3024)	
		3.8	1.3	0.5 *	0.1	150K	106	0	Ultra Low Noise	OP07E	Raytheon (3024)	
	0.2	0.04	10	1.5	100	500K	86		High-speed, precision.	OP44E	PMI	
				10 *	50	200K	86	1	Fast Settling	OP42E	PMI	
4	4	1.3	2.5 *	0.5	1M	100	100	0	Ultra Low Drift	AM430A	Datel (2598)	20
		3 *	5	28	100k *	100 *		0		OPA404BG	Burr-Brown (2541, 2543)	
	80	5	—	0.44 *	0.3	50K	80	0	High Performance	μA741EC	◊ National	
				1 *	0.3 *	50K	80	0	High Performance	μA741AM	◊† National	
0.9	0.03	0.015	7	0.30	0.01	100K	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1706A	◊† AdvLinear	
		0.025	7	0.4	0.33	40K	70	0	CMOS, Rail-to-Rail	ALD1701A	◊† AdvLinear	25
				1	1.4	50K	70	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1702A	◊† AdvLinear	
	0.85	0.025	7	2.1	5	50K	70	0		ALD1704A	† AdvLinear	
1	—	—	30	13	13	100k			High Speed	AM453-2C	Datel (2598)	
	0.00006	0.00002	—	1G *	0.1	100K	60	0	Ultra-low bias current.	MN542	† MicroNet	30
	0.000075	—	25	0.35	0.3	50K	70	0	FET Electrometer	OP80E	PMI	(3008)
	0.00015	—	15	0.35	0.3	100K	80	0	FET Electrometer	AD515L	AD (2427, 2470)	
		0.0003		0.1	0.2	100K	60	0	Ultra-low bias current.	AD515K	AD (2427, 2470)	
	0.0003	0.00008	25	1 *	1.6 *	100K	66	0	Ultra Low Bias FET	OP80A	† PMI	(3008)
	0.001	0.0005	15	0.7 *	0.3	40K	70	0	Precision Low Drift FET	OPA104AM	Burr-Brown	
	0.002	0.001	25	0.7 *	0.3	20K	66	0	Precision Low Drift FET	AD545K	AD (2427, 2470)	35
	0.004	0.003	20	2	1		90	0	Low Noise	AD545J	AD (2427, 2470)	
										OPA111V	† Burr-Brown	(2540)
										OPA111V/883B	† Burr-Brown	(2540)
0.005	—	10	1 *	3	75K	80	0	0	High Accuracy, FET	AD506L	AD (2462, 2470)	40
	0.0002	10	1 *	1	75K	76	0	0	Precision FET	LH0052C	National	
0.01	0.002	7.5 *	0.5 *	1	500K	90	0	0	JFET	OP41F	PMI	
		10	0.5 *	1	500K	90	0	0	JFET	OP41B	† PMI	
	0.002 *	50	1 *	0.6	50K	90 *	0	0	Low Offset FET	3522J	Burr-Brown	
	0.01	10	—	125 *	100K	130 *	2	2	to ± 150V supply, 40mA output	PA84A	Apex (2480)	
				3	20	1M	130 *	0	to ± 150V supply, 75mA output	PA83A	Apex (2480)	45
		15	3.5	20	6K	75	0	0	High-speed precision Di-FET	OPA602A	Burr-Brown (2540, 2543)	
		25	1	20	4M	110	1	1		1022	TeledyneP	
0.010	0.002	10	2.4 *	5	500 K	85			Low Bias Current	OP43B	† PMI	
0.015	—	25	10 *	50	50K	80	0	0	Fast Wide Band, High Accuracy, FET Input	AD528K	AD (2470)	
									Fast Wideband, High Accuracy, FET Input	AD528S	† AD (2470)	50
0.025	0.002	10	2	16	50K	80	0	0	High Speed Precision Bipolar JFET	AD544K	† AD (2427, 2462)	
			5 *	30 *	40K	80	1	1	High Speed, Low Drift FET	AD382S	† AD (2428, 2462)	
					60K	80	—	—	High Speed, Low Drift FET	AD381S	† AD (2428, 2462)	
			15	2	16	50K	80	0	High Speed Precision Bipolar JFET	AD544S	AD (2427, 2462)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
1	0.025										(Cont'd)	
		0.01	10	1 *	3	50K 200K	76 80	0 0	Precision Bipolar JFET Precision Bipolar JFET	AD542S AD542K	† AD (2427, 2462) AD (2427, 2462)	
	0.035	0.002	25	20	94	60K	70	1	Wideband, Fast Settling	OPA605A OPA605H	Burr-Brown (2543) Burr-Brown (2543)	
		0.005	5	1	3	100K	76	2	Ultra Low Drift BIFET	AD547J	AD (2427, 2429, 2462)	5
	0.05	0.005	15	5 *	30 *	40K 60K	76 76	1 —	High Speed, Low Drift FET High Speed, Low Drift FET	AD382J AD381J	AD (2428, 2462) AD (2428, 2462)	
		0.01	10	2 *	10 *	100K	80	0		OPA445SM	† Burr-Brown (2544)	
			15	70	1000	30K	60	1	Wideband, Fast Settling FET	AD3554B	AD (2470)	10
			25	70	1000	30K	60	1	Wideband, Fast Settling FET	AD3554S	† AD (2470)	
	0.1		15	150	1000	1 M	44 60	1 1	Wideband, Fast Settling Wideband, Fast Settling	BB3554B AD3554B	Maxim Maxim	
			25	150	1000	1 M	44 60	1 1	Wideband, Fast Settling Wideband, Fast Settling	BB3554S AD3554S	† Maxim † Maxim	
	0.050	0.01	15	70	1000	100K	44	1	150 ns Settling to 0.05%	3554B	Burr-Brown (2543)	15
			25	70	1000	100K	44	1	150 ns Settling to 0.05%	3554S	Burr-Brown (2543)	
	0.1	0.005*	5	3 4.8	190 220	10K 10K	58 58	0 1	Fast Settling FET Fast Settling FET	AH103L AH104L	OEI OEI	
			10	3 4.8	190 220	10K 10K	58 58	0 1	Fast Settling FET Fast Settling FET	AH103S AH104S	† OEI OEI	20
		0.01	50	50 *	250 *	100K	70 *	1	Wideband, Fast Settling	3551J 3551S	Burr-Brown (2543) † Burr-Brown (2543)	
		0.02	10	—	35	75K	86	—	Wideband, Decompensated, Settles to 0.01% in 1.5 μs	OP17B OP17F	‡ PMI PMI	
				13 *	7.5	30K	85	0	Bias Compensated	OP15B OP15F	† LinearTech LinearTech	25
						75K	86	0	Bipolar-JFET, Bias Comp.	OP15B OP15F	‡ PMI PMI	
				18 *	12	30K	85	0	Wideband-JFET, Bias Comp.	OP16B OP16F	† LinearTech LinearTech	30
						75K	86	0	Wideband-JFET, Bias Comp.	OP16B OP16F	‡ PMI PMI	
			20	40	330 *	25K	60	1	Wideband, Fast Settling	AD380K AD380L AD380S	AD (2428, 2462) † AD (2428, 2462) AD (2428, 2462)	35
	0.04	50	10 *	65	100K	70 *	0		Fast Settling, 1 μs to 0.01%	3550J	Burr-Brown (2543)	
	0.040	50	10 *	65	25K	70 *	0		Fast Settling, 1 μs to 0.01%	3550S	† Burr-Brown (2543)	
			20 *	100	100K	70 *	0		Fast Settling, 0.6 μs to 0.01%	3550K	Burr-Brown (2543)	
	0.12		10	35	300					AD843	AD (2428, 2451)	
	0.2	0.04	10	1.5 10 *	100 45	500K 160K	86 80		High-speed, precision. Fast Settling	OP44A OP42A	† PMI † PMI	40
		0.1	10 *	3 8 *	13 30 *	50K 25K	80 —	0 0	BIFET	TL088I MC35081 MC34081	TI † Motorola (2954) Motorola (2953, 2991)	
				16 *	55 *	25K	—	—	Decompensated	MC35080	† Motorola (2954)	45
	0.3	0.02	15	40 *	220 *	25K	60	1	Wideband, Fast Settling	1437 1437HR	TeledyneP † TeledyneP	
	2	100	10	30	300 *	100K	70	2	Low Offset, Fast Settling	H0S060 H0S060/883	† AD (2428, 2461) † AD (2428, 2461)	
	5			1.0 0.8 *	1.5 0.12 *	56K 40K	110 84			SL562 OP12C OP12G	Plessey ‡ PMI PMI	50
		0.5	10					0	Precision, Low Input Current			(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
1	5	0.5	10	0.8 *	0.12 *	40K	84	1	Precision, Low Input Current	OP08C OP08G	‡ PMI PMI	(Cont'd)
6	0.5				4		80			TA7540	Toshiba	
8	8	3 *	4	24	100k *	100 *	0			OPA404AG	Burr-Brown (2541, 2543)	
										OPA404SG	‡ Burr-Brown (2541, 2543)	5
10	3	3	—	—	0.7 *	500	85	0	Programmable Micropower	OP32G	PMI	
100	—	2	200	1 *	1800	1M	—	1	Bipolar	9808	OEI	
	20	4 *	1 *		0.25	30K	90	2	High Voltage	MC0004	‡ Micra	
					0.25 *	30K	70	2	High Voltage	LH0004	‡ National	
			5	1 *	0.005 *	1000K	110	4	High Accuracy Instrumentation	μA725M LM725	‡ National ‡ National	10
250	20		15	50	100K		86		Wideband Amplifier	LT118A LT318A	‡ LinearTech LinearTech	
	70	20	—	—	20K	70	1		General Purpose	TA7502B	Toshiba	
300	50		15	± 5		100			Power Op Amp	MA921	AnalogSys	
650	15	4.3	40 *	30	10K	60	0			VA705L	VTC (3383)	
3300	50	15	50	300	5500	80	0		High-Speed, Low Power	AD847	◊ ‡ AD (2428)	
3500	100	14	80	375	9000	115	0		Wideband, Fast Settling	AD842	‡ AD (2428)	
1 *	5000 *	10 *	165	3000	5K	46 *	0			CLC231AI CLC231AM	Comlinear Comlinear	20
1	50000	1	5	100	3000	1	35	0	Transimpedance fast-settling	SP9610	‡ HybridSys	
1 to 16	0.001 *	0.001 *	1 *	0.012 *	0.001 *	20K *	77	1	Prog., Low Bias, Supply Volt. = 1 V	TLC251C	◊ TI	
				0.075 *	0.01 *	10K *	77	1	Prog., Low Bias, Supply Volt. = 1 V	TLC251C	◊ TI	
			5 *	2.3 *	4.5 *	10K	70	1	Programmable, High Bias	TLC251C	◊ TI	
1.2	0	3	2	0.35	0.08	250K *	80	0	Programmable Micropower	OP22H	PMI	25
1.3	7	6	4.5	0.4	0.1	120K	100	0	Instrumentation	OP05C	LinearTech	
			1.2 *	0.25 *	120K	100	0		Instrumentation	MPOPO5C	MicroPwr	
										OP05C	‡ PMI	
	110	13	1.4 *	—	0.01	500K	110	4	High Gain Instrumentation	OP06G	PMI	
1.5	0.001	0.0005	20	1.2	10	400k	110	1		1032	TeledyneP	
	0.01	—	25	1 *	3	50K	80	0	High Accuracy, FET	AD506K	AD (2462, 2470)	
			50	1 *	3	50K	80	0	High Accuracy, FET	AD506S	‡ AD (2462, 2470)	
	0.015	0.01	5 *	10	22	56K	80	0	Wideband-JFET, Dielectrically Isolated	OPA606KM	‡ Burr-Brown (2540, 2543)	
										OPA606S	‡ Burr-Brown (2540, 2543)	
	0.02	0.003		120		500	86		Differential Video Amp	μA733	‡ Signetics	
	0.025	0.005	7.5	2.4 *	5	300 K	85		Low Bias Current	OP43G	PMI	
	0.03	0.005		120		600	86		Differential Video Amp	μA733C	‡ Signetics	
	0.25	0.05	8	1.2	80	500K	80		High-speed, precision.	OP44F	PMI	
			8 *	10 *	40	200K	80	1	Fast Settling	OP42F	PMI	
1.5 *	10 μA *		10 *	120 *	1200 *		70 *	0	Clamped Output Voltage and Fast Overload Recovery	CLC501	‡ Comlinear	40
1.5	80	5	2	0.5 *	0.005 *	1000K	120	4	Instrumentation	LM725A	National	
	100	10			0.17 *	130K	100	0	200°C Operation	LM118X LM118X/883B	‡ LinearTech ‡ LinearTech	
			15	3	0.3 *	500K	100	1	Low Drift, Low Noise	AD504K	AD	
	120	45	4 *	1 *	0.25 *	30K	70	2	High Voltage	LH0004C	National	45
1.9	0.2	0.1	10 *	16 *	55 *	25K	—	—	Decompensated	MC34080	Motorola (2953, 2991)	
2									24 W BTL Audio Amplifier	TDA1515A	Signetics (3149)	
	0.0003	0.00004		0.1	0.2	80K	60	0	Ultra-low bias current.	OP80F	PMI (3008)	
	0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	30K	60	1	Programmable, Low Bias	TS271BC	◊ SGS-Thomson	
							70	1	Programmable, Low Bias	TLC251BC	◊ TI	50
										TLC271BC	◊ TI	
			1 *	0.012 *	0.001 *	20K *	77	1	Prog., Low Bias, Supply Volt. = 1 V	TLC251BC	◊ TI	
				0.075 *	0.01 *	10K *	77	1	Prog., Low Bias, Supply Volt. = 1 V	TLC251BC	◊ TI	
			5 *	2.3 *	4.5 *	10K	70	1	Programmable, High Bias	TLC251BC	◊ TI	
										TLC271BC	◊ TI	55
	0.0025	0.0025		0.1	0.2	80K	60	0	Ultra-low bias current.	OP80G	PMI (3008)	
	0.005	0.001	0.7 *	2.2	5.3	7K	70	0	LinCMOS, Programmable	TLC271BI	◊ TI	(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line	
Single Units										(Cont'd)			
2											(Cont'd)		
	0.01	0.0005 *	15	1 *	3	50K	70	0	Low Offset Voltage, FET	ICL8007	† GE/Intersil (2673, 2675)		
	0.02	—	50	100	1000	100K	90	1	Fast-Settling, FET Input	1443HR	† TeledyneP		
		0.01	25	15	75	400k	94	1		1027	TeledyneP		
	0.025 *	0.01 *	20	1 *	3	50K	76	0	Precision Bipolar JFET	AD542J	AD (2427, 2462)		
	0.03	0.015	7	0.3	0.01	100K	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1706B	♦† AdvLinear	5	
		0.025	7	1	1.4	50K	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1702B	♦† AdvLinear		
	0.05	0.005	20	2	15	30K	74	0	High Speed Precision Bipolar JFET	AD544J	AD (2427, 2462)		
		0.01	5	—	40	50K	85	—	Wideband Decompensated	LF157A	† National	10	
										LF357A	National		
										PM157A	♦† PMI		
				2.5	3	50K	85	1	JFET Input	LF155A	† SGS-Thomson		
				2.5 *	3	50K	85	0	Bipolar - JFET	LF155A	† National		
										LF355A	National		
										PM155A	♦† PMI		
				4	10	50K	85	0	Wideband - JFET	LF156A	† National	15	
										LF356A	National		
										PM156A	♦† PMI		
									Wideband-JFET, Dielectrically Isolated	OPA156A	† Burr-Brown (2540, 2542)		
										OPA356A	† Burr-Brown (2540, 2542)		
								1	JFET Input	LF156A	† SGS-Thomson	20	
				15	40	50K	85	1	JFET Input	LF157A	† SGS-Thomson		
				50	70	1000	100	60	1	Wideband, Fast Settling FET	AD3554A	AD (2470)	
	0.025	20	3	16	150k	76			Precision High Speed BiFET	AD711S	† AD (2427, 2462)		
					150K	76			Precision High Speed BiFET	AD711A	AD (2427, 2462)		
										AD711J	AD (2427, 2462)	25	
	0.03	10 *	0.48 *	0.16 *	20K	76		1	Low Power	ICL7614AC	♦ Maxim		
										ICL7614AM	♦† Maxim		
				1	1.6	80K *	70	0	Low Power	ICL7611AC	♦ GE/Intersil (2673, 2675)		
										ICL7611AM	♦† GE/Intersil (2673, 2675)		
									Low Power, Extended CMVR	ICL7612AC	♦ GE/Intersil (2673)	30	
										ICL7612AM	♦† GE/Intersil (2673)		
										ICL7616AC	GE/Intersil		
										ICL7616AM	† GE/Intersil		
									Low Power, Input Protected	ICL7613AC	GE/Intersil		
								1	Low Power	ICL7614AC	GE/Intersil	35	
										ICL7614AM	† GE/Intersil		
									Low Power, Input Protected	ICL7615	† GE/Intersil		
										ICL7615AC	GE/Intersil		
				1.4 *	1.6 *	10K	76	0	CMOS, Low Power, Programmable Low Bias	ICL7611AC	♦ Maxim	40	
										ICL7611AM	♦† Maxim		
									Programmable Bias, Extended CMVR	ICL7612AC	♦ Maxim		
										ICL7612AM	♦† Maxim		
										ICL7616AC	Maxim		
										ICL7616AM	† Maxim		
	0.05	30	—	30 *	800K	96		0	to ± 150V supply, 150mA output	PA08	Apex (2480)	45	
				1.3 *	5	100K	120 *	0	to ± 50V supply, 5A output	PA07	Apex (2480)		
					5 *	40K	120 *	0	Hi-Rel Screened	PA07Q	† Apex (2480)		
									High Voltage, High Output Current	PA07M	† Apex (2480)		
				5	20	63K	90	0	± 15 V to ± 150 V supply, 150 mA	PA08M	† Apex (2480)		
									Hi-Rel Screened	PA08Q	† Apex (2480)	50	
					30 *	800K	96	0	To ± 175 V supply, 150 mA output	PA08V	Apex (2480)		
	0.1	30	20 *	100 *	63K	90		2	To ± 225 V supply, 200 mA output	PA85	Apex (2480)		
		50	150	1000	1 M	44		1	Wideband, Fast Settling	BB3554A	Maxim		
						60		1	Wideband, Fast Settling	AD3554A	Maxim		
	2	20	1000	275	31.6K	80		0		TP3554-HR	† TeledyneP	55	
(Continued)													

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
2	0.050	0.01	5	2.5 *	3	50K	85	0	JFET Input	MP355A	MicroPwr	(Cont'd)
				4	10	50K	85	0	JFET Input	MP356A	MicroPwr	
				15	40	50K	85	0	JFET Input	MP357A	MicroPwr	
			50	70	1000	100K	78 *	1	150 ns Settling to 0.05%	3554A	Burr-Brown	(2543)
	0.075	0.025	10 *	4 *	13 *	50K	80	0	Precision BIFET	MC35001A	† Motorola	(2954)
	0.1		10	60	1000	1		0	Fully compensated, fast slewing.	SP4010	† HybridSys	
		0.005*	20	3	190	10K	58	0	Fast Settling FET	AH103J	OEI	
				4.8	220	10K	58	0	Fast Settling FET	AH104J	OEI	
	0.025		50 *	70 *	500 *	20 K	70	2	Bipolar JFET	EL2006	† Elantec	
	0.05		10 *	3 *	13 *	50K	80	0		μA771AC	National	
				4 *	13 *	50K	80	0	Precision BIFET	MC34001A	Motorola	(2953, 2990)
			20	150	400	10K	60	3	Fast Settling, Wideband	OPA600V	Burr-Brown	(2543)
										OPA600V/MIL	† Burr-Brown	(2543)
										OPA600V/883B	† Burr-Brown	(2543)
0.2	0.02		50	40 *	225	30K	60	1	Wideband, Fast Settling	1438	TeledyneP	
										1438HR	† TeledyneP	
	0.1		10 *	8 *	25 *	25K	70	0	Low offset, low drift JFET input	LF411C	◊ Motorola	
			20	2.7	8	25K	70	0	J-FET Input	LF411C	TI	
									Wideband JFET	LF411	National	
				3	10	50K	80	0	JFET Input, High Speed	LF351A	SGS-Thomson	
				17	165	56K	80	0		1463HR	† TeledyneP	
							90	0		1463	† TeledyneP	
0.3	0.02		15	40	220	25K	60	0	Wideband, settles to 0.1% in 110 ns	HC1437	HyComp	
										HC1437-883	† HyComp	
	0.025		7	0.4	0.33	32K	65	0	CMOS, Rail-to-Rail	ALD1701B	◊† AdvLinear	
0.5	10		5	2.5 *	5	75K	85	0	Bipolar-JFET	LF155A	† LinearTech	
										LF355A	LinearTech	
				4	10	75K	85	0	Wideband-JFET	LF156A	† LinearTech	
										LF356A	LinearTech	
0.50	—		75	60 *	500	200K	—	0	Inverting, Settles to 0.01% in 200 ns	1430	TeledyneP	
										1430HR	† TeledyneP	
0.85	0.025		7	2.1	5	50K	70	0	Precision Low Power BiFET	ALD1704B	† AdvLinear	
1.5	0.01		20		1	300K	76			AD548A	AD	(2427, 2429, 2462)
				1	1	300K	76		Precision Low Power BiFET	AD548J	AD	(2427, 2429, 2462)
										AD548S	† AD	(2427, 2429, 2462)
2	0.2		15	0.3 *	0.3 *	50K	85	1	Low Noise 108	ICL108LN	† GE/Intersil	
				1 *	0.2 *	50K	85	0	Micropower, Supply Current 600 μa	LM112	† National	
										LM212	National	
					0.3 *	50K	85	1	Precision Bipolar	AD208	AD	(2470)
										LM108	◊† GE/Intersil	
										LM108	† LinearTech	
										LM108	† Motorola	(2952)
										LM208	Motorola	(2952, 2989)
										μA108M	† National	
										μA208M	National	
										LM108	◊† National	
										LM208	National	
										PM108	‡ PMI	
										LM108	† SGS-Thomson	
										LM108M	† SGS-Thomson	
										LM208	SGS-Thomson	
5	0.6		18	50	75		110	0		VA703	† VTC	(3382, 3384)
										VA713	† VTC	(3383)
6 *	1		40 *	280 *	10K	70			Wideband, Unity Gain Stable	SP2541	† DataLinear	
20	0.7		2 *	—	—	60K	89	0	Op Amp and Voltage Reference	LM10BL	LinearTech	
										LM10BL	National	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers—Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift $\mu\text{V}/^\circ\text{C}$	Bandwidth MHz	Slew Rate $\text{V}/\mu\text{s}$	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
2	20	0.7	2 *	—	—	120K	93	0	Op Amp and Voltage Reference	LM10 LM10B MCELM10 LM10 LM10B	LinearTech LinearTech MCE † National National	5
20 μA *			20 *	730 *	800 *	0.95 *		0	Unity Gain Closed-Loop Buffer Amplifier	CLC110	† Comlinear	
35	7		20 *	40 *	200	10K	70	0	Wideband, Unity Gain Stable	HA2541-2 HA2541-5	† Harris (2762) Harris (2762)	
50	5		8	2.5 *	18 *	50K	80	0	High Speed	MPOP01 MPOP01E MPOP01F OP01E OP01F	† MicroPwr MicroPwr † MicroPwr Solitron † Solitron	10
			10	0.8	0.25	50K	90	0	General Purpose	MPOP02 MPOP02C OP02 OP02C	† MicroPwr MicroPwr ‡ PMI ‡ PMI	15
60	10		15	— 3 *	40 25	50K 50K	70 70	1 0	60 $\text{V}/\mu\text{s}$ Comp. for $g = 5$ High Slew Rate	SE538 SE530	† Signetics † Signetics	
75	5 10		10 3 * 15	0.8 1 * 1 *	0.5 * 0.5 * 0.5 *	50k 50K 25K 50K	80 80 80 80	0 1 1 0	Dual Matched High Performance Bipolar General Purpose, Uncompensated General Purpose, Compensated	OP14C LM201A LM101A LM107 LM107 LM207 LM107 LM207 SG107 SG207 LM207	◊ PMI ◊ TI † SGS-Thomson † LinearTech ‡ National National † SGS-Thomson SGS-Thomson ◊† SiliconG ◊ SiliconG TI	20 25 30
									Higher Accuracy 741	AD741S	† AD (2427, 2462)	
								1	General Purpose, Improved 101, Uncompensated	AD101A AD201A LM101A LM101A LM201A $\mu\text{A}101\text{AM}$ $\mu\text{A}201\text{AM}$ LM101A LM201A LM101A LM201A SG101A SG201A	† AD (2470) AD † LinearTech † Motorola (2952) Motorola (2952, 2989) † National National ◊† National National † Raytheon (3024) SGS-Thomson ◊† SiliconG ◊ SiliconG	35 40
							90	0	Higher Accuracy 741C	AD741K	AD (2427, 2462)	45
150 200	30 50		3 * 10	1.3 * 5 *	2 0.3 *	50K 25K	80 80	0 3	Low Power General Purpose	HA5151-2 $\mu\text{A}709\text{AM}$ LM709A SFC2709A	† Harris (2771) ◊† National † National † SGS-Thomson	
500	50		10 *	3.5 *	13 *	50K	80	1	High Performance, Single Supply	MC33071A MC34071A MC35071A	Motorola (2953) Motorola (2953, 2991) † Motorola (2954)	50
800	200		—	10 *	13 *	50K	80	1	Wideband, Low Noise	XR5534M RM5534 SE5534 SE5534A SE5534A	† Exar † Raytheon † Signetics † Signetics † TI	55
1500	300		—	10 *	6 *	25K	70	1	Low Noise, Comp. for $G = 3$	SSM2134 SSM2134	PMI SSM Audio	
2 *	10000		20 *	200 *	700 *		50 *	0	Wideband, Fast-settling	CLC400	† Comlinear	60
2	20000	6000	20 *	400 *	350	10K	70		Low power enhanced HA-2540; I supply < 16 mA.	EL2040	◊† Elantec	
				600 *	550	10K	70		Low power enhanced HA-2539; I supply 16 mA. < 16 mA.	EL2039	◊† Elantec	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

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°Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
2	20000	7000	20 *	50 *	150	10K	70		Low power, enhanced HA-2541; I supply < 16 mA.	EL2041	† Elantec	5
				150 *	160	10K	74		I supply < 16 mA.	EL2195	Elantec	
									Low power, enhanced HA-5190; I supply < 16 mA.	EL2190	◊† Elantec	
	35000	7000	20 *	40 *	200	10K	70		Wideband, unity gain stable, fast settling.	EHA-2541-2	† Elantec	
										EHA-2541-5	Elantec	
2.5	12	12	5 *	4	24	100k *	100 *	0		OPA404KP	Burr-Brown (2541, 2543)	10
										OPA404KU	◊ Burr-Brown (2541, 2543)	
	50	5		0.6	0.2	1M	110		Low Power	LC810	Gennup (2691)	
	125	35	2 *	—	—	250K	96	4	Low Drift	IR9725	Sharp	
				1 *	0.005 *	250K	94	4	High Accuracy Instrumentation	μA725C	National	
	200	40	5	0.3 *	0.12 *	250K	94	1	Low Drift, Low Noise	AD504J	AD	15
	250	50	10 *	1 *	0.25 *	100K	90	2	High Gain Instrumentation, 50 mA	LH0020	† National	
	5000 *		10 *	165	1800	70 dB	46		Current mode amplifier.	EL2022	† Elantec	
3	0.0003	—	50	0.35	0.3	40K	66	0	FET Electrometer	AD515J	AD (2427, 2470)	
	0.001	0.0002	5	2	7	1M	90			1346	TeledyneP	
			5 *	0.11	2 *	1M *	90	0	Low Bias Current, Low Power	1346-01	† TeledyneP	20
										HA5180-2	Harris	
										HA5180-5	Harris	
	0.01	0.008	10	2 *	2 *	180K	82	0	Precision Di-FET	OPA121U	Burr-Brown (2541)	
	0.020	0.020 *	25	5	20 *	400K	110 *	0	High Voltage FET	3581J	Burr-Brown (2544)	
						800K	110 *	0	High Voltage FET	3582J	Burr-Brown (2544)	25
				5 *	20 *	400K	110 *	0	High Voltage FET	3583	Burr-Brown (2544)	
				7 *	—	1000K	110 *	2	High Voltage FET	3584	Burr-Brown (2544)	
	0.025	0.015	10 *	9	22	32K	78	0	Wideband-JFET, Dielectrically Isolated	OPA606KP	Burr-Brown (2540, 2543)	
	0.03	—	50	10 *	50	25K	70	0	Fast Wideband, High Accuracy FET	AD528J	AD (2470)	
		0.005	1	3.5			70			TA75060	Toshiba	30
										TA75061	Toshiba	
				3	13		70			TA75070	Toshiba	
										TA75071	Toshiba	
	0.05	—	75	90	900	56K	80	1	Fast-Settling, FET Input	1443	TeledyneP	
		0.01	10	100	120	150	74			1344-01	† TeledyneP	35
			10 *	100 *	100	75K	74	1	Wideband, High Slew Rate	HA5160-2	† Harris	
			20	100	120	150	74			1344	TeledyneP	
			20 *	100 *	100	75K	74	1	Wideband, High Slew Rate	HA5160-5	Harris	
	0.025	10	2	10	33K			0		OPA445BM	Burr-Brown (2544)	
	0.05	25	—	125 *	100K	130 *	2		to ± 150V supply, 40mA output	PA84	Apex (2480)	40
			5	20	1M	130 *	0		to ± 150V supply, 75mA output	PA83	Apex (2480)	
									Hi-Rel Screened	PA83M	† Apex (2480)	
				5 *	20 *	100K	110 *	0	± 32/75Vs, ± 30mA.	PA83Q	† Apex (2480)	
									± 70/150Vs, ± 15mA.	PA81J	Apex (2480)	
									Hi-Rel Screened	PA82J	Apex (2480)	45
										PA82Q	Apex (2480)	
				75 *	25 *	100K	130 *	2	Fast Settling, High Voltage	PA84S	Apex (2480)	
									Hi-Rel Screened	PA84Q	† Apex (2480)	
									High Voltage	PA84M	† Apex (2480)	
	0.1	0.025	25	40 *	350	20 K	70	2	FET Input	EL2006A	† Elantec	50
		0.05	25	4.5 *	13	86dB	70	0	Wideband, High Output Current	PA02A	† Apex (2480)	
			30	—	100 *	—	104 *	2	to ± 50V supply, 4A output	PA09	Apex (2480)	
				10	20	10K	64	2	to ± 40 V supply, 2 A output	PA09M	† Apex (2480)	
									Hi-Rel Screened	PA09Q	† Apex (2480)	
				150*	600	150K*	100*	1	± 40 V supply, 4 A output	PA19	Apex (2480)	55
										PA04	Apex (2480)	
	0.2	0.04	100	18	100	56K	110	2		1480HR	† TeledyneP	
		0.05	10 *	3 *	13 *	50K	80	0	Low Noise, Bipolar JFET	TL071BC	◊ SGS-Thomson	
											(Continued)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units											(Cont'd)	
3	0.2	0.05	10 *	4 *	13 *	50K	80	0	Low Noise Bipolar-JFET	TL071BC	Motorola (2953, 2991)	
										TL071BC	◊ TI	
			15	—	25	50K	82	—	Wideband, Decompensated, Settles to 0.01% in 1.6 μs	OP17C OP17G	‡ PMI PMI	5
				0.2 *	5	25K	80	0	Bias Compensated Bipolar-JFET, Bias Comp.	OP15G OP15C OP15G	LinearTech ‡ PMI PMI	
				12 *	5	50K	82	0				
				17 *	9	25K	80	0	Wideband-JFET, Bias Comp.	OP16C OP16G	‡ LinearTech LinearTech	10
						50K	82	0	Wideband-JFET, bias comp.	OP16C OP16G	‡ PMI PMI	
	0.1	—	—	3	13 *	50K	70	0	Bipolar JFET	TL081B	Motorola (2953, 2991)	
										TL081BC	◊ TI	
			10 *	1	3.5	4K	80	1	BIFET, Low Power	TL060BC	TI	15
				1 *	3.5 *	4K	80	0	Low Power, Bipolar JFET	TL061BC	◊ SGS-Thomson	
									Low Power, Bipolar-JFET	TL061BC	◊ TI	
									Programmable Bipolar JFET	TL066BC	TI	
				2 *	2	4K	80	0	Low-Power J-FET	TL061BC	Motorola (2953, 2991)	
				3 *	13 *	50K	80	0	Bipolar JFET	TL081BC	◊ SGS-Thomson	20
									Bipolar-JFET	TL088C	TI	
0.3	0.075	10	10 *	5	7.5	50 K	85	0	High Output Current	LH0101A/HR	‡ Maxim	
				0.3	10	200K *	85	0	2 A Power	LH0101A	‡ National	
										LH0101AC	National	
				4	7.5	50K	85		2A Power, 5A Peak	LH0101ACK	Maxim	25
								0	2 A Power	LH0101AK	‡ Maxim	
										ELH0101A	‡ Elantec	
										ELH0101AC	Elantec	
0.30	0.075	10 *	4.0	10	50K	85	0	2 A Power	LH0101A	‡ Maxim		
	75	10 *	0.3	10	200K *	85	0	2 A Power	LH0101AC	Maxim		
0.5	0.05	25	40 *	350	20 K	70	2	FET Input	EL2006AC	Elantec		30
2	1	10 *	3	10 *	25K	70	2	Wideband	MC34181	Motorola (2953, 2991)		
4	0.5	5	100	1000	1000K	0		Settles to 0.01% in 200 ns	AM500GC	Datel (2598)		
									AM500MC	Datel (2598)		
5	3	10 *	—	0.1 *	40K	80	0	Programmable Amplifier	HA2720	‡ Harris		
	5	5	20	35	150k	100	1	Wideband, Uncompensated	SP2620	◊† DataLinear		35
7.5	3	—	0.25 *	0.16 *	100K	70	0	Programmable	LM4250	‡ National		
									UC4250	‡ Solitron		
10	1000	50	1	500	300	80	2	High Slew Rate	MA207	AnalogSys		
15	5	5	12	7	150k	100	0	Wideband	SP2600	‡ DataLinear		
	15	15	35 *	25	100K	80	1	Wideband, General Purpose	AD507K	AD (2428, 2462)		40
20	5	—	0.85 *	0.55	80K	80	0	Low Power, Radiation Resistant	HS3530RH	‡ Harris (2730)		
	10	40	1 *	1.8 *	63K	74	0	± 45Vs, ± 10A, 97W.	PA61A	Apex (2480)		
			4	2.5	316K	100	0	High Current (15A), High Power	OPA512SM	‡ Burr-Brown (2544)		
			4 *	2.5	70K	74	0	to ± 50V supply, 15A output	PA12A	‡ Apex (2480)		45
			6 *	2.5	70K	74	0	to ± 50V supply, 5A output	PA10A	‡ Apex (2480)		
26	5	10	16	27	100K	80	0		LF400C	National		
60	12	5.5 *	3	1.5	25K	70	0	Four Channel Multiplexed Input	LM604AC	National		
									LM604AM	‡ National		
80	30	—	1 *	0.6	50K	80	0	to 500 mA, single supply	μA759M	‡ National		50
		15	0.4	0.3	50K	80	0	General purpose	LM741E	◊ SGS-Thomson		
								Higher Performance	LM741A	‡ National		
									LM741E	National		
100	20			0.4 *	25K	80	0	200°C Operation	LM101X	‡ LinearTech		
									LM101X/883B	‡ LinearTech		
	100	—	10	22	30K	80	1	High Slew Rate, Wideband	HS3516RH	‡ Harris (2729)		55
150	30	3 *	1.3 *	2	50K	80	0	Low Power	HA5151-5	Harris (2771)		
200	50	20	1 *	0.5 *	50K	80	0	Higher Accuracy 741C	AD741J	AD (2427, 2462)		
	75	10	6	1M	80	0	0	Low Noise, Wideband	HA5101	◊† Harris (2767)		
			100	40	1M	80	1	Low Noise, High Slew Rate	HA5111	◊† Harris (2767)		

(Continued)

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
3	300	100	3 *	1 *	1.5	100K	70	1	0.2 A Power	ELH0041 MC0041 LH0041	† Elantec † Micra ♦† National	(Cont'd)
			25	0.015	3 *	100K	70		High Power, High Current	52063 52106	Micropac Micropac	5
			1 *	1.5	100K	70	1	1	1 A Power	ELH0021 MC0021 LH0021	Elantec † Micra † National	
	500	75	3 *	2 *	4.2 *	50K	80	2	General Purpose	MC1539	† Motorola (2952)	
	600	100	5	1 *	0.5 *	25K	80	3	High Performance MC1709	MC1709A	† Motorola (2952)	10
	1000	200	10	40	20	100K	70	0	Low Noise, Wideband	MA322	AnalogSys	
	2000	200	4	10 *	—	20K	70	0	General Purpose Wide Bandwidth	LH0003 LH0003C	† National National	
			4 *	30 *	30	15K	90	0	General Purpose, Wide Bandwidth	MC0003	† Micra	
3 *	5000 *		10 *	50	300	70 dB	50		Current mode amplifier.	EL2020	† Elantec	15
	10000 *		20 *	150 *	1200 *		50 *	0	Wideband, Fast-settling	CLC401	† Comlinear	
3	13000	30	—	1460	600	47K	70	1		AD5539	† AD (2428, 2462)	
3 to 16	0.001 *	0.001 *	5 *	2.3 *	4.5 *	10K	70	1	Programmable, High Bias	TLC271C	♦ TI	
3.5	0.015	—	75	1 *	3	20K	70	0	High Accuracy, FET	AD506J	AD (2462, 2470)	20
	0.1	20	15	2.5 *	5	50K	85	0	Bipolar-JFET	LF155	† LinearTech	
				5 *	9	50K	85	0	Wideband-JFET	LF156	† LinearTech	
	4	2	10 *	3	10 *	25K	70	2	Wideband	MC33181	Motorola (2953)	
3.5 *	3000 *		11 *	170 *	2400 *		60 *	0	Overdrive Protected	CLC205	† Comlinear	
	4000 *		11 *	180	3400 *		60 *	0	Overdrive Protected	CLC206	† Comlinear	
4	0.01	0.002	10	1 *	1.5	100K	80	0	Micropower	LH0022	† National	25
	3	—	12	20 *	30 *	—	70	0	Unity Gain, Noninverting	SFC2110M	SGS-Thomson	
	10	10	5 *	12	4	100K	80	0	Wideband, High Impedance	EHA2600	† Elantec	
				12 *	4	100K	80	0	High Impedance	HA2600	† Harris	
	15	2	10 *	1 *	2.5 *	100K	80	0	High Performance	MC1556	Motorola (2954)	30
	15			100 *	25	100K	80	1	Wideband	EHA2620	♦† Elantec	
			10 *	100	25	100K	80	1	Wide Band, High Impedance, Gain ± 5	HA2620	♦† Harris	
			20	35 *	20	100K	80	1	Wideband, General Purpose	AD507S	† AD (2428, 2462)	
	25	4	15	1	0.7	200k	90	0		LM611M	† National	
		12	15 *	4 *	5 *	100K	80	0	High Voltage	HA2640	† Harris	
30	2	5	—	—	—	40K	80	0	Op Amp and Voltage Reference	LM10CL LM10CL	LinearTech National	35
						80K	90	0	Op Amp and Voltage Reference	LM10C LM10C	LinearTech National	
	100	10	20	12	30	30k	90	0	High Slew Rate	SP2500	† DataLinear	40
					65	15k	90	0	High Slew Rate	SP2510	♦† DataLinear	
				20	120	15k	90	1	High Slew Rate, Uncompensated	SP2520	♦† DataLinear	
	200	50	15	12 *	10	50K	80	0	High Speed, Fast Setting	AD518K	AD (2462, 2470)	
			20	12 *	10	50K	80	0	High Speed, Fast Settling	AD518S	† AD (2462, 2470)	
		100	5	0.6	0.25		95		Low Voltage Op Amp	NE5230 SA5230	♦ Signetics (3143) ♦ Signetics	45
250	50	—	15 *	50	50K	80	80	0	Precision High Speed	LM118 LM118 LM218 LM118 LM218 LM218	† LinearTech ♦† National National † SGS-Thomson SGS-Thomson TI	50
									General Purpose	AN1741 AN6570	Panasonic Panasonic	
									General Purpose, Dual Power Supply	AN6573	Panasonic	
	300	100	5 *	1 *	25	50K	70	1	0.5 A Wideband	LH0061	† National	55
	500	75	10 *	4.5 *	13 *	25K	70	1	High Performance, Single Supply	MC33071 MC34071 MC35071	† Motorola (2953) † Motorola (2953, 2951) † Motorola (2954)	
										SG1173	SiliconG	
	700	100	10	—	—	25K	70	1	40mA Output	MA342	AnalogSys	60
		25	—	9 *	18K	70	70	1	General Purpose, OC Output	SFC2761M SFC2861M	† SGS-Thomson † SGS-Thomson	

(Continued)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

♦ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
4	1500	300		10	13	25K	70	1	Low Noise, High Performance	NE5534 NE5534A	TI TI	(Cont'd)
			—	10 *	6 *	25K	70	1	Low noise, Comp. for G = 3	XR5534 XR5534A XR5534C RC5534 NE5534 NE5534A	Exar Exar Exar Raytheon (3024) Signetics (3145) Signetics (3145)	5
	5000 6000 30000	600 800 5000	3 * 3 * 20 *	4.5 * 4.5 * 70 *	210 200 400	6K 5K 4K	84 82 60 *	0 0 3	High Slew Rate	LM6265 LM6165 MC0024 LH0024	National ↑ National ↑ Micra ↑ National	10
4 to 16	0.001 *	0.001 *	5 *	2.3 *	4.5 *	10K	70	1	Programmable, High Bias	TLC271M	♦ ↑ TI	
4.5	0.03	0.015	7	0.30	0.01	100k	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1706	♦ ↑ AdvLinear	
		0.025	7	0.4	0.33	32k	65	0	CMOS, Rail to Rail Single/Dual 5V Supply	ALD1701	♦ ↑ AdvLinear	15
	0.030	0.025	7	1	1.4	50k	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1702	♦ ↑ AdvLinear	
	0.85	7	2.1	5	50K	70		0	Rail to Rail	ALD1704	↑ AdvLinear	
25	13	10 *	3	10 *	25K	70		2	Wideband	MC35181	↑ Motorola (2954)	
40	3	—	1.5	0.53	250K	100		0	Programmable	LB1035AC	AT&T	
100	2		1.8	2.1	50 K	80			Low Power, Single Supply	MC35171	↑ Motorola (2954)	20
	50	10	1.8	2.1	50K			0	Low Power, Single-Supply	MC33171	Motorola (2953, 2990)	
170	32	6 *	—	0.04 *	25K	80		1	Micropower	CA3078	↑ GE/RCA (2647)	
1500	3	—	4	1.5 *	100K	86		0	Programmable	LB1032AC LB1032BC	AT&T AT&T	
3500	3	—	4	1.5 *	100K	86		0	Programmable	LB1031AC	AT&T	25
6000	3	—	1	1.5 *	100k	75		0	Programmable	LB1034AC	AT&T	
5	—	—	—	1G *					High Speed	MN541	MicroNet	
0.001	0.0005	5	0.7 *	0.3	40K	76		0	Precision, Low Drift FET	AD545L	AD (2427, 2470)	
0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	30K	60		1	Programmable, Low Bias	TS271AC	♦ SGS-Thomson	
						70		1	Programmable, Low Bias	TLC251AC TLC271AC TLC271AM	♦ TI ♦ TI ♦ TI	30
			1 *	0.012 *	0.001 *	20K *	77	1	Prog., Low Bias, Supply Volt. = 1 V	TLC251AC	♦ TI	
				0.075 *	0.01 *	10K *	77	1	Prog., Low Bias, Supply Volt. = 1 V	TLC251AC	♦ TI	
			5 *	2.3 *	4.5 *	10K	70	1	Programmable, High Bias	TLC251AC TLC271AC TLC271AM	♦ TI ♦ TI ♦ TI	35
0.003	0.002	4 *	0.5 *	0.5 *	20K	70		0	Low Supply Voltage	CA3420A	↑ GE/RCA	
0.005	0.0006		2 *	50 *	—	80		0	Micropower, Transconductance Amplifier	CA3080 CA3080A	GE/RCA (2647) GE/RCA (2647)	40
	0.001	0.7 *	2.2	5.3	7K	70		0	LinCMOS, Programmable	TLC271AI	♦ TI	
0.02	300 *	25	150 *	250	30K	70		1	Ultra High Speed, Wideband	AM1435MC AM1435MM	Datel ↑ Datel	
0.025	0.002	25	15 *	50	50K	80		0	Precision, High Speed FET	LH0062	↑ National	
0.03	0.02	6 *	4 *	10 *	50K	80		0	MOS-Bipolar	CA3160A	↑ GE/RCA (2647)	45
0.030	0.02	10 *	4 *	10 *	50K	80		1	MOS, Single Supply, Strobe	CA3130A	↑ GE/RCA (2647, 2653, 2657)	
0.04	0.02	4 *	0.063 *	0.03 *	10K	70		0	Nanopower BIMOS	CA3440A	GE/RCA	
		6 *	4.5 *	9 *	20K	70		0	MOS FET, Single Supply	CA3140A	GE/RCA (2647, 2657)	
0.05		25 *	140 *	1000				0	Buffer Amplifier	EL2005	↑ Elantec	
	0.03	15 *	0.48 *	0.16 *	10K	70		1	Low Power	ICL7614BC ICL7614BM	♦ Maxim ♦ ↑ Maxim	50
			1	1.6	80K *	70		0	Low Power	ICL7611BC ICL7611BM	♦ GE/Intersil (2673, 2675) ♦ ↑ GE/Intersil (2673, 2675)	
									Low Power, Extended CMVR	ICL7612BC ICL7612BM	♦ GE/Intersil (2673) ♦ ↑ GE/Intersil (2673)	55
										ICL7616BC ICL7616BM	GE/Intersil ↑ GE/Intersil	(Continued)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Band- width MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line	
Single Units										(Cont'd)			
5	0.05	0.03	15 *	1	1.6	80K *	70	0	Low Power, Input Protected	ICL7613BC ICL7613BM	GE/Intersil † GE/Intersil	(Cont'd)	
								1	Low Power	ICL7614BC ICL7614BM	GE/Intersil † GE/Intersil	5	
									Low Power, Input Protected	ICL7615BC ICL7615BM	GE/Intersil † GE/Intersil		
			1.4 *	1.6 *	6K	70	0		CMOS, Low Power, Programmable Low Bias	ICL7611BC ICL7611BM	◊ Maxim ◊† Maxim	10	
									Programmable Bias, Extended CMVR	ICL7616BC ICL7616BM	Maxim † Maxim		
					10K	70	0		Programmable Bias, Extended CMVR	ICL7612BC ICL7612BM	◊ Maxim ◊† Maxim	15	
			25 *	1.4 *	1.6 *	6K	70	0	Programmable Bias, Extended CMVR	ICL7616DC ICL7616DM	Maxim † Maxim		
					10K	70	0		Programmable Bias, Extended CMVR	ICL7612DC ICL7612DM	◊ Maxim ◊† Maxim		
	200			1.0		50K	94			CA101	GE/RCA (2647)		
0.1	0.02	5 *	—	—	—	50K	85	—	Wideband Decompensated	LF357B LF157 LF257 LF357B PM157	Motorola (2953) † National National National † PMI	20	
					2	30	25K	80	1	JFET Input	LF157	† SGS-Thomson	25
					2.5	5 *	25K	80	1	JFET Input	LF155	† SGS-Thomson	
					2.5 *	5 *	50K	85	0	Bipolar-JFET	LF355B LF155 LF255 LF355B	Motorola (2953) † National National National	30
					5	7.5	25K	80	1	JFET Input	LF156	† SGS-Thomson	
					5 *	7.5 *	50K	85	0	Wideband-JFET	LF356B LF156 LF156HRH LF256 LF356B PM156	Motorola (2953) † National † National National National † PMI	35
	0.025		10	1	1	25K	70	0	Low Power-BIFET	LF441	National	40	
			25 *	70 *	350	1K	50	2	Ultra Fast FET	TP0032	† TeledyneP		
			25 *	80 *	350	1K	50	2	Ultra Fast FET	TP0032-HR	† TeledyneP		
			50 *	70 *	500 *	3 K	70	2		EL2006C	Elantec	45	
	0.05		10	2	0.6	25K	70		Low-Power J-FET Input	LF441C	Motorola (2953, 2989)		
			10 *	3 *	13 *	50K	80	0	Bipolar-JFET	μA771BC μA771BM	National † National		
				4 *	13 *	50K	80	0	Precision-BIFET	MC35001B	† Motorola (2954)		
			80	150	400	10K	60	3	Fast Settling, Wideband	OPA600U	Burr-Brown (2543)		
			100	150	400	10K	60	3	Fast Settling, Wideband	OPA600U/883B	† Burr-Brown (2543)		
0.10	0.025		25 *	70 *	350	1K	50	2	Ultra Fast-FET	ADLH0032 ELH0032 ELH0032C MC0032 LH0032AC	† AD (2428, 2461) † Elantec † Elantec † Micra ◊† National	50	
0.15	—		50	20 *	210	10K	70	1	Wideband, Fast Settling	AH0605	◊ OEI		
0.2	0.025		3 *	1 *	0.3 *	25K	96	0	Precision Bipolar	LM111CL	National		
						50K	110	0	Precision, Low Input Current	LM111L	Motorola (2953)		
	0.1		10 *	4 *	13 *	50K	80	0	Precision-BIFET	MC34001B	Motorola (2953, 2990)		
			20				80	0		1464HR	† TeledyneP	55	
						56K	80	0		1464	† TeledyneP		
			30	4 *	13 *	50K	80	0	JFET Input, High Speed	LF351B	SGS-Thomson		
1	0.25		25	70	500		60			CLH0032	† TeledyneC		
5 *	5 *	1 *		400 *	400 *	10K	60		Wideband	SP2540	† DataLinear	60	
				600 *	600 *	10K	60		High Slew Rate	SP2539	† DataLinear		

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
5	5 fA		30	0.0005	0.5	100k	100	0		1702	TeledyneP	
	7.5	3	—	1 *	0.1	20K	70	0	Multi-Purpose, Programmable	μA776M	† SGS-Thomson	
	10	5	10 *	—	0.1 *	25K	74	0	Programmable Amplifier	HA2725	Harris	
		6	—	0.25 *	0.16 *	50K	70	0	Programmable	LM4250C	† National	
										UC4250C	Soliton	5
	10K		25		4500*	10K*	40*	0	150 MHz -3dB bandwidth, up to 4 A output.	WA01A	Apex (2480)	
	20	3	—	—	2.5 *	100K	80	1	High Voltage	LM144	† National	
				1 *	2 *	100K	80	0	High Voltage	MC1536	† Motorola (2954)	
										LM1536	† National	
										SG1536	† SiliconG	10
			40	1 *	1.5	60K	80	0	Output 26V@10A	OPA501B	Burr-Brown (2544)	
										OPA501S	† Burr-Brown (2544)	
				1 *	1.5	98	80	0	Hi-Rel Screened Output 32V@10A	PA51Q	† Apex (2480)	
										PA51A	† Apex (2480)	
										PA51M	† Apex (2480)	15
25	25		12	4	80K	74	0		Wideband, High Impedance	EHA2602	† Elantec	
										EHA2605	Elantec	
			100 *	20	80K	74	1		Wideband	EHA2622	† Elantec	
										EHA2625	Elantec	
			5 *	12 *	4	300K	100	0	Wide Temperature Range	OPA11HT	† Burr-Brown (2543)	20
			10 *	12 *	4	80K	74	0	High Impedance	AM460-2	Datel (2598)	
										HA2602	† Harris	
										HA2605	Harris	
			15 *	100	20	80K	74	1	Wide Band, High Impedance, Gain ± 5	AM462-2	Datel (2598)	
										AM464-2	† Datel (2598)	25
										HA2622	† Harris	
										HA2625	Harris	
			30 *	1	—	80K	74	1	Wideband	3508J	Burr-Brown (2543)	
				70	20	80K	100 *	1	Wideband, High Gain	1321-01	† TeledyneP	
										1321	TeledyneP	30
30	30	20	2	0.4	50K	80	0		General Purpose	3500R/MIL	† Burr-Brown	
		60	2	0.4	50K	80	0		General Purpose	3500U/883B	† Burr-Brown	
35	7	40	1	1.35	100K	80			High Current, High Power	OPA501V	† Burr-Brown (2544)	
										OPA501V/883B	† Burr-Brown (2544)	
	50		120 *	375 *	10K	70			Wideband	SP2542	† DataLinear	35
50	15	—	—	0.8 *	50K	70	0		Programmable	MC1776	† SGS-Thomson	
				0.2	0.35	50K	70	0	Programmable Low Power	MC1776	† Motorola (2953, 2989)	
100	12	5.5 *	3	1.5	25K	70	0		Four Channel Multiplexed Input	LM604C	National	
										LM604I	National	
	20	10	2.5 *	18 *	25K	80	0		High Speed	MP0P01C	MicroPwr	40
										MP0P01G	† MicroPwr	
										OP01C	† PMI	
										OP01G	† PMI	
			2.5*	18*	25K	80	0		High Speed	OP01C	Soliton	45
										OP01G	† Soliton	
	30	1 *	0.5 *	25K	70	1			Precision	μA777C	GE/Intersil	
	25	20	0.8	0.25	25k	70	0		Dual Matched	OP14B	† PMI	
			1.3	0.25	25K	70	0		General Purpose	MPO02B	† MicroPwr	
										MPO02D	MicroPwr	
										OP02B	† PMI	50
										OP02D	PMI	
	100	—	1 *	0.4 *	50K	70	0		Programmable	XR146	† Exar (2619)	
120	40	6 *	3 *	20	50K	70	0		High Slew Rate	NE530	Signetics	
150	30	—	—	—	50K	70	0		Single Supply	TL321I	TI	
	40	6 *	—	60 *	50K	70	1		60 V/μs, Comp. for G = 5	NE538	Signetics	
200	25	10 *	12	50	15K *	80	0		Unity Gain Stable	HA2519	† Harris	
			20	135	15K *	80	1		High-Speed, High Output Current	HA2529	† Harris	
			20 *	12	25	20K	80	0	High Slew Rate	EHA2500	† Elantec	
										HA2500	† Harris	

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line		
Single Units										(Cont'd)				
5	200	50	20 *	8 *	15 *	50K	80	1	Four Addressable Inputs, Single Amplifier	HA2400 HA2404	† Harris Harris	(Cont'd)		
500	100 150	— 20	— —	— —	0.4 * —	300K * 20K	95 70	0 1	with Voltage Regulator General Purpose	IR3404 TA7502 TA7502A	Sharp Toshiba Toshiba	5		
	200			1.0	0.5 * 0.5	20 K 50K	70 94			M5F741 LM741 LM748	Mitsubishi GE/RCA (2647) GE/RCA (2647)	10		
					—	20K 50K	70 70	0 0 1	General Purpose General purpose Uncompensated 741	IR3741 LM741 LM748	Sharp SGS-Thomson SGS-Thomson	15		
					1	0.5	50K	70	0	Bipolar, General Purpose	μA741I μA748I	TI TI	20	
					1 *	0.5	50K	70	0 1	High Performance General Purpose	μA741M LM748M	† SGS-Thomson † SGS-Thomson	25	
						30 *	50K	70	1	High Slew Rate	SE531	† Signetics	30	
					3 *	0.5 *	0.3 *	25K	70	3	General Purpose	μA709M LM709	† National † National	35
					1 *	0.5 *	50K	70	0	General Purpose Compensated	AD741 MC1741	† AD (2427, 2462) † Motorola (2953, 2989)	40	
										μA741M LM741 PM741 RM741 SG741	† National † National PMI † Raytheon † SiliconG	45		
									Low Noise 741	CA6741	† GE/RCA (2647)	50		
								1	General Purpose, Uncompensated	μA101M LM101	† National † National	55		
									Uncompensated 741	CA748 MC1748 LM748 LM748C	† GE/RCA (2647) † Motorola (2952) † National National	60		
						10	50K	70	0	High Slew Rate 741	MC1741S	† Motorola (2953, 2989)	65	
					5 *	0.3 *	12K	80	3	General Purpose	SFC2709M	† SGS-Thomson	70	
					4 *	30 *	0.7 *	20K	70	2	Programmable	CA3094A CA3094B	† GE/RCA (2648, 2656) † GE/RCA (2648, 2656)	75
					15 *	1 *	0.3 *	25K	70	3	General Purpose	MC1709	† Motorola (2952)	80
650	50	10	40 *	30	4K	60	0			VA705K	VTC (3383)	85		
750	250	6 *	65 *	15	15K	74	3		High Speed High Gain	μA715M	† National	90		
1000	300	20	30	15	50K	90	0		Precision, Audio; High Linearity	MA332 MA332C MA332M	AnalogSys AnalogSys † AnalogSys	95		
	300 *	50	150	60	10K	70	1		Audio Op-Amp Audio Op-Amp			100		
1000 *	5000 *	50	—	8000	50K	60	0		High Power	1460	TeledyneP	105		
									200 MHz -3db bandwidth, G = 1-40 200 MHz -3db bandwidth, G = 1-40; settles to 0.02% in 15 ns.	CLC220AI CLC220AM	Comlinear † Comlinear	110		
2000	400	—	38 *	25 *	0.6K	76	1		Large Signal Wideband	CA3100 L3100	† GE/RCA (2647, 2655) † SGS-Thomson	115		
	500	25 *	5.5 *	8.0 *		70	0		Thermal Protection with Parole Circuit	LM675	National	120		
6000 *	3000 *	50	—	4000	50K	60	0		100 MHz -3db bandwidth, G = 1-40 100 MHz -3db bandwidth, G = 1-40; settles to 0.02% in 25 ns.	CLC200AI CLC200AM	Comlinear † Comlinear	125		
10000	300 2000	50 10 *	1000	300	10K 1.4K	70 70	0 3		General Purpose	1460HR μA702M	† TeledyneP † TI	130		
12000	5000	1.2 *	15 *	3 *	0.7K	70	1		6 Volt, Wideband	CA3010 CA3029 CA3037	† GE/RCA (2647) † GE/RCA (2647) † GE/RCA (2647)	135		
15000	4000	20 *	150 150 *	100 160	15K 15K	74 74	2		Wideband, Fast Settling Wideband, fast settling.	HA5190 EHA-5190-2	† Harris † Elantec	140		
(Continued)														

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Band- width MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line	
Single Units										(Cont'd)			
5	20000	—	10	—	800	250	70	1	Fast, Slews 800 V/μs	NE5539 SE5539	(Cont'd) Signetics (3141) † Signetics		
		300	25	700	250	31.6K	80	1		1435HR	† TeledyneP		
		300 *	25	500 *	250	10K	80	1	Settles to 0.01% in 70 ns	1435	† TeledyneP		
	24000	5000	3.5 *	50 *	7 *	2K	80	1	12 Volt, Wideband	CA3015 CA3030 CA3038	† GE/RCA (2647) GE/RCA (2647) † GE/RCA (2647)	5	
6	0.025	0.002	15	1 *	1	75K	70	0	High Performance FET	LH0022C	National		
	0.04	0.02	10 *	5 *	13 *	50K	80	1	MOS/FET Input, Bipolar/MOS Output	CA081A	† GE/RCA (2647)		
	0.2	0.05	10 *	3 *	13	50K	80	0	Low Noise Bipolar-JFET	TL071M	† TI	10	
					13 *	25K	80	0	Low Noise, Bipolar JFET	TL071I	† SGS-Thomson		
						35K	80	0	Low Noise, Bipolar JFET	TL071M	† SGS-Thomson		
						50K	80	0	Low Noise, Bipolar JFET	TL071AC	† SGS-Thomson		
				4 *	13 *	35K	80	0	Low Noise Bipolar-JFET	TL071M	† Motorola (2953, 2991)		
						50K	80	0	Low Noise Bipolar-JFET	TL071AC	Motorola (2953, 2991)	15	
										TL071AC	† TI		
	0.1	—	3	13 *	50K	70	0	0	Bipolar JFET	TL081A	Motorola (2953, 2991)		
										TL081AC	† TI		
			10	3	13	200K	86		BIFET, General Purpose	TL081M	† TI	20	
			10 *	1	3.5	4K	80	0	BiFET, Adjustable, Low Power	TL066I	TI		
								1	BiFET, Low Power	TL061I	† TI		
				1 *	3.5 *	4K	80	0	Low Power, Bipolar JFET	TL061AC	† SGS-Thomson		
										TL061I	† SGS-Thomson		
										TL061M	† SGS-Thomson	25	
						40K	80	0	Low Power Bipolar JFET	TL061AC	† TI		
								1	Low Power Bipolar JFET	TL061M	† TI		
										TL060AC	TI		
				2 *	2	4K	80	0	Low-Power J-FET	TL061AC	Motorola (2953, 2991)		
										TL061M	† Motorola (2953, 2991)	30	
				3	13	50K	80	0	BiFET, General Purpose	TL081I	† TI		
									BiFET, Low Noise	TL071I	† TI		
				3 *	13 *	50K	80	0	Bipolar JFET	TL081AC	† SGS-Thomson		
										TL081I	† SGS-Thomson		
										TL081M	† SGS-Thomson	35	
								1	BiFET, General Purpose	TL080AC	TI		
				4 *	13 *	25K	80	0	JFET Input	TL081M	† Motorola (2953, 2991)		
0.3	0.1	10 *	1 *	3.5 *	4K	80	0	0	Programmable Bipolar JFET	TL066AC	TI		
10	6	—	1 *	0.1	50K	70	0	0	Multi-Purpose, Programmable	μA776C	SGS-Thomson		
20	5		1	10	10K	70			On-Chip Buffers	MB3604	† Fujitsu	40	
25	25	15 *	35 *	20	80K	74	1	1	Wideband, General Purpose	AD507J	AD (2428, 2462)		
30	30	15 *	4 *	5 *	100K	74	0	0	High Voltage	HA2645	Harris		
										1332	TeledyneP		
				65	1 *	1.8 *	63K	74	0	± 45Vs, ± 10A, 97W.	PA61	Apex (2480)	
										PA61M	† Apex (2480)	45	
									Hi-Rel Screened	PA61Q	† Apex (2480)		
				4	2.5	5K	74	0	to ± 41 V supply, 5 A output	PA12H	Apex (2480)		
						316K	100 *	0	High Current (10A), High Power	OPA512BM	Burr-Brown (2544)		
				4 *	2.5	70K	74	0	to ± 45V supply, 5A output	PA12	Apex (2480)		
										PA12M	† Apex (2480)	50	
									Hi-Rel Screened	PA12Q	† Apex (2480)		
				6 *	2.5	70K	74	0	to ± 45V supply, 5A output	PA10	Apex (2480)		
										PA10M	† Apex (2480)		
									Hi-Rel Screened	PA10Q	† Apex (2480)		
50	25	—	—	0.8 *	20K	70	0	0	Programmable	MC1776C	† SGS-Thomson	55	
75	20								General Purpose	AN4250	Panasonic		
									General Purpose, Dual Power Supply	AN6593	Panasonic		
(Continued)													

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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◊ Available in Surface Mount Package

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(Continued)

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line	
Single Units										(Cont'd)			
6	100	10	3 *	0.4	1	100K	77	—	Ultra-Low Power	HA5141	Harris (2769)	5	
		20	20	125	400	200K	60		Fast Settling, Wideband	OPA600C	Burr-Brown (2543)		
										OPA600T	† Burr-Brown (2543)		
	200	0.1	10 *	3	13	50K	80	1	BiFET, Low Noise	TL070I	TI	5	
	250	50	—	1 *	0.5	25K	80	0	to 500 mA, Single Supply	μA759C	National		
	400	0.1	10 *	3	13	25K	80	1	BiFET, Low Power	TL080I	TI	10	
	500	200		1 *	1	100K	70	1	0.2 amp Power	MC0041C	Micra		
										LH0041C	◊ National	10	
				1.0	0.5	20K	86			LM741C	GE/RCA (2647)		
										LM748C	GE/RCA (2647)	15	
				—	—	0.5 *	20K	70	0	General purpose	LM741C	◊ SGS-Thomson	
				1	0.5	20K	70	0	General Purpose, Compensated	LM741C	Samsung (3039)	15	
				1 *	0.5	20-50K	70	0	General Purpose Compensated	AD741C	AD (2427, 2462)		
										CA741C	GE/RCA (2647)	20	
										HA17741	Hitachi		
										MC1741C	Motorola (2953, 2989)	20	
										μA741C	◊ National		
										LM741C	National	25	
										PM741C	PMI		
										SG741C	◊ SiliconG	25	
										μA741C	TI		
						20K	70	0	High Performance	μA741C	SGS-Thomson	25	
								1	General Purpose	LM748C	SGS-Thomson		
						0.5 *	20-50K	70	1	General Purpose	μA748C	GE/Intersil	30
										CA748C	GE/RCA (2647)	30	
										MC1748C	Motorola (2952)		
										μA748C	National	35	
										μA748C	TI		
				3 *	1 *	10	20K	70	0	High Slew Rate 741	MC1741SC	Motorola (2953, 2989)	35
				5 *	1 *	1	100K	70	1	0.2 A Power	ELH0041C	Elantec	
				10 *	1 *	0.25	100K	90	2	High Gain, Instrumentation, 50 mA Output	LH0020C	National	40
						0.5 *	20K	—	0	Automotive Temperature Range (-40°C to 85°C)	SA741C	Signetics	
				15 *	0.2 *	0.2 *	20K	70	0	High Power	μA791	SGS-Thomson	40
				30	1 *	1 *	100K	70	0	1 amp Power	MC0021C	Micra	
										LH0021C	National	45	
									1 A Power	ELH0021C	Elantec		
	300	10 *	12 *	50	25K	70	0		High Speed, Fast Setting	AD518J	AD (2462, 2470)	45	
	650	120		100	100	10	60	2		VA708K	† VTC (3383)		
				500	135	10	60	10		VA707K	† VTC (3383)	45	
	700	200	2	0.5	18	25k	70	0		SG3173	SiliconG		
	1000	200	6	1 *	9 *	10K	70	1	General Purpose	SFC2861AM	† SGS-Thomson	50	
		300	6 *	—	9 *	12K	65	1	General Purpose, OC Output	SFC2761C	SGS-Thomson		
	1100	120	15	100	90	10K	70	0		MAX402	◊† Maxim	50	
	1200	500	5 *	4 *	100 *	10K	70	2	Gated	ZN424	Plessey		
	1500	200	—	1 *	20 *	20K	70	1	High Slew Rate, High Performance	NE531	Signetics	50	
		500	10	1 *	0.5 *	50K	90	0	General Purpose Compensated	μA741	◊† Signetics		
	5000	600	6 *	4.5 *	210	1.2K	82	0		LM6264	National	50	
	6000	800	6 *	4.5 *	200	0.9K	80	0		LM6164	† National		
	15000	4000	20 *	150	160	15K	74	2	Wideband, Fast Settling	HA5195	◊† Harris	50	
				150 *	160	10K	74		Wideband, fast settling.	EHA-5195	Elantec		
7	400	75	5 *	—	—	3K	60	0	150mA Output	IR91308	Sharp	55	
							63	0	250 mA Output, Electronic Shutdown	LM13080	National		
	6000	75	5 *	—	1.6	3K	63	0	400 MHz, Electronic Shutdown	MA324	AnalogSys	55	
		1900	3 *	4.5 *	180	5K	78	0		LM6365	National		
7.5	0.025	50		1.0	10	25K	88			LM301A	GE/RCA (2647)	55	
	0.15	500		1.0		20K	85			CA201	GE/RCA (2647)		
										LM201	GE/RCA (2647)	55	
	7	—	10 *	20 *	30 *	—	70	0	Unity Gain, Noninverting	SFC2310	SGS-Thomson		
		1	—	0.3 *	0.3 *	25K	80	1	Low Noise 308	LM308LN	◊ GE/Intersil	60	
			30	1 *	0.3 *	25K	80	0	Micropower, Supply Current 800 μA	LM312	National		
								1	Precision Bipolar	AD308	AD (2470)	60	
										LM308	◊ GE/Intersil		
											(Continued)		

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers—Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
7.5	7	1	30	1 *	0.3 *	25K	80	1	Precision Bipolar	LM308	LinearTech	5
										LM308	Motorola (2952, 2989)	
										LM308	National	10
										LM308	SGS-Thomson	
250	50			1.0		25K	88			LM307	GE/RCA (2647)	15
			6	1	7.5	15K	70	1	High Performance	LM301A	TI	
			30	1 *	0.5 *	25K	70	0	General Purpose, Compensated	CA307	GE/RCA (2647)	20
										LM307	LinearTech	
										LM307	Motorola (2953)	25
										LM307	National	
										LM307	SGS-Thomson	30
										SG307	SiiconG	
								1	General Purpose Uncompensated	AD301A	AD	35
										CA301A	GE/RCA (2647)	
										LM301A	Motorola (2952, 2989)	40
										μA301AC	National	
										LM301A	National	45
										μPC301A	NEC	
										LM301A	SGS-Thomson	50
										SG301A	SiiconG	
			30 *	1	0.5	25K	70	0	High Performance	LM307	TI	55
800	300	10	1 *	0.5	20-50K	70	0		General Purpose Compensated	μA741C	Signetics	
1000	150	3 *	2 *	4.2 *	15K	80	2		General Purpose	MC1439	Motorola (2952)	60
1500	250	6	65 *	10	10K	74	3		High Speed	HA17715	Hitachi	
										μA715C	National	65
										μA709C	TI	
			6 *	1 *	0.5 *	20K	65	1	Bipolar, General Purpose	μA201C	National	70
									General Purpose	LM201	National	
										SG201	SiiconG	75
										μA709C	National	
			6-10 *	1 *	0.3 *	15K	65	3	General Purpose	LM709C	National	80
										MC1709C	Motorola (2952)	
			15 *	1 *	0.3 *	15K	70	3	General Purpose	LM344	National	85
8	40	10	—	1 *	2.5 *	70K	70	1	High Voltage	EHA2510	Elantec	
	200	25	20 *	12	50	10K	80	0	High Slew Rate	HA2510	Harris	90
				12 *	50	10K	80	0	High Slew Rate	EHA2520	Elantec	
				20	100	10K	80	2	High Slew Rate	HA2520	Harris	95
				20 *	100	10K	80	1	100 V/μs, Gain = 3	HA2520	Harris	
										AD509K	AD (2428, 2462)	100
										AD509S	AD (2428, 2462)	
										μA77000	National	105
										EHA2502	Elantec	
										EHA2505	Elantec	110
										AM450-2	Datel (2598)	
										AM450-2M	Datel (2598)	115
										HA2502	Harris	
										HA2505	Harris	120
										MC0024C	Micra	
										LH0024C	National	125
9	200	50	—	4	6	50K	80		Four input programmable amplifier.	EHA-2400	Elantec	
	250	50	30 *	8 *	15 *	50K	74	1	Four Addressable Inputs, single Amplifier	HA2405	Harris	130
										HA2406-5	Harris	
										LM6261	National	135
										TS2711	SGS-Thomson	
										TS271M	SGS-Thomson	140
										TS271C	SGS-Thomson	
										TLC251C	TI	145
										TLC271C	TI	
										TLC271M	TI	150
										CA3420	GE/RCA	
										TLC271I	TI	155
										9740	OEI	
												(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
10	0.03										(Cont'd)	
		0.015	7	0.30	0.01	100K	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1706G	AdvLinear	
		0.025	7	0.7 *	0.7 *	20K	60	0	CMOS, Rail-to-Rail	ALD1701G	AdvLinear	
0.05	0.02		30	5	15	—	86	0	High Voltage	OPA8780VM	Burr-Brown	
						32K	86	1	High Voltage, FET input	OPA8780V	Burr-Brown	
			50	5	15	—	86	0	High Voltage	OPA8780UM	Burr-Brown	5
						32K	86	1	High Voltage, FET input	OPA8780U	Burr-Brown	
	0.020 *	30	5	15 *	20K	86 *	0	0	High Voltage FET	3580J	Burr-Brown	(2544)
	0.025	4 *		0.063 *	0.03 *	10K	70	0	Nanopower BiMOS	CA3440	GE/RCA	
	0.03	7		0.7 *	0.7 *	10K	60	0	CMOS, Rail-to-Rail	ALD2701	AdvLinear	
	0.05	30		5 *	15 *	20K	86 *	0	± 15/35Vs, ± 60mA Hi-Rel Screened	PA80J	Apex	(2480)
										PA80Q	Apex	(2480)
0.050	0.03		7	0.7	1.1	32k	60	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD1703	AdvLinear	
0.1	0.03		10	—	10	3K	90	1	FET Input, Low Noise	MA333	AnalogSys	
					35	100K	90	1	JFET Input	MA334	AnalogSys	15
0.10		25 *		140 *	1000			0	Buffer Amplifier	EL2005C	Elantec	
0.2	0.05	5 *		—	—	25K	80	—	Wideband Decompensated	LF357	Motorola	(2953)
										LF357	National	
				2.5	5 *	25K	80	0	Bipolar-JFET	LF355	Motorola	(2953)
										LF355	National	20
				5	12 *	25K	80	0	Wideband-JFET	LF356	Motorola	(2953)
										LF356	National	
			10 *	3 *	13 *	25K	70	0	Low Noise, Bipolar JFET	TL071C	SGS-Thomson	
				4 *	13 *	15K	80	0	Low Noise Bipolar-JFET	TL071	Motorola	(2953, 2991)
										TL070AC	TI	25
										TL070C	TI	
						25K	80	0	Low Noise Bipolar-JFET	TL071C	TI	
										TC071	Toshiba	
	0.1	10 *	3 *	8	25K	70	0	0	J-FET Input, Wide Bandwidth	LF351	TI	
			4 *	13	25K	70	0	0	Bipolar-JFET	LF351	Motorola	(2953, 2989)
				13 *	25K	70	0	0	Bipolar-JFET	MC35001	Motorola	(2954)
									JFET Input, High Speed	LF351	SGS-Thomson	
									Precision BIFET	MC34001	Motorola	(2953, 2990)
			50	4.5	13	20K	70	0	to ± 19 V supply, 5 A output Hi-Rel Screened	PA02M	Apex	(2480)
										PA02Q	Apex	(2480)
				4.5 *	13	20k	70	0	Wideband, High Output Current	PA02	Apex	(2480)
0.10	10 *	3 *	13*	50K	70	0	0	0	Bipolar JFET	μA771C	National	
2	10 *	4 *	13 *	15K	80	0	0	0	Low Noise Bipolar-JFET	TL075C	TI	
										TC075	Toshiba	
0.20	0.1	10 *	4 *	13	25K	70	0	0	Bipolar-JFET	LF351	National	40
0.25			350 *	2000				0	Buffer Amplifier	EL2004	Elantec	
										MP2004	MicroPwr	
0.6	0.1	20 *	18 *	57 *	200K	80	0	0	Wideband-JFET	LF400	National	
1	0.25	10	5	10	50K	85	0	0	2 A Power	LH0101	Maxim	
										LH0101C	Maxim	45
										LH0101	National	
										LH0101C	National	
				10 *	50k	85	0	0	High Output Current	LH0101/HR	Maxim	
			10 *	5 *	10 *	50K	85	0	2 A Power	ELH0101	Elantec	50
										ELH0101C	Elantec	
5*		25*	85*	3000*	50K	88	0	85 MHz -3dB bandwidth, G = 1 to 40	CLC300A	Comlinear		
10	3	150	—	250	0.7K	50	1	100 MHz	9906	OEI		
20K		50	4500*	10K*	40*	0	0	150 MHz -3dB bandwidth, up to 4 A output.	WA01	Apex	(2480)	
25	20	20	18	32	100K	70		Fast Settling	LH4104	National		
										LH4104C	National	55
30	10	—	1 *	2.5 *	70K	70	0	0	High Performance	MC1456	Motorola	(2953)
35	7	20 *	120	300	10K	70	1	1	High Speed, 100mA Output, Gain ± 2	HA2542-2	Harris	(2763)
										HA2542-5	Harris	(2763)
(Continued)												

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
10	40	10	—	1 *	2 *	70K	70	0	High Voltage	MC1436	Motorola (2953, 2989)	5
										SG1436	◊ SiliconG	
			65	1 *	1	446K *	110 *	0	High Current (5A), High Power	OPA511AM	Burr-Brown (2544)	
					1.35	562K *	110 *	0	2 A Continuous	3573	Burr-Brown (2544)	
					1.5	50K	70	0	Output 28V@10A	PA51	Apex (2480)	
						500K	70	0	to ± 30V supply, 5A output	PA73	Apex (2480)	
						562K *	70	0	Output 20V@10A	OPA501A	Burr-Brown (2544)	
										OPA501R	† Burr-Brown (2544)	
					1.8 *	35K	70	0	± 30Vs, ± 5A, 67W. Hi-Rel Screened	PA73M	† Apex (2480)	
										PA73Q	† Apex (2480)	
50	10	65	1	1.35	100K	70			High Current, High Power	OPA501U	† Burr-Brown (2544)	10
										OPA501U/883B	† Burr-Brown (2544)	
250	50	20 *	20 *	80	7.5K	74	1		High Speed, Fast Settling	AD509J	AD (2428, 2462)	
		25 *	12	40	7.5K	74	0		High Slew Rate	EHA2512	‡ Elantec	
			12 *	40	7.5K	74	0		High Slew Rate	HA2512	† Harris	
			20	80	7.5K	74	2		High Slew Rate	EHA2522	‡ Elantec	
			20 *	80	7.5K	74	1		80 V/μs Gain = 3	HA2522	† Harris	
			30 *	1.6 *	70 *	32K	90 *	1	Fast Slewing	3507J	Burr-Brown (2543)	
				12	40	7.5K	74	0	High Slew Rate	EHA2515	Elantec	
			12 *	40	7.5K	74	0		High Slew Rate	HA2515	Harris	
				80	7.5K	74	1		80 V/μs Gain = 3	AM452-2	Datel (2598)	20
										AM452-2M	Datel (2598)	
										HA2525	Harris	
			20	80	7.5K	74	2		High Slew Rate	EHA2525	Elantec	
			20 *	80	7.5K	90 *	1		High Slew Rate	1322	TeledyneP	
										1322-01	† TeledyneP	
	200		15	70	25K	70	0		High Performance	LM318	TI	
500	200	—	15 *	50	25K	70	0		Precision, High Speed	LM318	LinearTech	
										LM318	National	
										LM318	SGS-Thomson	
			5 *	1 *	25	25K	60	1	0.5 A, Wideband	LH0061C	National	30
600	220		1	0.1	100K	70			μA741 Equivalent	MB3603	Fujitsu	
										MB3609	Fujitsu	
650	35	33	40 *	38	2K	60	0		Fast Settling	VA706K	VTC (3383)	
	100	20	40 *	30	2K	60	0			VA705J	VTC (3383)	
700	50	20	40 *	158 *	10K	58	0		High-Speed	VA707	VTC (3383)	
750	—	—	—	—	14K	—	—		Telephone Channel Amplifier	LS045	SGS-Thomson	
1000	100			0.5	100K	80	1			TCA1365	Siemens	
				2	100K	80				TCA365A	Siemens	
				4	100K	80				TCA2365A	Siemens	
			15 *	0.8 *	1	100K *	60	0	Output 3.5A peak	ULN3751Z	Sprague (3258)	40
	200	—	—	8 *	10K *	70 *	0		Output current to 3A	L165	SGS-Thomson	
	300	6 *	—	9 *	5.6K	60	1		General Purpose, OC Output	SFC2861C	SGS-Thomson	
1000 *	5000 *	50	150	6000	5K	60	0		150 MHz -3db bandwidth, G = 1-40	CLC103AI	Comlinear	
1200	300	6	1 *	9 *	5.6K	65	1		General Purpose, High Voltage	TAA861	SGS-Thomson	
6000	800	10 *	4.5 *	200	300K	74	0			LM6161	† National	
20000	6000	20	400 *	350	15K *	60	—		Wideband, Fast Settling	HA2540-2	† Harris (2761)	
		20 *	400 *	350	10K	60			Wideband, Fast Settling.	EHA-2540-2	† Elantec	
				600 *	10 K	60			High slew rate, wideband.	EHA-2539-2	† Elantec	
					15K *	60	—		High Slew Rate, Wideband	HA2539-2	† Harris (2760)	
11	6000	1900	6 *	4.5 *	180	1.1K	78	0		LM6364	National	50
12	50	15	65	1 *	1.5	500K	70	0	to ± 28V supply, 5A adjustable output	PA01	Apex (2480)	
	90	25	—	1 *	2 *	50K	50	0	High Voltage	MC1436C	Motorola (2953, 2989)	
										SG1436C	◊ SiliconG	
			30	—	1 *	2.5	25K	110 *	High Performance	MC1456C	Motorola (2953)	
	650	35	500	150 *	10K	60	0		High Speed	VA707J	VTC (3383)	
	120		100	100	10	60	2			VA708J	† VTC (3383)	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

◊ Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
15	0.05	0.025	10	3	16 *	1 K	110	1	Instrumentation Amplifier	AMP05A AMP05E	PMI PMI	
		0.03	10 *	5 *	13 *	50K	70	0	FET Input, Bipolar/MOS Output	CA081	GE/RCA (2647)	5
			25 *	0.48 *	0.16 *	10K	70	1	Low Power	ICL7614DC ♦ Maxim ICL7614DM ♦† Maxim		
				1	1.6	80K	70	0	Low Power, Input Protected	ICL7613DC	GE/Intersil	
								1	Low Power	ICL7614DC	GE/Intersil	
									Low Power, Input Protected	ICL7615DC	GE/Intersil	
				1.4 *	1.6 *	6K	70	0	CMOS, Low Power, Programmable Low Bias	ICL7611DC ♦ Maxim ICL7611DM ♦† Maxim		10
0.050	0.030		8 *	4 *	10 *	50K	70	0	MOS FET, Single Supply	CA3160	† GE/RCA (2647)	
				4.5 *	9 *	20K	70	0	MOS FET, Single Supply	CA3140	† GE/RCA (2647, 2657)	
			10 *	4 *	10 *	50K	70	1	MOS FET Single Supply, Strobe	CA3130	† GE/RCA (2647, 2653, 2657)	
			25 *	1	1.6	80K	70	0	Low Power	ICL7611C ♦ GE/Intersil (2673, 2675)		15
									Low Power, Extended CMVR	ICL7612C ♦ GE/Intersil (2673)		
										ICL7616C GE/Intersil ICL7612C ♦ Maxim ICL7616C Maxim		20
0.065	0.005	35	15 *	50	25K	70	0	0	Precision, High Speed, FET	LH0062C	National	
	0.01	20 *	100 *	50	25K	70	1	1	Wideband, High Slew Rate	HA5162-5	Harris	
		35	100	70	100	70				1345	TeledyneP	
0.2	0.05	10 *	1 *	0.5 *	25K	70	0	0	JFET—741	LF13741	National	
	0.1	10 *	3 *	13 *	50K	70	0	0	Bipolar-JFET	μA771LC	National	
			4	13 *	25K	70	0	0	Bipolar JFET	TL081C	National	25
	0.2	10 *	2 *	2	3K	70	0	0	Low-Power J-FET	TL061C	Motorola (2953, 2991)	
0.20	0.05	25 *	50 *	350	1K	50	2	2	Ultra Fast FET	ADLH0032C	AD (2428, 2461)	
										MC0032C	Micra	
										LH0032C	♦ National	
0.4	0.2	—	3	13 *	25K	70	0	0	Bipolar JFET	TL081	Motorola (2953, 2991)	30
										TL081C	SGS-Thomson	
										TC081	Toshiba	
			10	3	13	25K	70	0	BIFET, General Purpose	TL081C	TI	
			10 *	1 *	3.5 *	3K	70	0	Low Power Bipolar-JFET	TL061C	♦ TI	
									Low Power, Bipolar JFET	TL061C	♦ SGS-Thomson	35
								1	Programmable Bipolar JFET	TL066C	TI	
									Low Power Bipolar-JFET	TL060C	TI	
			3 *	13 *	25K	70	1	1	Bipolar-JFET	HA17080	Hitachi	
										TL080C	TI	
			4 *	13 *	25K	80	0	0	JFET Input	TL081C	Motorola (2953, 2991)	40
50	25	12 *	—	—	2K	60	1	1	High Output Current	SFC2315	SGS-Thomson	
	30	25	1	1.6	80k	70	0	0	Low Power, dual 1458	GLC9458	GoldStar (2714)	
									Low Power, quad 1458	GLC9459	GoldStar (2714)	
100	20	100	125	400	200K	60			Fast Settling, Wideband	OPA600B	Burr-Brown (2543)	
										OPA600S	† Burr-Brown (2543)	45
350	150		170M	330	1.0K	60				CA3450	GE/RCA (2647, 2655)	
1000	300	2	60	9	30K	70			Supply Voltage ± 80V	LM12L	† National	
					40K	70			Supply Voltage ± 100V	LM12	† National	
10000	2000	10 *	40	100	4K	75	0	0	Video Op Amp	HA2544	♦† Harris (2764)	
20000	6000	20	9.5	600	30K	60				1342	TeledyneP	
			400	400	30K	60				1341	TeledyneP	
			400 *	350	10K	60	—	—	Wideband, Fast Settling	HA2540-5	♦ Harris (2761)	
		20 *	400 *	350	10K	60			Wideband, Fast Settling.	EHA-2540-5	Elantec	
			600 *	550	10K	60			High slew rate, wideband.	EHA-2539-5	Elantec	
									High Slew Rate, Wideband	HA2539-5	♦ Harris (2760)	55
20	0.00025	—	60	10	70	200K	4	4	High Speed Video Amp.	MAX450C	Maxim	
			0.5 *	3	40K	80	0	0	Electrometer, FET	AD523L	AD (2471)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

♦ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Single Units										(Cont'd)		
20	0.01	—	25	0.75 *	0.5 *	50K	70	0	Low Noise FET	AD514L	AD (2471)	5
	0.02	—	25	0.75 *	0.5	50K *	70	0	Low Noise FET	AD514K	AD (2471)	
			50	0.75 *	0.5 *	50K *	70	0	Low Noise FET	AD514S	† AD (2471)	10
	0.0005 *		75	1 *	6 *	50K	70	0	High Performance FET	ICL8007M	† GE/Intersil (2673, 2675)	
	0.025	—	50	1 *	0.5 *	25K	80	0	FET	AD3542J	AD	15
	0.01		20	1 *	1.5	50K	70	0	Low Cost FET Input	LH0042	† GE/Intersil	
										LH0042	† National	20
	0.05	—	25	1 *	6 *	25K	70	0	Low Cost FET	AD0042C	AD	
	0.005		25	1 *	1	25K	70	0	Low Cost FET	LH0042C	GE/Intersil National	25
	0.1	—	25	1 *	3	50K	80	0	Low Cost FET Input	AD503K	AD (2470)	
										AD503S	† AD (2470)	30
	0.2	0.15	20 *	3 *	6 *	25K	64	0	High Slew Rate FET	μA740	† GE/Intersil	
	0.3	—	100	10 *	250 *	80	80	0	FET Input	AH0008	† OEI	35
	1	2		10	70	200K		4	High Speed Video Amp.	MAX451C	Maxim	
	2			350 *	2000			0	Buffer Amplifier	EL2004C	Elantec	40
	650	120	40	40 *	38	1K	60	0	Fast Settling	VA706J	VTC (3383)	
	1000	200	—	—	14 *	10K *	70 *	0	High efficiency output current to 4A	L465A	SGS-Thomson	45
		300	2	60	9	20K	65		Supply Voltage ± 80V	LM12CL	National	
									Supply Voltage ± 100V	LM12C	National	50
	400				8	100k	70			CS365	Cherry Semi	
	5000		400		100	100	80	0		9697	OEI	55
	50000	—	50	1000	1000	1000	50	1	Bipolar	9826	OEI	
22	6000	1900	10 *	4.5 *	180	350K	70	0		LM6361	National	60
25	0.01	0.05	20	3	16 *	1 K	100	1	Instrumentation Amplifier	AMP05F	PMI	
	0.1	0.05	20	3	16 *	1 K	100	1	Instrumentation Amplifier	AMP05B	PMI	65
	5	1	0.3	15	2.5	10M	126	0	High Output Current, Comp. for G > 50	OP50A	† PMI	
										OP50E	† PMI	70
	10 K		100	3.5	250	100 *	100 *	0	Wideband operation, low noise	AH0014	♦ OEI	
	500	200	25	30	200		50	0	100 mA Output Current	LH4101	† National	75
										LH4101C	National	
30	0.001	0.0002 *	50	1 *	2.5	20K	86	0	Low Bias FET	ICL8007AC	GE/Intersil (2673, 2675)	80
										ICL8007AM	† GE/Intersil (2673, 2675)	
	2000	20	100	3000	1000				Wideband, for RADAR and SONAR.	AH9914	OEI	85
	30000	10000	150	200	300	1K	50	0	Wideband	9916	OEI	
	50000	20000	100	300	1K	4K	90	1	Wideband	9914A	OEI	90
35	2	0.1	150	100	300	100K	70	0	High Slew Rate	HDS060	AD	
50	0.001	0.0005 *	90	0.5 *	3	20K	70	0	Electrometer, FET	AD523J	AD (2471)	95
	0.015	—	75	1 *	3	20K	70	0	Low Cost FET Input	AD503J	AD (2470)	
	0.05	—	75	0.75 *	0.5 *	20K	70	0	Low Noise FET	AD514J	AD (2471)	100
				1 *	6 *	20K	72	0	High Performance FET	1424	TeledyneP	
	0.0005 *		75	1 *	6 *	20K	70	0	High Performance, FET	ICL8007C	GE/Intersil (2673, 2675)	105
100	10	3	1	15	2.5	7.5M	110	0		OP50B	PMI	
										OP50F	PMI	110
110	0.2	0.15	20 *	3 *	6 *	25K	64	0	High Slew Rate FET	μA740C	† GE/Intersil	
200	100 *		100 *	150	500	3.2 K	45	0	Internally Compensated, GaAs	AOP1510	Anadigics	115
500	1 pA	1.5			2	50K			High Precision	SP111	DataLinear	
25000	16	10	0.3	60	15	20M	130	0	Low Noise, Wideband, Precision	MA367	AnalogSys	120
	20	15	0.6	60	17	10M	130	0	Ultra Low Distortion	MA362	AnalogSys	
	40	35	0.6	120	28	1M	114	1	Precision, Low Noise, High Speed	HA5147A-2	† Harris (2770)	125
										HA5147A-5	Harris (2770)	
100000	80	75	1.8	120	28	700K	100	1	Precision, Low Noise, High Speed	HA5147-2	† Harris (2770)	130
										HA5147-5	Harris (2770)	
Dual Units												
0.015	0.05	0.1	0.15	0.8	2	1M	120	0	Auto-Zeroed	TSC903C	TeledyneS (3272)	135
	0.09	0.02	0.15	1.5	2.5	1M	110	0	Auto-Zeroed	TSC913A	TeledyneS	
										TSC913AC	TeledyneS	140

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

♦Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units										(Cont'd)		
0.03	0.12	2.5 0.04	1 0.25	0.9 * 1.5	0.3 2.5	1M	100 110	0 0	Auto-Zeroed Auto-Zeroed	AD708 TSC913B TSC913BC	AD TeledyneS TeledyneS	(2430)
0.05	10	10		6*	1.4	1M	110		Low noise, precision.	OP270A OP270E	† PMI PMI	5
0.06	3	2.8	0.9	0.4	0.1	400K	110	0	Ultra Low Offset Matched	LT1002AC LT1002AM	LinearTech † LinearTech	
0.07	8	0.25	1.8	0.2	0.04	20K	97	0	Single Supply	LT1078AC LT1078AM	LinearTech † LinearTech	
0.075	2	1	0.5	0.5 *	0.1	3K	120	0	Low Power	OP200A OP200E	† PMI PMI	10
0.08	40	35	1	5	1.7	250K	114	0	Ultra Low Noise Instrumentation	OP227A OP227E OP237A OP237E MPOP227A MPOP227E OP227A OP227E OP227A OP227E	LinearTech LinearTech LinearTech LinearTech † MicroPwr MicroPwr † PMI PMI † Solitron Solitron	15 20
				25*	11	250K	114	0		OP237A OP237E	Solitron Solitron	
	80	75	1.8	5	1.7	700	100	0	Ultra Low Noise Instrumentation	MPOP227G	MicroPwr	
0.1	3.5	3.5	0.4	1.2	0.25	500K	—	0		OP207A OP207E	† Solitron Solitron	25
									Ultra Low Offset Voltage	MPOP207A MPOP207E	† MicroPwr MicroPwr	
	4.5	4.2	1.3	0.4	0.1	350K	110	0	Ultra Low Offset Matched	LT1002C LT1002M	LinearTech † LinearTech	30
	5	0.5	10	0.8	1.12 *	40K	104	0	Precision, Low Input Current	MPOP12C MPOP12G	† MicroPwr MicroPwr	
	15	15		6*	1.4	800K	100		Low Noise, Precision	OP270F	PMI	
0.12	0.25 10	0.25 0.35	1.5 2.5	0.1 0.2	0.1 0.04	250K 20K	112 94	0 0	Low Noise Single Supply	LT1024AC LT1078C LT1078M	LinearTech LinearTech † LinearTech	35
	55	50	1.5	5	1.7	250K	106	0	Ultra Low Noise Instrumentation	OP227B OP227F MPOP227B MPOP227F OP227B OP227F OP227B OP227F	LinearTech LinearTech † MicroPwr MicroPwr † PMI PMI † Solitron Solitron	40
				25*	11	250K	106	0		OP237B OP237F	Solitron Solitron	45
0.15	2	0.2	2.5	0.8	1.12 *	80K	104	0	Improved 108A, Low Bias, Compensated	MPOP12A MPOP12E	† MicroPwr MicroPwr	
	4 7	2 6	1.5 1.8	0.5 * 1.2 *	0.1 0.25 *	2K 120K	115 100	0 0	Low Power Ultra Low Offset Voltage, Low Drift	OP200F μA714C OP07C	PMI National PMI	50
	15	3	2 2.5	0.02* 0.02*	5K 5K	500K 225K	90 85	0 0	Precision, low voltage. Precision, low voltage.	OP290E OP290A	PMI † PMI	(3011) (3011)
	20	0.8	2	1 *	0.2	1.5M	100	0	Precision	LT1013AC LT1013AM	LinearTech † LinearTech	55
		2	2	100 *	—	500K	96	0	Low Power, Single/Dual Supply	OP220A OP220E	† PMI PMI	
	80	3	1.5	—	0.2	1.5M	95	0	Low Power, Precision Matched	OP221A OP221E	† PMI PMI	
0.18	80	75	1.8	5	1.7	200K	106	0	Ultra Low Noise Instrumentation	MPOP227C MPOP227D	† MicroPwr MicroPwr	60
			2	5	1.7	200K	106	0	Ultra Low Noise Instrumentation	OP227C OP227G OP237C OP237G	LinearTech LinearTech LinearTech LinearTech	65

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Operational Amplifiers—Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units										(Cont'd)		
0.18	80	75	2	5	1.7	200K	106	0	Ultra Low Noise Instrumentation	OP227C OP227G OP227C OP227G	† PMI PMI † Solitron Solitron	(Cont'd)
				25*	11	200K	106	0		OP237C OP237G	Solitron Solitron	5
0.2	0.4	0.3	2		0.1	180K	108	0	Low Noise	LT1024C	LinearTech	
	0.7	0.35	1.5		0.1	250K	112	0	Low Noise	LT1024AM	† LinearTech	
	5	3.5	2	0.5 *	0.1	2K	110	0	Low Power	OP200G	◊ PMI	
	20	20		6*	1.4	800K	100		Low noise, precision.	OP270G	PMI	10
0.25		0.15	20	13	75					AD746	AD (2430)	
	0.035	0.002	2.5	1 *	3 *	250K	80	—	Ultra Low Drift BiFET	AD647L	◊ AD (2430, 2462)	
	0.050	0.010	5	3	16				High-Speed BiFET	AD712C	AD (2430, 2462)	
	20	5	5	0.02*	5K	350K	80	0	Precision, low voltage.	OP290F	PMI (3011)	
0.3	1.3	0.5	2		0.1	180K	108	0	Low Noise	LT1024M	† LinearTech	15
	2	0.2	3.5	0.8	1.12 *	80K	104	0	Improved 108A, Low Power, Compensated			
										MPOP12B MPOP12F	† MicroPwr MicroPwr	
	6	6	1.3	1.2	0.25	400K	—	0		OP207B OP207F	† Solitron Solitron	
									Ultra Low Offset Voltage	MPOP207B MPOP207F	† MicroPwr MicroPwr	20
	10	10		6.5*	6.5	500K	105	0	High speed, low noise.	OP271A OP271E	† PMI PMI (3010)	
	15	15		6.5*	6.5	300K	95	0	High speed, low noise.	OP271F	PMI (3010)	
	25	2.5	5	100 *	—	300K	90	0	Low Power, Single/Dual Supply	OP220B OP220F	† PMI PMI	25
	30	1.5	2.5	1 *	0.2	1.2M	97	0	Precision	LT1013C LT1013M	LinearTech † LinearTech	
	100	5	2	—	0.2	1M	90	0	Low Power, Precision Matched	OP221B OP221F	† PMI PMI	30
	500	10		10	7	250K	100			MB47833	◊ Fujitsu	
0.45	0.05	0.04	7	3.5	10	150K	86		High Speed Instrumentation Amplifier	LT1057AC LT1057AM	LinearTech † LinearTech	
	25	5	1.2*	0.02*	5K	300K	80	0	Precision, low voltage.	OP290G	PMI (3011)	
0.5	0.004	0.003	2.8	2 *	2 *	500K	96			OPA2111BM	Burr-Brown (2540, 2542)	35
	0.005	0.001	0.7 *	0.1	0.05	30K	70	0	LinCMOS, Low Bias	TLC27L7I	◊ TI	
			2 *	0.6	0.6	20K	70	0	LinCMOS, Medium Bias	TLC27M7I	◊ TI	
			5 *	2.2	5.3	10K	70	0	LinCMOS, High Bias	TLC277I	◊ TI (3325)	
	0.035	0.002	5	1 *	3 *	250K	80	—	Ultra Low Drift BiFET	AD647K AD647S AD647S/8838	◊ AD (2430, 2462) ◊† AD (2430, 2462) ◊† AD (2430, 2462)	40
		0.005 *	5	2 *	3 *	250K	80	0	Dual 544	AD644L	AD (2430, 2462)	
			5 *	1 *	3 *	300K *	80	0	Dual 542	AD642L	◊ AD (2430, 2462)	
			15	2 *	3 *	250K	80	0	Dual 544	AD644S	† AD (2430, 2462)	
0.1	0.05	5	30	12	50K			0	Low Input Offset JFET	MC33282	Motorola (2955, 2990)	45
0.2	0.1	10 *	3	13	50K			0	BiFET, General Purpose	TL287I	◊ TI	
2	0.2	5	1 *	0.3 *	40K		96	1	Dual 108A	LH2108A PM2108A	† GE/Intersil † PMI	
					80K		96	1	Dual 108A	LH2108A	† LinearTech	
3	2.8	2	0.6 *	0.17 *	150K		110	0	Dual Matched Instrumentation	MPOP10 MPOP10A MPOP10E	† MicroPwr † MicroPwr MicroPwr	50
					200K		110	0	Dual Matched Instrumentation	OP10 OP10A	† PMI † PMI	
4	6	2	0.6 *	0.17 *	200K		106	0	Dual Matched Instrumentation	OP10E	PMI	55
7	1	5	1 *	0.3 *	60K		96	1	Dual 308A	LH2308A	GE/Intersil	
	6	0.6 *	0.17 *	0.25 *	120K		100	0	Dual Matched Instrumentation	OP10C	PMI	
20	0.1	10	3	13	50K		80	0	Bipolar-JFET	TL287C	◊ TI	
35	15	0.7 *	0.1 *	0.04	500K*		88			TLC27L7M	◊† TI	
		2 *	0.7 *	0.6	280K*		88			TLC27M7M	◊† TI	
		5 *	2.3	4.5	40K*		82			TLC277M	◊† TI (3325)	60
0.5 *	60	5		3.0	1.0		70			TA75557 TA75558	Toshiba Toshiba	

(Continued)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

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LINEAR—Operational Amplifiers—Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units											(Cont'd)	
0.5 *	60	5		5	2	70				TA75559	Toshiba	
0.5	120	7	3	—	0.2	800K	80	0	Low Power, Precision Matched	OP221C OP221G	† PMI ◊ PMI	5
	200	20	15	40	400	40k	78	1		1493	TeledyneP	
	5000	700		9	125	50K	94			CA3280A	GE/RCA (2647)	
0.6	40	4	10	100 *	—	500 *	76	0	Low Power, Single/Dual Supply	OP220C OP220G	† PMI ◊ PMI	
0.75	0.008	0.006	6	2 *	2 *	316K	90		Low Noise	OPA2111AM OPA2111S	Burr-Brown (2540, 2542) † Burr-Brown (2540, 2542)	
0.2	0.04	10	10 *	50	200k	88	0		Fast Settling, Precision	OP42E	PMI	10
20	20		6.5 *	6.5	300K	95	0		High speed, low noise.	OP271G	PMI (3010)	
50	2	8	0.8	0.5	100K	90	0		Dual Matched	OP04A OP04E OP14A OP14E	† PMI PMI † PMI PMI	15
		5	8	0.8	0.25	100K	80	0	Dual Matched	MPOP03E MPOP04A MPOP04E MPOP14A MPOP14E	MicroPwr † MicroPwr MicroPwr † MicroPwr MicroPwr	20
									MPOP-04 With Internally Connected Vcc Terminal	MPOP03A	† MicroPwr	
0.8	0.075	0.05	12	3.0	8	100K	82		High Speed Instrumentation Amplifier	LT1057C LT1057M	LinearTech † LinearTech	
1	0.01	0.005	10	1	1	300K	82		Precision Low Power BiFET	AD648B AD648K AD648T	AD (2430, 2462) AD (2430, 2462) † AD (2430, 2462)	25
	0.035	0.005 *	10	1 *	3 *	300K *	80 *	0	Dual 542	AD642K AD642S	◊ AD (2430, 2462) ◊ † AD (2430, 2462)	
				2 *	3 *	250K	80	0	Dual 544	AD644K	AD (2430, 2462)	
0.05	0.025	10	1	1	50K	80	0		Low Power BiFET	LF442A	National	30
	0.03	30	1.6	6	32K	95	0			OPA2541B OPA2541S	Burr-Brown (2544) † Burr-Brown (2544)	
0.075	0.005	10	1 *	3 *	100K	76	—		Ultra Low Drift BiFET	AD647J	◊ AD (2430, 2462)	
	0.025	10	3.4	20	200K	80			Precision High Speed BiFET	AD712K AD712T	AD (2430, 2462) † AD (2430, 2462)	35
			3/4	20	200K	80			Precision High Speed BiFET	AD712B	AD (2430, 2462)	
0.1	0.05	10	3.0	10	100K	80			High Input Impedance Instrumentation Amplifier	LF412AC LF412AM	LinearTech † LinearTech	
					150K	100 *			High Input Impedance Instrumentation Amplifier	OP215A OP215E	† LinearTech LinearTech	40
			13 *	10	150k 150K	86 86	0 0		Precision JFET Dual JFET	OP215E OP215A	PMI ◊ † PMI	
0.2	0.04	10	10 *	45	200k	86	0		Fast Settling, Precision	OP42A	† PMI	
	0.1	10	3	10	50K	80	0		Wideband JFET	LF412A	National	45
			10 *	3	50K	—	0		BiFET, General Purpose	MC35083A MC34082A MC35082A	† Motorola (2956) Motorola (2955) † Motorola (2955)	
			16 *	55 *	50K	—	—		Decompensated	MC34083A	† Motorola (2955)	
40	5	10	0.15 *		300K	86 *	0		Micropower, Precision	OP220H	PMI	50
500	600	—	2 *	50 *	20K	80	0		Transconductance Amplifier	LM13700A	National	
1000	180	2	37	11	150K		0		Low Noise	MC33077	Motorola (2990)	
1.2	0.0007	0.0001	1 *	0.11	0.05	50K	65	0	LinCMOS, Low Bias	TLC27L9I	TI	
1.3	7	6	4.5	1.2 *	0.25 *	250K	100	0	Dual Matched Instrumentation	MPOP10C	MicroPwr	
1.5	0.15	0.1	0.7 *	0.1	0.04	500K *	88			TLC27L7C TLC27M7C TLC277C	◊ TI ◊ TI ◊ TI	55
			2	0.7	280K *	88						
			5 *	2.3	4.5	40K	88				(3325)	

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units (Cont'd)												
1.5	50	5	10	2.5*	18*	50K	80	0		OP201 OP201H	† Solitron Solitron	(Cont'd)
2	0.0007 0.001 *	0.0001 0.001 *	1 * 0.7 * 2 *	0.11 — —	0.05 0.04 * —	50K 10K 10K	65 70 70	0 0 0	LinCMOS, Low Bias	TLC27L4BI TLC27L2BC TLC27M2BC	◊ TI ◊ TI ◊ TI	5
			1 *	—	0.6 *	10K	70	0	LinCMOS, Medium Bias	TS27M2BC	◊ SGS-Thomson	
			5	3.5 *	5.5 *	10K	65	0	LinCMOS, High Bias	TS272BC	◊ SGS-Thomson	
			5 *	—	4.5 *	10K	70	0		TLC272BC	◊ TI	
	0.005 *	0.7	0.11	0.05	30K	70	0	0	LinCMOS, Low Power, Low Bias Mode	TLC25L2BC	TI	
		2	0.635	0.62	20K	70	0	0	LinCMOS, Low Power, Medium Bias Mode	TLC25M2BC	TI	10
	0.01 *	0.7 *	0.1 *	0.04 *	60K	65	0	0	LinCMOS, Low Bias	TS27L2BC	◊ SGS-Thomson	
	0.005	0.001	0.7 *	0.1	0.5	30K	70	0	LinCMOS, Low Bias	TLC27L2BI	◊ TI	
			2 *	0.6	0.6	20K	70	0	LinCMOS, Medium Bias	TLC27M2BI	◊ TI	
			5	2.2	5.3	10K	70	0	LinCMOS, High Bias	TLC252BC	TI	
			5 *	2.2	5.3	10K	70	0	LinCMOS, High Bias	TLC272BI	◊ TI	15
	0.01 0.015	0.005 0.012	20 15	60 2 *	300 2 *	180	80	0	Low Noise	MAX457 OPA2111K	Maxim Burr-Brown (2540, 2542)	
	0.02	0.01	20	1	1	300K	76		Precision Low Power BiFET	AD648A AD648J AD648S	AD (2430, 2462) AD (2430, 2462) † AD (2430, 2462)	20
	0.03	0.015	7	0.30	0.01	100K	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD2706A	◊† AdvLinear	
		0.025	7	0.4	0.7 *	15K	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD2701A	◊† AdvLinear	
	0.05	0.03	10 *	1	1.6	80K *	70	0	Low Power, Dual 747	ICL7622AC ICL7622AM ICL7622AC ICL7622AM	GE/Intersil † GE/Intersil Maxim † Maxim	25
									Low Power, Dual 1458	ICL7621AC ICL7621AM ICL7621AC ICL7621AM	GE/Intersil (2673, 2675) † GE/Intersil (2673, 2675) Maxim † Maxim	30
		0.1	20	3	10	50K	80	0	Dual 0351A	LF353A	SGS-Thomson	
	0.075	0.025 0.075 *	10 * 20 *	4 * 1 *	13 * 3 *	50K 200K *	80 76 *	0 0	Precision BiFET	MC35002A AD642J AD644J	† Motorola (2955) ◊ AD (2430, 2462) AD (2430, 2462)	
	0.1	0.05	10 *	3 *	13 *	50K	80	0	Bipolar-JFET	μA772AC μA772AM	National † National	35
				4 *	13 *	50K	80	0	Precision BiFET	MC34002A	Motorola (2955, 2990)	
	2	0.2	15	1 *	0.3 *	50K	85	1	Dual 108	PM2108 LH2108	PMI † LinearTech	
	5	0.6	18	50	75		110	0		VA2703 VA2713	† VTC (3384) † VTC (3384)	40
	45	5				100K	85			IR9358	Sharp	
	2 *	45	5	0.6	0.3		60			TA75358	Toshiba	
	2	45 50	5 10	20 7.0 1 *	2 ±3 —	25K 50K	85 90 70		Dual Power Op Amp Low Power, Single Supply	MB47358 MA912 CA158A LM158A	◊ Fujitsu AnalogSys † GE/RCA (2647) † SGS-Thomson	45
		50	10	7	5	100K	80	1	Programmable, Radiation Hardened	HS3569RH	† Harris	
	75	5	10	0.8	0.25 0.5	50K 50K	80 80	0 0	Dual Matched Dual Matched	MPOP14 MPOP04 MPOP04C MPOP14C	† MicroPwr † MicroPwr MicroPwr MicroPwr	50
									MPOP-04 With Internally Connected Vcc Terminal	MPOP03 MPOP03C	† MicroPwr MicroPwr	
							90	0	Dual Matched	OP04 OP04C	PMI PMI	55

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units										(Cont'd)		
2	75	5	10	0.8	0.5	50K	90	0	Dual Matched	OP14 OP14C	† PMI ◊ PMI	(Cont'd)
		10	15	1 *	0.5 *	50K	80	1	Dual LM101A High Performance	LH2101A LH2101A	GE/Intersil Raytheon (3024)	
80 *	10	15	0.8 *	1	100k	85	0		Precision Bipolar-JFET	PA21A OP215B OP215F	† Apex (2480) ◊† PMI ◊ PMI	5
100	20	10	5.7 *	16 *	220K	100 *	0					
150	30	3 *	1.3 *	2	10K	80	0		Low Power	HA5152-2	† Harris (2771)	
200	75	3 *	8 *	1	100K	86	0		Low Noise, High Performance	HA5102-2 HA5102-5	◊† Harris ◊ Harris	10
				60 *	12	100K	86	1	Wideband	HA5112-2 HA5112-5	◊† Harris ◊ Harris	
500	50	10 *	3.5 *	13 *	50K	80	1		High Performance, Single Supply	MC33072A MC34072A MC35072A	Motorola (2955) Motorola (2955, 2991) † Motorola (2955)	15
750	150	2 *	16 *	5	100 *					MC33078	Motorola (2955, 2990)	
800	200	—	10 *	13	50K	80	1		Dual 5534	SE5532 SE5532A	† Signetics † Signetics	
5000	600	7 *	2 *	50 *	—	80	0		Transconductance Amplifier, G = 12000 μmho.	LM13600A	Signetics	
2.5	150	20	5 *	1.8	0.8	30K	90	0	High Performance	LS204A	◊ SGS-Thomson	20
3	—	200			6 *				Low Noise, Dual Power Supply	AN6557 AN6558	Panasonic Panasonic	
	-80	15	7	0.6	0.2	50K	70	0	Bipolar, High Gain, Low Power	LM258A	TI	
3 *	0.03	0.005		1	3.5	70				TA75062 TA75072	Toshiba Toshiba	25
				3	13	70						
3	0.03	0.005		3	13	200K	76			IR9082	Sharp	
	0.075	0.025	20	3	20	150K	76		Precision High Speed BiFET	AD712A AD712S	AD (2430, 2462) † AD (2430, 2462)	
0.1			10	50	100	60			Video Speed	CA5202	GE/RCA (2648)	
0.2				3	13	25K		0	BiFET, Low Offset	LF412	TI	30
	0.05		10 *	3 *	13 *	50K	80	0	Low Noise, Bipolar JFET	TL072BC	◊ SGS-Thomson	
				4 *	13 *	50K	80	0	Low Noise Bipolar-JFET	TL072BC	Motorola (2955, 2991)	
	0.1		10	16	55	25K		0	Decompensated	MC35083	† Motorola (2956)	
			10 *	1 *	3.5 *	4K	80	0	Low Noise Bipolar-JFET	TL062BC	◊ TI	
									Low Power, Bipolar JFET	TL062BC	◊ SGS-Thomson	35
				2 *	2	4K	80	0	Low-Power J-FET	TL062BC	Motorola (2955, 2991)	
				3 *	13	50K	80	0	Bipolar-JFET	TL082B	◊ SGS-Thomson	
					15 *	50K	80	0	Bipolar-JFET	TL082B	Motorola (2955, 2991)	
										TL082BC	SGS-Thomson	
										TL082BC	◊ TI	40
										TL288C	◊ TI	
										TL288M	◊† TI	
				4 *	13 *	25K	70	0	Low offset, low drift JFET input	LF412C	◊ Motorola (2989)	
				8 *	30 *	25K	—	0		MC34082	Motorola (2955)	
										MC35082	† Motorola (2955)	45
				16 *	55 *	25K	—	—	Decompensated	MC34083	Motorola (2955)	
										MC34083	† Motorola (2955)	
			20	0.7	8	25K	70	0	Wideband JFET	LF412	National	
			3.0	8	50K	82			High Input Impedance Instrumentation Amplifier	OP215C OP215G	† LinearTech LinearTech	50
5	5	—	1	1	100K	100	0		Low Noise	SE5512	† Signetics	
20	7.5	5 *	0.27 *	0.16 *	50K	70	0		Low Power Adjustable Current	ICL8022M	◊† GE/Intersil	
80	10	15	2.5 *	18 *	50K	70	0			OP201E OP201F	Solitron † Solitron	
	15	15	1 *	—	50K	70	0		Low Power, Single Supply	CA258A LM258A LM258A	GE/RCA (2647) National ◊ SGS-Thomson	55
	30	15	0.44	0.3	50K	80	0		Dual 741	μA747AM μA747EC	† National National	

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units										(Cont'd)		
3	80	30	15	0.44	0.3	50K	80	0	Dual 741	LM747A LM747E	† National National	(Cont'd)
	100	30	20	1 *	—	25K	65	0	Low Power, Single Supply	CA358A LM358A	GE/RCA (2647, 2653) National	5
				1 *		25K	65			LM358A	Samsung (3039)	
		30	—	—	—	25K	65	0	Low Power, Single Supply	LM358A	◇ SGS-Thomson	
	150	30	3 *	1.3 *	2	50K	80	0	Low Power	HA5152-5	Harris (2771)	
	500	200	—	4	3 *	—	—	—	High Performance, Low Noise	RC2041	Raytheon	
	750	400	3 *	—	2 *	20K	70	3	Audio Preamp	μA749C	National	
	1000	200	—	8	6 *	—	—	—	High Performance, Low Noise	RC2043	Raytheon	10
	5000	700	5 *	9 *	125 *	50K	80	1	Transconductance Amp	CA3280	GE/RCA (2647)	
3.3	0.004	0.002	1.3	1.4	0.6	220k	68	0		LMC662AI	National	
3.5	0.03	0.03	1.3	1.4	0.5	150k	68	0		LMC662AM	† National	
	300	50	5 *	1.5	1 *	—	86	0	High Performance	LS204	SGS-Thomson	
						20K	86	0	High Performance	LS204C	◇ SGS-Thomson	15
4	0.01	0.005		4	10	32K	90			CA5130A CA5160A	GE/RCA (2647) GE/RCA (2647)	
	0.015	0.01		4	10	14K	83			CA5260A	GE/RCA (2647)	
	2	1	10 *	3	10 *	25K	70	2	Wideband	MC34182	Motorola (2955, 2991)	
	80	20	4 *	1 *	10	50K	70	0	High Slew Rate	SE5535	† Signetics	20
	150	25	—	—	—	50K	70	0	2 Op Amp/Comparators	LM192	† National	
	200	50	20	5.4 *	15 *	200K	96 *	0	Precision Bipolar-JFET	OP215C	† PMI	
										OP215G	◇ PMI	
	250	100			0.7 *				General Purpose	AN1458 AN6572	Panasonic Panasonic	25
									General Purpose, Dual Power Supply	AN6571	Panasonic	
	500	75	10 *	4.5 *	13 *	25K	70	1	High Performance, Single Supply	MC33072 MC34072	Motorola (2955) Motorola (2955, 2991)	
										MC35072	† Motorola (2955)	
	600	—	2 *	50 *	20K *	80	0		Transconductance Amplifier	LM13700	† National	30
	700	100	25	—	9 *	18K	70	0	General Purpose, OC Output	TEC1761M	† SGS-Thomson	
	800	150		10	9	25K	70	0	Low Noise	NE5532 NE5532A	TI TI	
	1500	300	—	10 *	13 *	25K	70	1	Dual 5534	XR5532 XR5532A XR5533 XR5533A	Exar Exar Exar Exar	35
										NE5532 NE5532A	Signetics (3144) Signetics (3144)	
										NE5533	† Signetics	40
			5 *	10 *	13 *	25K	70	3	Can be compensated with 1 capacitor, but reduces BW and slew rate.	NE5533A	Signetics	
4.5	4	2	10 *	3	10 *	25K	70	2	Wideband	MC33182	Motorola (2955)	
	100	2		1.8	2.1	50 K	80		Low Power, Single Supply	MC33172	Motorola (2955, 2990)	
										MC35172	† Motorola (2956)	
5	-100	30	7	0.6	0.2	25K	65	0	Bipolar, High Gain, Low Power	LM358A	TI	45
	-150	30	7	0.6	0.2	50K	70	0	High Gain, Low Power Bipolar	LM258	TI	
	0.0007	0.0001	1 *	0.11	0.05	50K	65	0	LinCMOS, Low Bias	TLC252AC TLC27L4AI	TI ◇ TI	
	0.001 *	0.001 *	0.7 *	—	0.04 *	10K	70	0		TLC27L2AC	◇ TI	
										TLC27L2AM	† TI	50
				0.1 *	0.04 *	60K	65	0	LinCMOS, Low Bias	TS27L2AC	◇ SGS-Thomson	
			2	1 *	0.6 *	30K	65	0	LinCMOS, Medium Bias	TS27M2AC	◇ SGS-Thomson	
			2 *	—	0.6 *	10K	70	0		TLC27M2AC	◇ TI	
										TLC27M2AM	† TI	
			5 *	—	4.5 *	10K	70	0		TLC272AC	◇ TI	55
										TLC272AM	† TI	
				3.5 *	5.5 *	10K	65	0	LinCMOS, High Bias	TS272AC	◇ SGS-Thomson	
	0.005 *	2		0.635	0.62	20K	70	0	LinCMOS, Low Power, Medium Bias Mode	TLC25M2AC	TI	

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units										(Cont'd)		
5	0.001	0.05		0.5	0.5	18K	85			CA5420A	GE/RCA	
	0.005	0.001	0.7 *	0.1	0.05	30K		0	LinCMOS, Low Bias	TLC25L2AC	TI	
							70	0	LinCMOS, Low Bias	TLC27L2AI	TI	
			2 *	0.6	.06	20K	70	0	LinCMOS, Low Bias	TLC27M2AI	TI	5
			5 *	2.2	5.3	10K	70	0	LinCMOS, High Bias	TLC272AI	TI	
0.03	0.005	10		5	13	200K	86			MB47082	Fujitsu	
	0.015	7		0.30	0.01	100K	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD2706B		
		0.02		4	10	50K	94			CA3260A	GE/RCA (2647, 2658)	
			6 *	4 *	10 *	50K *	70	0	Dual 3160	CA3260AE	GE/RCA (2647, 2658)	
										CA3260AT	GE/RCA (2647, 2658)	10
	0.025	7		0.4	0.7 *	15K	65	0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD2701B		
0.04	0.02	15 *	45 *	9 *	20K	70	0	0	Dual 3140A, MOS FET	CA3240A	GE/RCA (2647)	
0.05	0.03	15 *	1	1.6	80K	70	0	0	Low Power, Dual 1458	ICL7621BC	GE/Intersil (2673, 2675)	
										ICL7621BM	GE/Intersil (2673, 2675)	
										ICL7621BC	Maxim	15
										ICL7621BM	Maxim	
									Low Power, Dual 747	ICL7622BC	GE/Intersil	
										ICL7622BM	GE/Intersil	
										ICL7622BC	Maxim	20
										ICL7622BM	Maxim	
0.1	0.05	10	2	0.6	25K	70			Low Power J-FET Input	LF442C	Motorola (2954, 2989)	
		10 *	1 *	1 *	25K	70	0	0	Low Power JFET	LF442	National	
	0.07	10 *	4 *	13 *	25K	80	0	0	JFET Input	MC34002B	Motorola (2955, 2990)	
	0.1	10 *	3 *	13 *	50K	80	0	0	Bipolar JFET	μA772BC	National	
										μA772BM	TI	25
0.2	0.1	10 *	4 *	13 *	25K	70	0	0	Bipolar-JFET	MC35002B	Motorola (2955)	
		30	4 *	13 *	50K	80	0	0	Dual 0351B	LF353B	SGS-Thomson	
7.5	3	3 *	1 *	15 *	200K	70	0	0	Multi-Purpose Programmable	μA776M	TI	
10	10	—	1	1	100K	100	0	0	Low Noise	NE5512	Signetics	
										NE5517	Signetics	30
										NE5517A	Signetics	
25	13	10 *	3	10 *	25k	70	2		Wideband	MC35182	Motorola (2956)	
100	25	10	0.8	0.25	50K	70	0	0	Dual Matched	OP04B	TI	
										OP04D	PMI	
		20	0.8	0.25	25K	70	0	0	Dual Matched, High Performance	OP14D	PMI	
					50K	70	0	0	Dual Matched	MPOPOP4B	MicroPwr	
										MPOPOP4D	MicroPwr	
										MPOPOP14B	MicroPwr	
										MPOPOP14D	MicroPwr	
									MPOP-04 With Internally Connected Vcc Terminal	MPOP03B	MicroPwr	40
										MPOP03D	MicroPwr	
	40	—	0.8 *	0.5 *	4K	60	0	0	Low Power	TL022M	TI	
	50	20	0.8	0.25	25K	70	0	0	Dual Matched, High Performance	OP14B	PMI	
150	30	7 *	1 *	—	50K	70	0	0	Half LM124	CA158	GE/RCA (2647)	45
										CA258	GE/RCA (2647)	
										LM158	Motorola (2955)	
										LM158	TI	
										LM258	National	
										LM158	SGS-Thomson	
										LM158	Signetics	50
										LM258	Signetics	
										SE532	Signetics	
200	80	—	0.8 *	0.5 *	1K	60	0	0	Low Power	TL022C	TI	
250	50	—	—	—	25K	65	0	0	2 Op Amp/Comparators	LM292	National	
										LM392	National	55
	80	—	0.8 *	0.5 *	1K	60	0	0	Low Power	IR9022	Sharp	
(Continued)												

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units										(Cont'd)		
5	500	50 200	10 *	1 *	0.6 *	50K	70	0	Single Supply	MC3558	† Motorola (2955)	5
				1.0	0.5	50K	94			LM1558	† GE/RCA (2647)	
				3	1.5 *	50K	70	0	3 MHz Min. Bandwidth	RM4559	† TI	5
			—	—	10	50K	70	0	High Slew Rate 1558	MC1558S	† Motorola (2955)	
				1 *	0.5 *	50K	70	0	Dual 741	SFC2747M	† SGS-Thomson	5
					0.8 *	50K	70	0	Dual 741	LM1458M	† SGS-Thomson	
				2	0.8	20K	70	0	Low noise	LS4558N	† SGS-Thomson	10
					1.5 *	50K	70	0	Dual Wideband 741	RM4558	† Raytheon (3024)	
										RM4558	† TI	10
				2.5	1	20K	70	0	General Purpose	SE4558	† Signetics	
					1.5	50K	70	0	Dual Wideband 741	MC4558	† SGS-Thomson	15
										GL4558	† GoldStar (2714)	
										MC4558	† Motorola (2955, 2990)	15
										MC4558A	Motorola (2955, 2990)	
				2.5 *	1.5 *	20K	70	0	Dual Wideband 741C	MC4558	† Samsung (3039)	15
				3	1.5 *	50K	70	0	3 MHz Min. Bandwidth	RM4559	† Raytheon (3024)	
			2-15 *	1 *	0.5 *	50K	70	0	Dual 741	CA1558	† GE/RCA (2647)	20
										CA747	† GE/RCA (2647)	
										MC1558	† Motorola (2955)	20
										MC1747	† Motorola (2954, 2989)	
										μA1558M	† National	25
										μA747M	† National	
										LM1558	† National	25
										LM747	† National	
										RM747	† Raytheon (3024)	25
										MC1558	† SGS-Thomson	
										MC1558	† Signetics	30
										μA747M	† TI	
										TA75458	Toshiba	30
				3 *	0.25	25K	70	3	Dual MC1709	MC1537	† Motorola (2954)	
	1000	200	—	0.12	7 *	30K	80	0	Low Noise, High Speed	LM833	National	30
			2 *	15 *	7 *	25K	100 *	0	Low Noise, Audio	LM833	Motorola (2954, 2989)	
	5000	600	7 *	2 *	50 *	—	80	0	Transconductance Amplifier, G = 13000 μmho.	LM13600	Signetics	35
	7000	8000	6000	—	2 *	50	80	0	Transconductance Amplifier	LM13600	National	
6	0.04	0.02	10 *	5 *	13 *	50K	80	0	MOS/FET Input, Bipolar/MOS Output	CA082A	† GE/RCA (2647)	35
	0.2	0.05	10 *	3 *	13 *	35K	80	0	Low Noise, Bipolar JFET	TL072M	† SGS-Thomson	
						50K	80	0	Low Noise Bipolar-JFET	TL072M	† TI	40
									Low Noise, Bipolar JFET	TL072AC	† SGS-Thomson	
										TL072I	† SGS-Thomson	40
				4 *	10	35K	70	0	Low Noise Bipolar JFET	TL072M	† Motorola (2955, 2991)	
					13 *	50K	80	0	Low Noise Bipolar-JFET	TL072AC	Motorola (2955, 2991)	45
										TL072AC	† TI	
	0.1	10 *	1	3.5	4K	80	0	0	BiFET, Low Power	TL062I	† TI	45
			1 *	3.5 *	4K	80	0	0	Low Power Bipolar-JFET	TL062AC	† TI	
										TL062M	† TI	50
									Low Power, Bipolar JFET	TL062AC	† SGS-Thomson	
										TL062I	† SGS-Thomson	50
										TL062M	† SGS-Thomson	
				2 *	2	4K	80	0	Low-Power J-FET	TL062AC	Motorola (2955, 2991)	50
										TL062M	† Motorola (2955, 2991)	
				3	13	50K	80	0	BiFET General Purpose	TL083I	TI	55
									BiFET, General Purpose	TL082I	† TI	
									BiFET, Low Noise	TL072I	† TI	55
				3 *	13	50K	80	0	Bipolar-JFET	TL082A	† SGS-Thomson	
										XR082	† Exar (2619)	55
										XR082M	† Exar (2619)	
										XR083	† Exar (2619)	55
										XR083M	† Exar (2619)	
										TL082A	Motorola (2955, 2991)	55

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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(Continued)

LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units										(Cont'd)		
6	0.2	0.1	10 *	3 *	13 *	50K	80	0	Bipolar JFET	TL082AC TL082I TL082M TL082AC TL082M TL083AC	SGS-Thomson SGS-Thomson SGS-Thomson TI TI TI	5
				4 *	13 *	25K	80	0	JFET Input	TL082M	Motorola (2955, 2991)	
10	6	3 *	1 *	15 *	50K	70	0	0	Multi-Purpose Programmable	μA776C	National	
30	10	5 *	0.27 *	0.16 *	50K	70	0	0	Low Power Adjustable Current	ICL8022C	GE/Intersil	10
100	10	3 *	0.4	1	100K *	77	0	0	Ultra-Low Power	HA5142	Harris (2769)	
150	40	6 *	1 *	10	50K	70	0	0	High Slew Rate	NE5535 OP201C OP201G	Signetics Solitron Solitron	
200	500		2 *						Low Noise, Dual Power Supply	AN6556	Panasonic	
250	50	7 *	1 *	0.6 *	25K	65	0	0	Half LM244/324	LM258 LM358 NE532	Motorola (2955, 2989) Motorola (2954, 2989) Signetics	15
	75	10 *	1 *	0.6 *	20K	70	0	0	Single Supply, I/O Operates to Ground	μA798C	National	
500	200		2 *						Low Noise, Dual Power Supply	AN6555 MB3607	Panasonic Fujitsu	20
			1	0.25	100K	70	0	0	General Purpose	MC1458 MC1458	TI	
			1.0	0.5	20K	86				LM1458	GE/RCA (2647)	
			7 *	2.2 *	20 K	70	0	0	Supply Voltage ± 2 to ± 16 V	M5R4558	Mitsubishi	
			—	—	20K	70	0	0	General Purpose	IR91458 XR1458	Sharp Exar	25
			1 *	0.5 *	20–50K	70	0	0	Dual 741C	CA747C MC1458 MC1747C	GE/RCA (2647) Motorola (2954, 2989) Motorola (2954, 2989)	
										μA1458CC μA747C LM1458 LM747C AN6550 AN6551 AN6552 RC747 MC1458 μA747C	National National National National Panasonic Panasonic Panasonic Raytheon Signetics TI	30
					20K	70	0	0	Dual 741C	MC1458	Samsung (3039)	
					25K	70	0	0	Dual 741	SFC2747C	SGS-Thomson	40
				0.8 *	20K	70	0	0	Dual 741	LM1458C	SGS-Thomson	
			2	0.5 *	20K	70	0	0	Dual Wideband 741C	MC4558C	Motorola (2955, 2990)	
				1	20K	70	0	0	Dual Wideband 741	MC4558C	SGS-Thomson	
					50K	70	0	0	General Purpose	NE4558	Signetics	
			2 *	1.5 *	20K	70	0	0	Dual Wideband 741C	MC4558C	Samsung (3039)	45
			3	1.5	20K	70	0	0	3 MHz Min. Bandwidth	RC4559 RC4559	Raytheon (3024) TI	
			3 *	1	20K	70	0	0	Low Noise Wideband 741	XR4739 XR4558 HA17558 RC4558 RC4558	Exar (2619) Exar (2619) Hitachi Raytheon (3024) TI	50
				1 *	20K	70	0	0	Low Noise	IR94558	Sharp	
			6 *	2 *	20K	70	0	0	Low Noise	IR94559	Sharp	
			10 *	2.8 *	20K	70	0	0	Wideband 741	XR4560	Exar	55
			15 *	5 *	20K	70	0	0	High Slew Rate	IR3F02	Sharp	
6 *			0.8 *	0.3	20K	70	0	0	Dual 741C	MC1458	SGS-Thomson	
10 *			1 *	0.5 *	25K	70	0	0	Automotive Temperature Range (–40°C to 85°C)	SA747C MC1458S	Signetics Motorola (2954, 2989)	
				10	20K	70	0	0	High Slew Rate 1458			
12 *			1 *	0.8 *	20K	70	0	0	Automotive Temperature Range (–40°C to 85°C)	SA1458	Signetics	60

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Operational Amplifiers—Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units										(Cont'd)		
6	650	120	10	40 *	30	4K	60	0	General Purpose, OC Output	VA2705K	VTC (3383)	5
	1000	300	6 *	—	9 *	10K	65	0		TEC1761C	SGS-Thomson	
	1100	120	10	100	60			0		VA2718K	VTC (3383)	
										VA2718S	† VTC (3383)	
				300	80			0		VA2717K	VTC (3383)	5
										VA2717S	† VTC (3383)	
			15	100	90	10K	70	0		MAX403	♦† Maxim	
	1500	500	10	1 *	0.5 *	50K	70	0	Dual 741	μA747	♦† Signetics	
	2000	1000	—	—	1 *	6.5K	70	2	Low Noise	μA739C	National	
6.3	0.002	0.001	1.3	1.4	0.7	150k	62	0		LMC662AC	National	10
7	-250	50	7	0.6	0.2	100K *	50	0	Bipolar, High Gain, Low Power	LM2904	TI	15
			7 *	0.6	0.2	25K	65	0	Low Power, High Gain Bipolar	LM358	TI	
	200	50	—	—	—	25K	65	0	Single Supply	TL321C	TI	
	250	50			0.3 *				General Purpose	AN1358	Panasonic	
									General Purpose, Dual Power Supply	AN6562	Panasonic	
					0.6 *		80 *	0		HA17904	Hitachi	20
						32 K	85 *	0	Single Supply	M5N358	Mitsubishi	
				1.0		25K	88			LM358	GE/RCA (2647)	
						100K	100			LM2904	GE/RCA (2647)	
			7	0.2	0.25	25K	65	0	Dual Internal Compensation	GL358A	GoldStar (2714)	30
			7 *	—	—	100K *	50	0	Single Supply	LM2904	SGS-Thomson	
				1 *	—	25K	65	0	Half LM224	LM358	SGS-Thomson	
					0.3 *	25K	65	0	Automotive Temperature Range (-40°C to 85°C)	SA532	Signetics	
7.5	800	300	10	1 *	0.5 *	25K	70	0	Dual 741C	μA747C	♦† Signetics	25
	1500	500	1.5 *	1 *	0.25 *	15K	65	3	Matched Dual MC1709C	MC1437	Motorola (2954)	
8	-500	75	10 *	1	0.6	20K	70	0	Low Power	TL322I	TI	35
	500	75	10 *	1 *	0.6 *	20K		0	Split Supplies	MC3358	Motorola (2955)	
10	0.0007	0.0001	1 *	0.11	0.05	50K	65	0	LinCMOS, Low Bias	TLC27L4I	♦ TI	
	0.001 *	0.001 *	0.7 *	—	0.04 *	10K	70	0		TLC27L2M	♦† TI	
				0.1 *	0.04 *	60K	65	0	LinCMOS, Low Bias	TS27L2C	♦ SGS-Thomson	40
										TS27L2I	♦ SGS-Thomson	
										TS27L2M	♦† SGS-Thomson	
			2 *	—	0.6 *	10K	70	0		TLC27M2M	♦† TI	
			1 *	0.6 *	0.6 *	30K	65	0	LinCMOS, Medium Bias	TS27M2C	♦ SGS-Thomson	50
										TS27M2I	♦ SGS-Thomson	
										TS27M2M	♦† SGS-Thomson	
			5 *	—	4.5 *	10K	70	0		TLC272C	♦ TI	
										TLC272M	♦† TI	55
			3.5 *	5.5 *	10K	65	0		LinCMOS, High Bias	TS272C	♦ SGS-Thomson	
										TS272I	♦ SGS-Thomson	
										TS272M	♦† SGS-Thomson	
	0.005 *	0.7	0.11	0.05	30K	70	0		LinCMOS, Low Power, Low Bias Mode	TLC25L2C	TI	55
		2	0.635	0.62	20K	70	0		LinCMOS, Low Power, Medium Bias Mode	TLC25M2C	TI	
0.002	0.001		0.5	0.5	18K	85				CA5420	GE/RCA	
0.005	0.001		6.16	0.25	1K	60				CA5422	GE/RCA	
		0.7 *	0.1	0.05	30K	70	0		LinCMOS, Low Bias	TLC27LI	TI	55
										TLC27L2I	♦ TI	
			2 *	0.6	0.6	20K	70	0	LinCMOS, Medium Bias	TLC27M2I	♦ TI	
			5 *	2.2	5.3	10K	70	0	LinCMOS, High Bias	TLC272I	♦ TI	
	0.001 *	0.7 *	0.1	0.04 *	20K		0		LinCMOS, Low Bias	TLC27L2C	♦ TI	55
		2 *	0.6	0.6 *	20K		0		LinCMOS, Medium Bias	TLC27M2C	♦ TI	
0.01	0.005		4	10	18K	85				CA5160	GE/RCA (2647)	
0.015	0.01		4	10	18K	85				CA5130	GE/RCA (2647)	
0.03	0.015	7	0.30	0.01	100K	65	0		CMOS, Rail to Rail, Single/Dual 5V Supply	ALD2706	♦† AdvLinear	55
									CMOS, Rail to Rail, Single/Dual 5V Supply	ALD4701	♦† AdvLinear	
	0.03	7	0.7 *	0.7 *	10K	60	0					
	0.05	0.03	7	0.7 *	0.7 *	10K	60	0.0	CMOS, Rail to Rail, Single/Dual 5V Supply	ALD2701	♦† AdvLinear	55
			40	1.6	6		95	0		OPA2541A	Burr-Brown (2544)	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units										(Cont'd)		
10	0.1	0.03	10	3	10	40K	90	1	JFET Input	MA336	AnalogSys	(Cont'd)
		0.1	10 *	4 *	13 *	25K		0	JFET Input	MC35002	† Motorola	(2955)
							80	0	JFET Input	MC34002	Motorola	(2955, 2990)
	0.2	0.05	10 *	3	13	25K	70	0	BIFET, General Purpose	LF353	TI	
				4 *	13 *	25K		0	Low Noise Bipolar-FET	TL072C	Motorola	(2955, 2991)
										TL072C	SGS-Thomson	
										TL072C	TI	
										TC072	Toshiba	
						50K	80	0	Low Noise Bipolar-JFET	TL072BC	TI	
	0.1		10 *	3 *	13 *	50K	70	0	Bipolar JFET	μA772C	National	
				4 *	13 *	25K	70	0	Dual 351	LF353	SGS-Thomson	
									Dual 351, Wide Band	LF353	Motorola	(2954, 2989)
										LF353	National	
500	50	7	1	0.6	20K			0	Low Crossover Distortion	MC3458	Motorola	(2954, 2990)
		10 *	1 *	0.6 *	20K	70		0	Low Power	IR3F01	Sharp	
	75	10 *	1 *	0.6 *	20K	70		0	Low Power	TL322C	TI	
650	120			500	150 *	10K	60	0		VA2707J	VTC	(3383)
700	50	20		40 *	150 *	10K	58			VA2707	VTC	(3383)
	300	—		1 *	0.5 *	20K	60	0	Dual 741C	MC1458C	Samsung	(3039)
		6 *		0.8 *	0.3	20K	60	0	Dual 741C	MC1458C	SGS-Thomson	
		15 *		1.1 *	0.5 *	20K	60	0	General Purpose	MC1458C	Motorola	(2954, 2989)
1000	100	15 *	0.8 *	0.8 *	100K	60		0	± 3.5A Peak Output	ULN3755	Sprague	(3258)
				5	100 K*	60		2	± 3.5 A Peak Output	ULN3753	Sprague	(3258)
12	650	120	20	40 *	30	2K	60	0		VA2705J	VTC	(3383)
	1100	120	10	100	60			0		VA2718J	VTC	(3383)
				300	80			0		VA2717J	VTC	(3383)
15	0.015	0.01		4	10	10K	80			CA5260	GE/RCA	(2647)
	0.05	0.03	10 *	5 *	13 *	50K	70	0	MOS/FET Input, Bipolar/MOS Output	CA082	GE/RCA	(2647)
			25 *	0.48 *	0.16 *	10K	70	0	Low Power	ICL7621DM	† Maxim	
				1 *	1.6	80K *	70	0	Low Power, Dual 1458	ICL7621DC	GE/Intersil	(2673, 2675)
										ICL7621DC	Maxim	
									Low Power, Dual 747	ICL7622DC	GE/Intersil	
										ICL7622DC	Maxim	
	0.2	0.1	10 *	3 *	13 *	50K	70	0	Bipolar JFET	μA772LC	National	
		0.2	10 *	2 *	2	3K	70	0	Low-Power J-FET	TL062C	Motorola	(2955, 2991)
	0.4	0.2		3 *	13 *	20 K	70	0	JFET Input	M5T082	Mitsubishi	
			10 *	1 *	3.5 *	3K	70	0	Low Power Bipolar-JFET	TL062C	SGS-Thomson	
										TL062C	TI	
				3 *	13	25K	70	0	Bipolar-JFET	TL082	SGS-Thomson	
										XR082C	Exar	(2619)
										XR083C	Exar	(2619)
										HA17082	Hitachi	
										HA17083	Hitachi	
										TL082C	Motorola	(2955, 2991)
										TL082C	SGS-Thomson	
										TL082C	TI	
										TL083C	TI	
										TC082	Toshiba	
				4 *	13 *	25K	70	0	Bipolar-JFET	TL082C	National	
500	50	20 *	1.1 *	1.4 *	30k	70		0		TCA0372	Motorola	
700	50	33	40 *	38	2K	58		0		VA2706K	VTC	(3383)
15 *	2500	250	—	0.35 *	1 *	3K *	70 *	0	Output current to 1A	L272	SGS-Thomson	
										L272M	SGS-Thomson	
19	650	120		110	100	5 K	60	2		VA2708	† VTC	(3383)
20	0.02	0.0005 *	75	1 *	6 *	50K	70	0	FET Input Dual	ICL8043M	† GE/Intersil	(2673, 2675)
	0.05	0.1	15 *	0.5	0.6	2k	45	0	Low Power	HI8575	† Holt	(2776)
	850	100	40	40 *	38	1K	58	0		VA2706J	VTC	(3383)
50	0.05	0.0005 *	75	1 *	6 *	20K	70	0	FET Input Dual	ICL8043C	GE/Intersil	(2673, 2675)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Dual Units (Cont'd)												
300	0.010			1	1.8 *		86		Precision Low-Power BiFET	AD648C	AD (2430, 2462)	
Triple Units												
5	0.05	0.03	10 *	1	1.6	80K *	70	0	Low Power	ICL7631BC	GE/Intersil (2673, 2675)	
										ICL7631BM	† GE/Intersil (2673, 2675)	
										ICL7631BC	◊ Maxim	
										ICL7631BM	◊† Maxim	5
								1	Low Power	ICL7632BC	GE/Intersil	
										ICL7632BM	† GE/Intersil	
										ICL7632BC	◊ Maxim	
										ICL7632BM	◊† Maxim	
70	14	—	—	0.02 *	0.1 *	—	70	0	Micropower, Transconductance Amplifier	CA3060	† GE/RCA (2647, 2650)	10
7	150	50		1*	0.3	20K	70	0	Micropower	CA144	Calmos	
10	0.05	0.03	20 *	1	1.6	80K	70	0	Low Power	ICL7631CC	GE/Intersil (2673, 2675)	
										ICL7631CM	† GE/Intersil (2673, 2675)	
										ICL7631CC	◊ Maxim	
										ICL7631CM	◊† Maxim	15
								1	Low Power	ICL7632CC	GE/Intersil	
										ICL7632CM	† GE/Intersil	
										ICL7632CC	◊ Maxim	
										ICL7632CM	◊† Maxim	
20	0.05	0.03	30 *	1	1.6	80K	70	0	Low Power	ICL7631EC	GE/Intersil (2673, 2675)	
										ICL7631EC	◊ Maxim	
								1	Low Power	ICL7632EC	GE/Intersil	
										ICL7632EC	◊ Maxim	20
				1.4 *	1.6 *	10K	70	0	CMOS, Low Power, Programmable Bias	ICL7631EM	◊† Maxim	
										ICL7632EM	◊† Maxim	25
Quad Units												
—	200			2.5	0.5	1.2K		0	Single Supply, Bipolar Norton Amplifier	LM3900	TI	
0.015	0.05	0.1	0.15	0.8	2	1M	120	0	CMOS, Chopper Stabilized	TSC904C	TeledyneS (3272)	
	0.09	0.02	0.15	1.5	2.5	0.5M	110	0	Auto-Zeroed	TSC914A	TeledyneS	
										TSC914AC	TeledyneS	
0.03	0.12	0.04	0.25	1.5	2.5	0.3M	100	0	Auto-Zeroed	TSC914B	TeledyneS	
										TSC914BC	TeledyneS	30
0.1	1.0	0.2		1.0	0.3	2M	115			OP400A	◊† PMI	
										OP400E	PMI	
	25	25	1.2	4	0.75	1.5M	115	0	Precision, Wideband	HA5134A	◊† Harris (2768)	
0.12	8	0.25	1.8	0.2	0.04	20K	97	0	Single Supply	LT1079AC	LinearTech	
										LT1079AM	† LinearTech	35
0.15	3	1	1.2		0.1	2M	120	0	Low Offset, Low Power	OP400/883	† PMI	
	10	0.35	2.5	0.2	0.04	20K	94	0	Single Supply	LT1079C	LinearTech	
										LT1079M	† LinearTech	
0.18	20	0.8	2	1 *	0.2	1.5M	100	0	Precision	LT1014AC	LinearTech	
										LT1014AM	† LinearTech	40
0.2	50	50	2	4	0.75	1.2M	100	0	Precision, Low Noise	HA5134	◊† Harris (2768)	
0.25	20	20	10	0.3	0.2	1K	80	0	Instrumentation Amplifier	INA258W	◊† Burr-Brown	
			15	0.3	0.2	1K	80	0	Instrumentation Amplifier	INA258V	◊† Burr-Brown	
			45	0.3	0.2	1K	80	0	Instrumentation Amplifier	INA258U	◊† Burr-Brown	45
0.3	3.0	0.5		1.0	0.3	1M	115			OP400B	† PMI	
										OP400F	PMI	
	30	1.5	2.5	1 *	0.2	1.2M	97	0	Precision	LT1014C	LinearTech	
										LT1014M	† LinearTech	
	1000	200	15	10		100K	80		Low Noise	LM837	National	50
0.4	25	10	2		1.4	1M	110			OP470A	† PMI	
										OP470E	PMI	

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Quad Units										(Cont'd)		
0.45	0.05	0.04	10	3.5	10	150K	84			LT1058AC LT1058AM	LinearTech † LinearTech	
0.5		0.15	20	4	20					AD713	AD (2430)	
	0.075	0.025	10 *	4 *	13 *	50K	80	0	Precision BIFET	MC35004A	† Motorola (2957)	
	0.1	0.05	5	30	12	50K		0	Low Input Offset JFET	MC33284	Motorola (2957, 2990)	5
	15	3	5	0.02	0.005	700K	90	0	Low Voltage	OP490E OP490A	PMI † PMI	
	40	50	10	20	8			0		VA4701S	† VTC (3383)	
				90	40			0		VA4711S	† VTC (3383)	
	80	100	10	20	8			0		VA4701J	VTC (3383)	10
				90	40			0		VA4711J	VTC (3383)	
				500	150			0		VA4721J	VTC	
										VA4721S	† VTC	
	300	20	10	1.5	0.7	100K	100	0	Symmetrical, Matched	MPOP09A MPOP09E MPOP11 MPOP11A MPOP11E OP09A OP09E OP11A OP11E	† MicroPwr MicroPwr † MicroPwr † MicroPwr MicroPwr ◊† PMI PMI ◊† PMI PMI	15 20
0.75	20	5	4 *	0.02	0.005	500K	80	0		OP490F	PMI	
0.8	0.075	0.05	15	3.0	8	100K	80			LT1058C LT1058M	LinearTech † LinearTech	25
	25	10	4	6.5 *	6.5	500K	105	0	Low Noise	OP471A OP471E	† PMI PMI	
	50	20	4		1.4	800K	100			OP470F	PMI	
0.9	0.03	0.025	7	0.3	0.17	100k	65	0	Rail-to-Rail, CMOS	ALD4706	◊† AdvLinear	
1	0.008	0.008	3.0	6.4	24		88		Wide Bandwidth	OPA404S	† Burr-Brown (2541, 2543)	30
	10	2		20	20	50	80		Includes Multiplexer	SP2400	† DataLinear	
	25	5	4 *	0.02	0.005	400K	80	0		OP490G	PMI	
1.2	0.0007	0.0001	1 *	0.11	0.05	50K	65	0	LinCMOS, Low Bias	TLC27L9C	TI	
			2 *	2.2	5.3	10K	70	0	LinCMOS, High Bias	TLC279C TLC279I TLC279M	TI TI † TI (3325) (3325)	35
			2.1 *	0.635	0.62	25k	65	0	LinCMOS, Medium Bias	TLC27M9C	TI	
	0.0007 *	0.0001 *	2.1	0.635	0.62	25K	65	0	LinCMOS, Precision, Medium Bias Mode	TLC27M9I	TI	
1.5	50	20	7	6.5 *	6.5	300K	95	0	Low Noise	OP471F	PMI	
2	0.0007	0.0001	1 *	0.1	0.04	50K	65	0	LinCMOS, Low Input Offset and Bias Currents	TLC27L4BC	◊ TI	40
			2 *	2.2	5.3	10K	70	0	LinCMOS, High Bias	TLC274BI	◊ TI	
	0.0007 *	0.0001 *	2.1	0.635	0.62	25K	65	0	LinCMOS, Precision, Medium Bias Mode	TLC27M4BI	TI	
	0.001	0.001	0.7 *	0.1	0.05	30K	70	0	LinCMOS, Low Bias	TLC27L4BI	◊ TI	
			5	2.3	4.5	10K	77	0	Low Input Offset and Bias Currents	TLC274BC	◊ TI	
									Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC254BC	TI	45
	0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	60K	65	0	LinCMOS, Low Bias	TS27L4BC	◊ SGS-Thomson	
			1	0.1	0.04	30K	77	0	LinCMOS, Low Power, Low Bias Mode	TLC25L4BC	◊ TI	
			2 *	1 *	0.6 *	30K	65	0	LinCMOS, Medium Bias	TS27M4BC	◊ SGS-Thomson	
			5 *	3.5 *	5.5 *	10K	65	0	LinCMOS, High Bias	TS274BC	◊ SGS-Thomson	
0.03	0.025		7	0.4	0.7 *	15K	65	0	CMOS, Rail-to-Rail	ALD4701A	◊† AdvLinear	50
0.2	2		10 *	4 *	13 *	50K	80	0	High Speed, JFET Input	TDB0347A	SGS-Thomson	
50	10		7 *	1 *	—	50K	70	0	Low Power	LM124A	† SGS-Thomson	
			20	1 *	—	50K	70	0	Low Power	LM124A	† National	
										SG124A	◊† SiliconG	
80	15		7 *	1 *	—	50K	70	0	Low Power	LM224A	◊ SGS-Thomson	55
400	200		5	5.5	3.0	25 K	100	0	± 5 V power supplies.	VA4741 VA4742	† VTC (3383) † VTC (3383)	
500	50		10 *	3 *	8	50K	80	0	High Performance Bipolar	MC33074A MC34074A MC35074A	Motorola (2957) Motorola (2956, 2991) † Motorola (2957)	60

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Quad Units										(Cont'd)		
2.5	0.012	0.012	5.0	6.4	24	84			Wide Bandwidth	OPA404K	Burr-Brown (2541, 2543)	
50	5	10	750 *	0.25 *	400K *	100K	0		Quad Micropower OP-21	OP421B OP421F	† PMI PMI	
75	10		0.8 *	0.4 *	50 K	80	0		Quad 741	PM148 PM248	PMI PMI	5
200	40 75	5 * 3 *	1.8 8 *	0.8 1	30K 100K	90 86	0		High Performance Low Noise, High Performance	LS404 HA5104-2 HA5104-5	◊ SGS-Thomson ◊† Harris ◊ Harris	
			60 *	12	100K	86	1		Wideband	HA5114-2 HA5114-5	◊† Harris ◊ Harris	10
500	50	15	1.5	0.7	100K	100	0		Symmetrical, Matched	MP0P09B MP0P09F MP0P11B MP0P11F OP09B OP09F OP11B OP11F	† MicroPwr MicroPwr † MicroPwr MicroPwr † PMI PMI † PMI PMI	15
750	150	2 *	16 *	5		100 *				MC33079	Motorola (2957, 2990)	
3	-80 -100 0.03	15 30 0.005	— — 1 3	0.6 0.6 1 3	0.3 0.3 3.5 13	50K 25K 70 70 200K 76	70 65 70 70	0 0	Bipolar, General Purpose Bipolar, General Purpose	LM224A LM324A TA75064 TA75074 IR9084	TI TI Toshiba Toshiba Sharp	20
0.2	0.05 0.1	10 * 10 *	4 * 1 *	13 * 3.5 *	25K 4K 44K	70 80 80	0 0 0		Low Noise Bipolar-JFET Low Power Bipolar-JFET Low Power, Bipolar JFET	TL074BC TL064BC TL064BC	◊ TI ◊ TI ◊ SGS-Thomson	25
			2 *	2	4K	80	0		Low-Power J-FET	TL064BC	Motorola (2956, 2991)	
			3 *	3	50K	80	0		JFET	TL084B TL084BC TL084BC	SGS-Thomson SGS-Thomson TI	30
80	15	20	1 *	—	50K	70	0		Low Power	LM224A SG224A	National ◊ SiliconG	
100	30	— 30	1 * — 1 *	— — —	25K 100K 25K	65 65 65	0 0 0		Low Power High Gain, Single Supply Low Power	LM324 LM324A LM324A SG324A	Samsung (3039) SGS-Thomson National ◊ SiliconG	35
200	20 30	5 *	2.5 3	0.5 1.2 1.6 *	1.KK 25K 50K	0 80 80	0 0 0		Norton Amplifier, Bipolar Noise 2μV Max Quad 741	LM2900 RM4156 XR4741M	◊ TI † Raytheon (3025) ◊† Exar (2619)	40
			3.5 *	1.6 *	50K	80	0		Quad 741	HA4741-2 HA4741-2	◊† Harris † Raytheon	
			19 *	8 *	25K	80	0		Uncompensated 4156	RC4157	Raytheon (3025)	
250 1000	50 300	3 *	1.3 0.6	6 * 1	100K 40 K	80 70	0		Low Power General Purpose, Radiation Hardened	HA5154 HS5104RH	Harris (2771) † Harris (2730)	45
4	125	12	15	750 *	0.25 *	200K	96 *	0	Quad, Micropower OP-21	OP421C OP421G	† PMI PMI	
4.5	100	2	1.8	2.1	50 K	80			Low Power, Single Supply	MC33174	Motorola (2957, 2990)	
										MC35174	† Motorola (2957)	
400 500	80 75	10 *	0.45 3 *	0.5 10	72 25K	0 70	0		High Performance Bipolar	LS1042AC MC33074 MC34074 MC35074	AT&T Motorola (2957) † Motorola (2956, 2991) Motorola (2957)	50
5	-150 0.0007	30 0.0001	2 * 2.1 *	0.6 2.2 0.635	0.3 5.3 .62	50K 10K 25K	70 70 65	0 0 0	Bipolar, General Purpose LinCMOS, High Bias LinCMOS, Medium Bias	LM224 TLC274AI TLC27M4AC	TI ◊ TI ◊ TI	55
	0.0007 *	0.0001 *	2.1	0.635	0.62	25K	65	0	LinCMOS, Precision, Medium Bias Mode	TLC27M4AI	TI	
	0.001	0.001	0.7	0.1	0.04	20K	77	0	Low Input Offset and Bias Currents Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC27L4AC TLC25L4AC	◊ TI ◊ TI	
						30K	70	0	Low Input Offset and Bias Currents	TLC27L4AM	◊† TI	60

(Continued)

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Quad Units										(Cont'd)		
5	0.001	0.001	0.7 *	0.1	0.05	30K	70	0	LinCMOS, Low Bias	TLC27L4AI	TI	(Cont'd)
			2	0.7	0.6	20K	77	0	Low Input Offset and Bias Currents	TLC27M4BC	TI	
									Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC25M4BC	TI	
			5	2.3	4.5	10K	70	0	Low Input Offset and Bias Currents	TLC274AM	TI	5
							77	0	Low Input Offset and Bias Currents	TLC274AC	TI	
									Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC254AC	TI	
0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	60K	65	0	0	LinCMOS, Low Bias	TS27L4AC	SGS-Thomson	
		2 *	1 *	0.6 *	30K	65	0	0	LinCMOS, Medium Bias	TS27M4AC	SGS-Thomson	
		5 *	3.5 *	5.5 *	10K	65	0	0	LinCMOS, High Bias	TS274AC	SGS-Thomson	
0.005			0.1	0.05					LinCMOS, Low Bias	TLC27L9I	TI	10
	0.001	2 *	0.6	0.6	20K	70	0	0	LinCMOS, Medium Bias	TLC25M4AC	TI	
0.03	0.025	7	0.4	0.7 *	15K	65	0	0	CMOS, Rail-to-Rail	ALD4701B		
0.05	0.03	10 *	1	1.6	80K *	70	0	0	High Bias	ICL7641BC	Maxim	
		15 *	1	1.6	80K	70	0	0	Low Power	ICL7641BC	GE/Intersil (2673, 2675)	
										ICL7641BM	GE/Intersil (2673, 2675)	15
										ICL7642BC	GE/Intersil (2673, 2675)	
										ICL7642BM	GE/Intersil (2673, 2675)	
										ICL7642BC	Maxim	
										ICL7642BM	Maxim	
			1.4 *	1.6 *	20K	76	0	0	High Bias	ICL7641BM	Maxim	20
	0.05	10	1	1	50K	80	0	0	Low Power BIFET	LF444A	National	
0.1	0.05	10 *	4 *	13 *	50K	80	0	0	Precision BIFET	MC35004B	Motorola (2957)	
	0.1	10 *	3 *	13 *	50K	80	0	0	Bipolar JFET	μA774BC	National	
										μA774BM	National	
0.2	0.05	10 *	10 *	40 *	50K			0	High Speed, JFET Input	MC34084A	Motorola (2956)	25
									High-Speed, JFET Input	MC35084A	Motorola (2957)	
			20 *	80 *	50K			0	Decompensated MC34084 for Gain >2	MC34085A	Motorola (2956)	
									Decompensated MC35084 for Gain >2	MC35085A	Motorola (2957)	
	0.1	10	3	13	50K	80	0	0	BIFET, High Performance	LF347B	TI	
		10 *	4 *	13 *	50K	80	0	0	Precision BIFET	MC34004B	Motorola (2956, 2990)	30
									Wideband, Quad 351B	LF347B	Motorola (2989)	
										LF347B	National	
	4	10 *	4 *	13 *	50K	80	0	0	High Speed, JFET Input	TDB0347B	SGS-Thomson	
100	20	—	0.8	0.4 *	1M	70	0	0	High Gain, Programmable	LM146	SGS-Thomson	35
	25	—	1 *	0.5 *	50K	70	0	0	High Gain, Programmable	LM148	SGS-Thomson	
										TDC0149	SGS-Thomson	
									Quad 741 with Standard npn Input Stage	LM148	Motorola (2957)	
										μA148M	National	
										LM148	National	
										LM148	Raytheon (3025)	40
			4 *	2 *	50K	70	0	0	Wideband Quad 741 for Gains >5	LM149	National	
	40	—	0.8 *	0.5 *	4K	60	0	0	Low Power	TL044M	TI	
150	30	7 *	—	—	100K	70	0	0	High Gain, Single Supply	LM124	SGS-Thomson	
			1 *	—	50K	70	0	0	Low Power	LM224	SGS-Thomson	
									Low Power, Single Supply	LM258	SGS-Thomson	45
250	80	—	0.8 *	0.5 *	1K	60	0	0	Low Power	TL044C	TI	
300	50			1.6 *					Low Noise, Dual Power Supply	AN6554	Panasonic	
		5 *	3	1.2	25K	80	0	0	Noise 2 μV Max	RC4156	Raytheon (3025)	
			3.5 *	1.6 *	25K	80	0	0	Quad 741	XR4741C	Exar (2619)	50
										HA4741-5	Harris	
										HA4741-5	Raytheon	
	80	5 *	1.5	1 *	20K	80	0	0	High Performance	LS404C	SGS-Thomson	
500	50	—	2 *	1.6 *	20K	70	0	0	Low Noise, Low Power	XR4212M	Exar	
		7 *	1 *	0.6 *	50K	70	0	0	Low Power	MC3503	SGS-Thomson	
		10	1	0.6	200K	90	0	0	Low Power	MC3503	Signetics	55
		10 *	1 *	0.6 *	—	70	0	0	Low Power, Single Supply	TDC3403	SGS-Thomson	
(Continued)												

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Band- width MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line	
Quad Units										(Cont'd)			
5	500	200	-	3 *	1.5 *	50K	70	0	Quad 741, High Gain	RM4136	TI	(Cont'd)	
			—	3 *	1.5 *	50K	70	0	Quad 741, High Gain	XR4136M	◊† Exar (2619)	5	
										μA4136M	† National		
										RM4136	† Raytheon (3025)		
				3.5	1.5	96	110	0	Programmable	TAB1042	◊ Plessey		
				4 *	1.5	0.7	50K	70	0	Quad Matched 741	TAB1043	◊ Plessey	
										OP11C	† PMI		
										OP11G	PMI		
				15 *	1	0.5 *	50K	70	0	Quad 741	GL4559	† GoldStar (2714)	10
										MC4741	† Motorola (2956, 2990)		
6	0.2	0.05	10 *	3 *	13 *	35K 50K	80 80	0 0	Low Noise, Bipolar JFET Low Noise Bipolar-JFET Low Noise, Bipolar JFET	TL074M	◊† SGS-Thomson		
										TL074M	◊† TI		
										TL074I	◊ SGS-Thomson		
				4 *	13 *	25K 50K	70 80	0 0	Low Noise Bipolar-JFET Low Noise Bipolar JFET	TL074AC	◊ TI		
										TL074BC	Motorola (2956, 2991)	15	
									Low Noise Bipolar-JFET	TL074BC	SGS-Thomson		
										TL074AC	Motorola (2956, 2991)		
										TL074AC	SGS-Thomson		
		0.1	10 *	1	2.5	4K	80	0	BiFET, Low Noise	TL064I	◊ TI		
				1 *	3.5 *	4K	80	0	Low Power Bipolar-JFET Low Power, Bipolar JFET	TL064AC	◊ TI		
										TL064AC	◊ SGS-Thomson	20	
										TL064I	◊ SGS-Thomson		
										TL064M	◊† SGS-Thomson		
				2 *	2	4K	80	0	Low-Power J-FET	TL064AC	Motorola (2956, 2991)		
										TL064M	† Motorola (2956, 2991)	25	
				3	13	50K	80	0	BiFET, General Purpose	TL084I	TI		
									BiFET, Low Noise	TL084I	TI		
										TL074I	◊ TI		
				3 *	13 *	50K	80	0	Bipolar JFET	XR084	Exar (2619)		
										XR084M	† Exar (2619)	30	
										TL084A	Motorola (2956, 2991)		
										TL084A	SGS-Thomson		
										TL084I	◊ SGS-Thomson		
										TL084M	◊† SGS-Thomson	35	
										TL084AC	TI		
										TL084M	† TI		
									Indiv. Program	XR096	Exar		
										XR096M	† Exar		
									Programmable, Bipolar - JFET	XR094	Exar		
										XR094M	† Exar	40	
										XR095	Exar		
										XR095M	† Exar		
100	10	3 *	0.4	1.5	100K *	77	0	0	Ultra-Low Power	HA5144	Harris (2769)		
200			1	0.5					Bipolar, General Purpose	LM228	TI		
	0.1	10 *	3 *	13 *	50K	80	0	0	High Speed, JFET Input	TL084AC	SGS-Thomson	45	
	50		1	0.5	25K	70	0	0	Bipolar, General Purpose	LM248	◊ TI		
			1.0 *	0.5 *	25 K	70	0	0	Quad 741	LM348	Samsung (3039)		
			—	1	0.5	25K	70	0	Bipolar, Low Power, Precision μA741 Bipolar, Precision (u)A741	MC3403	TI		
										LM348	TI		
				1 *	0.5 *	25K	70	0	High Gain, Programmable	LM348	SGS-Thomson	50	
										TDB0149	SGS-Thomson		
									Quad 741 with Standard npn Input Stage	GL348	GoldStar		
										LM248	Motorola (2956)		
										LM348	Motorola (2956, 2989)		
										μA248C	National	55	
										μA348C	National		
										LM248	National		
										LM348	National		
										LM248	Raytheon		
										LM348	Raytheon (3025)	60	
(Continued)													

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‡ High Radiation Resistance

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LINEAR—Operational Amplifiers—Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line	
Quad Units										(Cont'd)			
6	200	50	—	4 *	2 *	25K	70	0	Wideband Quad for Gains >5	LM249 LM349	National National	(Cont'd)	
	250	20	25	750 *	0.25 *	200K *	90 *	0	Quad OP-21	OP421H	PMI		
		100	—	0.5	0.4 *	1M	70	0	High Gain, Programmable	LM346	SGS-Thomson		
	500	50	—	1 *	1.2 *	25K	70	0	LM324 with Improved Output	RC3403A	† Raytheon (3025)	5	
				2	1.6	5K	70	0	Quad 741	XR4212C	Exar		
		100	—	1	0.4 *	20K	70	0	346 with separate bias resistor for each pair	XR346-2	Exar		
		200		3	1.7	20K	70	0	High Performance Quad μA741	RC4136	TI		
										RV4136	TI		
						2	20K	70	0	High Performance Bipolar	TL136C	TI	10
			—	1 *	0.5 *	20K	70	0	Quad 741	MC4741C	Motorola (2956, 2990)		
				3 *	1 *	20K	60-70	0	Quad 741	XR4136C μA4136C	Exar National	(2619)	
										RC4136	Raytheon (3025)		
	650	120	10	40 *	30	4K	60	0		VA4705K	VTC (3383)	15	
	1100	120	15	100	90	10K	70	0	+ s	MAX404	Maxim		
7						25K	65	0	Quad Internal Compensation	GL324A	GoldStar (2714)		
	-250	50		0.6	0.3	25K	65	0	General Purpose	LM324	TI		
						100K	50	0	Extended Temperature Range LM324	LM2902	TI		
	8	2	7 *	0.1	0.05	60 K	75	0	Wide Supply Range	LP124	National		
	150	30	—	—	—	20K	60	0	Single Supply	TA75902	Toshiba		
	250	50			0.3 *				General Purpose	AN1324	Panasonic		
						0.6 *	32 K	85 *	Single Supply	AN6564	Panasonic		
						1	100K	85		M5N324	Mitsubishi		
						1.0	20K	86		MB3614	♦ Fujitsu	25	
										MB3615	♦ Fujitsu		
										LM324	GE/RCA (2647)		
			—	1 *	—	25K	65	0	Low Power	LM324A	Samsung (3039)		
			7 *	—	—	100K	65	0	High Gain, Single Supply	LM324	SGS-Thomson		
						100K *	50	0	Single Supply	LM2902	SGS-Thomson	30	
				1 *	0.3 *	25K	65	0	Automotive Temperature Range (-40°C to 85°C)	SA534	Signetics		
	500	50	—	—	0.6 *	10K	70	0	General Purpose	IR3702	Sharp		
8	-500	75	10 *	1	0.6	20K	70	0	Low Power, Bipolar	MC3303	♦ TI		
		100		1	0.6				Low Power, Bipolar	MC3302	TI		
	0.030	0.010		5.4	10	20	80	0	VICR to Negative Rail	CA3410A	GE/RCA (2647)	35	
	500	75	10	1	0.6	200K	90	0	Low Power	MC3303	Signetics		
			10 *	1 *	0.6 *	20K	70	0	Single Supply: I/O Operates to Ground	TDF3403	SGS-Thomson		
9	0.2	0.05	10 *	4 *	10	35K	70	0	Low Noise Bipolar JFET	TL074M	† Motorola (2956, 2991)		
		0.1	10	2	6	4K		0	Low Power JFET Input	TL064V	Motorola (2956, 2991)		
			10 *	1 *	3.5 *	4K	80	0	Low Power Bipolar-JFET	TL064M	♦ TI	40	
				4 *	13 *	25K	80	0	JFET Input	TL084M	† Motorola (2956, 2991)		
	20	4	10 *	0.1	0.05	40 K	75	0	Wide Supply Range	LP324	National		
	500	150	7	1	0.3		70		Low Power Quad Op Amp	LM324A	♦ Signetics		
10	0.0007	0.0001	2 *	2.2	5.3	10K	70	0	LinCMOS, High Bias	TLC274I	♦ TI		
			2.1 *	0.635	0.6	25K	65	0	LinCMOS, Low Input Offset and Bias Currents	TLC27M4C	♦ TI	45	
	0.0007 *	0.0001 *	2.1	0.635	0.62	25K	65	0	LinCMOS, Precision, Medium Bias Mode	TLC27M4I	TI		
	0.001	0.001	0.7	0.1	0.04	20K	77	0	Low Input Offset and Bias Currents	TLC27L4C	♦ TI		
									Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC25L4C	♦ TI		
						30K	70	0	Low Input Offset and Bias Currents	TLC27L4M	♦ TI		
			0.7 *	0.01	0.05	30K	70	0	LinCMOS, Low Bias	TLC27L4I	♦ TI	50	
			2	0.7	0.6	20K	70	0	Low Input Offset and Bias Currents	TLC27M4M	♦ TI		
							77	0	Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC25M4C	TI		
							88			TLC27M4AM	♦ TI		
			5	2.3	4.5	10K	70	0	Low Input Offset and Bias Currents	TLC274C	♦ TI		
										TLC274M	♦ TI	55	
(Continued)													

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† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift μV/°C	Bandwidth MHz	Slew Rate V/μs	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Quad Units										(Cont'd)		
10	0.001	0.001	5	2.3	4.5	10K	77	0	Low Input Offset and Bias Currents, VDD = 1 to 16 V	TLC254C	TI	(Cont'd)
	0.001 *	0.001 *	0.7 *	0.1 *	0.04 *	60K	65	0	LinCMOS, Low Bias	TS27L4C TS27L4I TS27L4M	◊ SGS-Thomson ◊ SGS-Thomson ◊† SGS-Thomson	5
			2 *	1 *	0.6 *	30K	65	0	LinCMOS, Medium Bias	TS27M4C TS27M4I TS27M4M	◊ SGS-Thomson ◊ SGS-Thomson ◊† SGS-Thomson	10
			5 *	3.5 *	5.5 *	10k 10K	65 65	0 0	LinCMOS, High Bias LinCMOS, High Bias	TS274I TS274C TS274M	◊ SGS-Thomson ◊ SGS-Thomson ◊† SGS-Thomson	15
0.03	0.03	7	0.7 *	0.7 *	10k	60	0	0	CMOS, Rail to Rail Single/Dual 5V supply	ALD4701	◊† AdvLinear	
0.05	0.03	20 *	1 *	1.6 *	80K	70	0	0	Low Power	ICL7641CC ICL7641CM ICL7642CC ICL7642CM	GE/Intersil † GE/Intersil GE/Intersil † GE/Intersil	(2673, 2675) (2673, 2675) (2673, 2675) (2673, 2675)
										ICL7642CC ICL7642CM	◊ Maxim ◊† Maxim	20
			1.4 *	1.6 *	10K	70	0	0	High Bias	ICL7641CC ICL7641CM	◊ Maxim ◊† Maxim	25
0.1	0.03 0.05	10 10	3 1 2	10 1 0.6	40 K 25K 25K	90 70 70	1 0 0	1 0 0	JFET Input Low Power BIFET Low-Power J-FET Input	MA374 LF444 LF444C	AnalogSys National Motorola	(2956, 2989)
0.2	0.05	10 *	3 * 4 *	13 * 13 *	25K 25K	70 70	0 0	0 0	Low Noise, Bipolar JFET Low Noise Bipolar-JFET	TL074C TL074C TL075C TC075	◊ SGS-Thomson Motorola TI Toshiba	(2956, 2991)
			10 *	40 *	25K	70	0	0	High Speed, JFET Input High-Speed, JFET Input	MC34084 MC35084	Motorola † Motorola	(2956) (2957)
			20 *	80 *	25K	70	0	0	Decompensated MC34084 for Gain >2 Decompensated MC35084 for Gain >2	MC34085 MC35085	Motorola † Motorola	(2956) (2957)
	0.1	10 *	3 3 * 4 *	13 13 * 13 *	25K 50K 25K	70 70 70	0 0 0	0 0 0	BiFET, General Purpose Bipolar JFET Bipolar-JFET	LF347 μA774C MC34004	TI National Motorola	(2956, 2990)
									Bipolar-JFET, Quad 351	MC35004 LF347 LF347	† Motorola Motorola National	(2957) (2989)
	4	10 *	4 *	13 *	25K	70	0	0	High Speed, JFET Input	TDB0347	SGS-Thomson	
40	8	10 *	0.1	0.05	30 K	75	0	0	Wide Supply Range	LP2902	National	
500	50	—	1 *	0.6 *	20K	70	0	0	Low Power	IR93403	Sharp	
		10	1	0.6	200K	90	0	0	Low Power	MC3403	Signetics	
		10 *	1 *	0.6 *	—	70	0	0	Low Power, Single Supply	MC3403	SGS-Thomson	
650	120		110 500	100 150*	5 K 10K	60 60	2 0	2 0		VA4708 VA4707I	† VTC VTC	(3383) (3383)
700	50	20	40 *	150 *	10K	58	0	0		VA4707	VTC	(3383)
11	2	1	10 *	3	10 *	25K	70	2	Wideband	MC34184	Motorola	(2956, 2991)
11.5	4	2	10 *	3	10 *	25K	70	2	Wideband	MC33184	Motorola	(2957)
12	650	120	20	40 *	30	2K	60	0		VA4705J	VTC	(3383)
12.5	25	13	10 *	3	10 *	25K	70	2	Wideband	MC35184	† Motorola	(2957)
15	0.040 0.05 0.2	0.030 0.03 0.1 0.2	10 * 10 * 10 *	5.4 5 * 3 *	10 13 * 13 *	20 25K 50K	70 70 70	0 0 0	VICR to Negative Rail MOS/FET Input, Bipolar/MOS Output Bipolar-JFET Low-Power J-FET	CA3410 CA084 μA774LC TL064C	GE/RCA GE/RCA National Motorola	(2647) (2647) (2956, 2991)

(Continued)

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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LINEAR—Operational Amplifiers-Characteristics (Cont'd)

Offset Voltage mV (25°C)	Bias Current nA (25°C)	Offset Current nA (25°C)	Voltage Drift $\mu\text{V}/^\circ\text{C}$	Bandwidth MHz	Slew Rate $\text{V}/\mu\text{s}$	Voltage Gain V/V	CMRR dB	Comp.	Comments	Device	Source	Line
Quad Units										(Cont'd)		
15	0.4	0.2	10 *	1 *	3.5 *	3K	70	0	Low Power Bipolar-JFET	TL064C	SGS-Thomson	5
										TL064C	TI	
									Bipolar-FET	XR084C	Exar (2619)	
										HA17084	Hitachi	
										TL084	Motorola (2956, 2991)	
										TL084	SGS-Thomson	
										TL084C	TI	10
										TL085C	TI	
									Indiv. Program. Programmable Bipolar-JFET	XR096C	Exar	
										XR094C	Exar	
										XR095C	Exar	
									JFET Input	TL084C	Motorola (2956, 2991)	
	400 650	0.2 120	10 * 40	3 * 40 *	13 * 38	25K 1K	70 60	0	High Speed, JFET Input	TL084C	SGS-Thomson	15
										VA4706J	VTC (3383)	
										CA5470	GE/RCA (2648)	
									Low Bias	ICL7642M	Maxim	
									Low Power	ICL7641EC	GE/Intersil (2673, 2675)	
										ICL7642EC	GE/Intersil (2673, 2675)	
20	0.01 0.05	0.005 0.03	30 *	10 0.044 *	4 0.016 *	10K 80K	55 70 70	0		ICL7642EC	Maxim	20
										ICL7641EC	Maxim	
										ICL7641EM	Maxim	
									High Bias	ICL7641EC	Maxim	
										ICL7641EM	Maxim	
										ICL7641EM	Maxim	
	0.050	0.100	15*	0.5	0.6	2K	45	0	Low Power	HI8573	Holt (2776)	25
										MC14573	Motorola (2991)	
									Low Power	MC143404	Motorola (2957)	
									Telecom	MC143403	Motorola (2957)	
									Telecom	MC143403	Motorola (2957)	
										MC143403	Motorola (2957)	
260 *	0.004 0.008	0.004 0.008	3.0 *	6.4 *	35 *		92 88	0	Wideband	OPA404B	Burr-Brown (2541, 2543)	25
										OPA404A	Burr-Brown (2541, 2543)	
										OPA4045	Burr-Brown	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

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LINEAR—Phase Locked Loops/Synthesizers

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line		
Count Extender, +4, +10/11 becomes +40/41	SP8790A	† Plessey		Phase Locked Loop (CMOS)	CD4046BM	† National	(Cont'd)	Prescaler, Low Power (+64), 1.1 GHz	MC12073	Motorola			
	SP8790B	Plessey			F4046BC	National		55	Prescaler, Low Power (+64), 225 MHz	MC12023	Motorola	95	
Count Extender, +8 (extends division ratio of a two modulus prescaler while retaining the difference, ie +10/11 becomes +80/81)	SP8794A	† Plessey			F4046BM	† National			Prescaler, Low Power (+256), 1.1 GHz	MC12074	Motorola		
	SP8794B	Plessey			74HCT7046A	Signetics (3057)		60	Prescaler, to 2.4 GHz	SDA3203	Siemens		
Counter Logic Control	SP8790	Plessey			74HC4046A	Signetics (3057)			Prescaler, UHF (+128 or 256), 2.4 GHz	MB505-24	Fujitsu (2634)		
Counter Logic Control (use with MC12012 for high frequency programming)	MC12014	Motorola			74HC7046A	Signetics (3057)			Prescaler, UHF (+2), 740 MHz	MC12090	Motorola		
Crystal Oscillator (2 to 20 MHz)	MC12061	Motorola			883C4046B	† Sprague			Prescaler, Dual Modulus	TBB102	Siemens	100	
					883C4446B	† Sprague			Prescaler, Two Modulus Selectable +64/65 or +128/129 (for positive edge-triggered synthesizers)	MC12022A	Motorola		
Crystal Oscillator (250 kHz to 60 MHz)	CK1100A	Solarise						65		MC12022B	Motorola		
	CK1114A	Solarise			Phase Locked Loop, High Frequency	NE564	Sprague		Prescaler, 0.05 to 1.3 GHz, Divide by 256	SP4742	Plessey		
	CK1144A	Solarise				SE564	† Sprague		Prescaler, 0.05 to 1.3 GHz, Divide by 4056 and 8192	SP4780	Plessey		
	CK1145A	Solarise			Phase Locked Loop Module (for digital frequency selection, HF Receivers)	U3060M	Telefunken		Prescaler, 0.08 to 1 GHz, Divide by 256	SP4642	Plessey	105	
Filter, Digital PLL	CD54HCT297	† GE/RCA (2640)			Phase Locked Loop Synthesizer, (AM/FM/TV sound)	DS8911	National		Prescaler, 0.08 to 1 GHz, Divide by 64	SP4652	Plessey		
	CD54HC297	† GE/RCA (2640)							Prescaler, 1.1 GHz (+64/65, 128/129)	MB501LV	Fujitsu (2634)		
	CD74HCT297	GE/RCA (2640)			Phase Locked Loop System (multiplier, VCO and Op Amp)	XRS200	Exar			MB501SL	Fujitsu (2634)	110	
	CD74HC297	GE/RCA (2640)			Phase-Frequency Detector	MC12040	Motorola		Prescaler, 1.6 GHz (+128/129)	MB509	Fujitsu (2634)		
	74HCT297	Signetics (3057)			Phase-Locked Loop (to 50 MHz)	LB1125AF	AT&T		Prescaler, 1.6 GHz (+128/129, 256/257)	MB505-16	Fujitsu (2634)		
	74HC297	Signetics (3057)			Phase-Locked Loop/Tone Decoder	LS1120AC	AT&T		Prescaler, 2.2 GHz, Divide by 2	U822	Telefunken		
FSK Modulator/Demodulator (See also Telecommunications)	XR210	Exar (2619)			Phase-Locked Loop (10 Hz to 10 MHz operation)	LS1119AC	AT&T		Prescaler, 2.2 GHz, Divide by 4	U824	Telefunken	115	
	XR210M	† Exar (2619)			Phase-Locked Oscillator	ML405	MicroLinear		Prescaler, 2.3 GHz (+128/130/256/258/512/514)	MB508	Fujitsu (2634)		
	XR2211C	Exar (2619)			PLL, Controller, LCD Driver for Radio Receiver (CMOS)	LC7230	Sanyo		Prescaler, 2.4 GHz (+64/128/256)	MB506	Fujitsu (2634)		
	XR2211M	† Exar (2619)			PLL for Radio Receiver (CMOS)	LC7217	Sanyo		Prescaler, 2.4 GHz, Divide by 2	U842BS	Telefunken		
	XR2212M	† Exar (2619)			LC7218	Sanyo			Prescaler, 2.4 GHz, Divide by 4	U844BS	Telefunken		
	XR2211C	Raytheon (3025)			PLL for Radio Receiver (NMOS)	LM7001	Sanyo		Prescaler, 2.7 GHz (+128/144/256/272)	MB510	Fujitsu	120	
	XR2211M	† Raytheon (3025)			PLL Frequency Synthesizer	TBB200	Siemens		Prescaler, 150 MHz, Divide by 16/17	μPB553A	NEC		
Intercarrier Frequency Modulator (internal PLL and Comparator) 4002Y-A		NCM			PLL Peripheral (VCO, mixer, amp for CB)	TA7310	Toshiba		Prescaler, 200 MHz (+10/20)	MB467	Fujitsu (2634)		
Mixer, Double Balanced Analog Mixer	MC12002	Motorola			PLL, Ranges to UHF Receiver (NMOS)	LM7005	Sanyo		Prescaler, 200 MHz (+16/17, 32/33)	MB503	Fujitsu (2634)		
Phase Comparator and Programmable Counter	MC14568BA	† Motorola			PLL Stereo Decoder	TCA4511-2	Siemens		Prescaler, 520 MHz (+32/33, 64/65)	MB504	Fujitsu (2634)		
	MC14568BC	Motorola			PLL Synthesizer (100 MHz)	HD153202	Hitachi			MB504L	Fujitsu (2634)		
Phase Locked Frequency Controller	UC1633	Unitrode			PLL Tuning Circuit, 1.3 GHz Prescaler	MC44802	Motorola (2951)		Serial Input PLL System Block (10 MHz, 3–5V, 3.5 mA)	MB87006A	Fujitsu (2634)		
	UC1633/883	Unitrode			PLL with Prescaler, 1.1 GHz (+64/65, 128/129)	MB1501	Fujitsu (2634)		90	Serial Input PLL System Block (15 MHz, 3–5V, 3 mA)	MB87073	Fujitsu (2634)	
	UC1634	Unitrode			PLL with Prescaler, 520 MHz (+32/33, 64/65)	MB1504	Fujitsu (2634)			MB87076	Fujitsu		
	UC1634/883	Unitrode			Prescaler, Divide by 20	MC3396	Motorola		Serial Input PLL System Block (95 MHz, 5V, 10 mA)	MB87086	Fujitsu (2634)	130	
	UC2633	Unitrode			Prescaler, for FM Radio	DS8629	National		Serial Input PLL System Block (180 MHz, 5V, 8 mA)	MB87014	Fujitsu (2634)		
	UC2634	Unitrode			Prescaler, Low Power (+16/17), 150 MHz	μPB556	NEC						
	UC3633	Unitrode			Prescaler, Low Power, (+64/65/128/136), 1 GHz	μPB562	NEC						
	UC3634	Unitrode			Prescaler, Low Power (+64/65) 520 MHz	MC12025	Motorola						
Phase Locked Loop	XR215	Exar (2619)											
	XR215M	† Exar (2619)											
	μPD2833	† NEC											
	μPD2834	† NEC											
	SL652	Plessey											
	SDA2112-2	Siemens											
	NE564	Signetics											
	NE568	Signetics											
	SE564	† Signetics											
	SN74LS297	TI											
Phase Locked Loop (CMOS)	CD4046A	† GE/RCA (2639, 2656)											
	CD4046AE	GE/RCA (2639, 2656)											
	CD4046B	† GE/RCA (2639, 2656)											
	CD4046BE	GE/RCA (2639, 2656)											
	MC14046BA	† Motorola											
	MC14046BC	Motorola											
	CD4046BC	National											
		(Continued)											

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

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LINEAR—Phase Locked Loops/Synthesizers (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Synthesizer, Frequency, CMOS	TDD1742	Signetics (3160)		VCO Function Generator, (Includes square and triangular waveforms - but not sine.)		(Cont'd)		Two Modulus Prescaler (+40/41)	SP8793	Plessey	110
Synthesizer, Mobile Radio (2 device set)	NJ8811	Plessey		LM566	National			SP8793A	Plessey		
	NJ8812	Plessey		LM566C	† National			Two Modulus Prescaler (+40/41), 225 MHz	MC12016	Motorola	
	SP8901	Plessey		XR2207C	Raytheon (3025)		65	Two Modulus Prescaler (+64/65/32/33/16/17), 500 MHz	μPB571	NEC	
	SP8906	Plessey		XR2207M	† Raytheon (3025)			Two Modulus Prescaler (+64/65, 128/129)	MB501	Fujitsu (2634)	115
Synthesizer, PLL			5	NE566	Signetics			MB501L	Fujitsu (2634)		
	IM145155	IMI		SE566	† Signetics			Two Modulus Prescaler (+64/65), 225 MHz	MC12017	Motorola	
	IM145156	IMI		VCO Phase Comparator, Multiplier	SL651	Plessey		Two Modulus Prescaler (+64/256)	CA3163	GE/RCA (2657)	120
	IM145157	IMI		VCO Phase Comparator, Multiplier, with Auxiliary Amplifier	SL650	† Plessey		CA3179	GE/RCA (2657)		
	IM145158	IMI		VCO Waveform Generator (includes sinewave output among its functions)			70	MC12071	Motorola		
	MC145106	◊ Motorola (2992)	10	XR205	Exar (2619)			Two Modulus Prescaler (+80/81)	SP8792	Plessey	
	MC145145	◊ Motorola (2992)		XR2206	† Exar (2619)			SP8792A	Plessey		
	MC145146	◊ Motorola (2992)		XR2206C	Exar (2619)			Two Modulus Prescaler (+80/81/40/41/20/21), 500 MHz	μPB572	NEC	
	MC145151	◊ Motorola (2992)		XR2206M	† Exar (2619)			Two Modulus Prescaler (+128/129), 520 MHz	MC12018	Motorola	
	MC145152	◊ Motorola (2992)		XR2206M	† Exar (2619)			Four Modulus Prescaler (+239,240/255/256)	SP8906	Plessey	
	MC145155	◊ Motorola (2932, 2992)	15	XR8038	◊ Exar (2619)			SP8901	Plessey		125
	MC145156	◊ Motorola (2932, 2992)		XR8038A	◊ Exar (2619)			Four Modulus Prescaler (+478/480/510/512)			
	MC145157	◊ Motorola (2932, 2992)		XR8038M	◊ † Exar (2619)						
	MC145158	◊ Motorola (2932, 2992)		ICL8038C	GE/Intersil (2678)						
	MC145159	◊ Motorola (2932, 2992)	20	ICL8038M	† GE/Intersil (2678)						
	DS8906	National		VCO, Dual	SN54S124	† TI					
	DS8907	National		SN74LS625	TI						
	DS8908	National		SN74LS629	TI						
	HEF4750	Signetics		SN74S124	TI						
	SAA1057	Signetics		Dual (for 46/49 MHz cordless phone)							
	TC9106B	Toshiba	25	MC145160	Motorola						
	TC9109B	Toshiba		MC145166	Motorola						
	TC9111B	Toshiba		MC145167	Motorola						
	TC9300-003A	Toshiba		Dual Tone Decoder	XR2567C	Exar (2619)					
	TC9300-008	Toshiba		XR2567M	† Exar (2619)						
Synthesizer, PLL Serial Input System Block (13 MHz, 5V, 3 mA)	MB87001A	Fujitsu (2634)	30	Two Modulus Control and Phase Comparator (for SP8793)	MJ8820	Plessey					
Synthesizer (programmable divider, to 1021 channels, adder, phase comparator)	HC0320	Hughes		Two Modulus Prescaler (+4/8)	MC12009	Motorola	90				
Synthesizer, 25 MHz	ST1172A	STI		11C91C	National						
Tone Decoder	XRL567C	◊ Exar (2619)		11C91M	† National						
	XRL567M	◊ † Exar (2619)	35	Two Modulus Prescaler (+5/6)	MC12009	Motorola					
	XR2211C	Exar (2619)		Two Modulus Prescaler (+10/11)	11C90C	National	95				
	XR2211M	† Exar (2619)		11C90M	† National						
	XR2213C	◊ Exar (2619)		Two Modulus Prescaler (+64/65/128/129), 900 MHz	μPB566	NEC					
	XR2213M	◊ † Exar (2619)	40	Two Modulus Prescaler (+3/4)	SP8720	Plessey					
	XR567AC	◊ Exar (2619)		Two Modulus Prescaler (+4/8)	SP8740	Plessey					
	XR567AM	◊ † Exar (2619)		Two Modulus Prescaler (+6/7)	SP8741	Plessey					
	LM567	† National		Two Modulus Prescaler (+8/9)	MC12011	Motorola	100				
	LM567C	National		SP8743	Plessey						
	XR2211C	Raytheon (3025)		Two Modulus Prescaler (+10/11)	MC12013	Motorola	105				
	XR2211M	† Raytheon (3025)		SP8643	Plessey						
	LM567C	Samsung (3040)		SP8647	Plessey						
	NE567	Signetics		SP8685	Plessey						
	SE567	† Signetics		SP8690	Plessey						
VCO	SP1658	Plessey		Two Modulus Prescaler (+15/16)	MC3393	Motorola					
	SN74LS624	TI		Two Modulus Prescaler (+20/21), 225 MHz	MC12019	Motorola					
	SN74LS628	TI	50	Two Modulus Prescaler (+32/33), 225 MHz	MC12015	Motorola					
VCO and Phase Comparator											
	LM565	Motorola									
	NE565	Motorola									
	LM565	National									
	LM565C	† National	55								
	NE565	Signetics									
	SE565	† Signetics									
	TA7133	Toshiba									
VCO Function Generator, (Includes square and triangular waveforms - but not sine.)	XR2207	Exar (2619)									
	XR2207C	Exar (2619)	60								
	XR2209C	Exar (2619)									
	XR2209M	† Exar (2619)									
		(Continued)									

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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LINEAR—Telecommunication Circuits

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Active Trunk Termination Circuit	29C14	Intel		Codec, μ -Law		(Cont'd)		Codec/Filter, PCM	T7513A	AT&T (2516)	100
Adaptive Differential Pulse Code Modulation Transcoder (ADPCM)	L545	SGS-Thomson		5151	National		40	Codec/Filter, Pin Selectable μ -Law or A-Law	TCM29C13	TI (3325)	
ADPCM Circuit (for process control)	T7280	AT&T (2513)		MK5116	SGS-Thomson			Codec/Filter, Pin Selectable μ -Law or A-Law	TCM2916	TI	
ADPCM Processor (transcoding PCM and ADPCM)	NCR64C72	NCR		KT5116	Samsung (3040)			Codec/Filter, μ -Law	G24352	CMD Micro (2570)	
ADPCM-PCM Transcoder	DS2168	◊ Dallas	5	Codec, A-Law	CD22357	GE/RCA (2645)	45	G24353	CMD Micro (2570)		
Amplifier, Telephone Audio	MC34119	Motorola (2949, 2978, 2991)		2911A-1	Intel			G24354	CMD Micro (2570)		105
Analog, Front End	MSM6950	OKI		TP3021	National			MB6021	Fujitsu (2634)		
Analog Processor, for DSP V.22bis Modems	SSI73M214	SiliconSys	10	TP3062	National			CD22302	GE/RCA		
Asynchronous Receiver and Transmitter (UART)	XR16C450	Exar (2618)		TP5156A	National			MT3507	Hitachi		110
Asynchronous Receiver/Transmitter Interface	T7112	AT&T (2502)		5156	National			29C16	Intel		
Battery Feed (-48V)	LB1011AB	AT&T (2535)		MK5156	SGS-Thomson			2916	Intel		
Bit Synchronizer/PSK Demodulator	STEL2110	STI (3264)	15	M5156	SGS-Thomson			MT8960	Mitel		
Block Phase Estimator (provides a phase reference for demodulating binary PSK or quadrature PSK data in the presence of phase roll)	STEL2210	STI (3264)		TCM29C18	TI			MT8964	Mitel		
B82S Transcoder	XRT5670	Exar (2618)		TCM29C19	TI (3325)			TP3051	National		115
Call Progress and Tone Detector (detects special information tones and error tones)	M984	Teltone		Codec/Filter, μ -Law	S3507	◊ Gould/AMI		TP3052	National		
Call Progress Tone Detector	NE5900	Signetics (3164)		MT8962	◊ Mitel			TP3052-1	National		
	SSI75T980	SiliconSys (3255)	20	F30S54	National			TP3053	National		
	SSI75T981	SiliconSys (3255)		F30S64	National			TP3053-1	National		
	SSI75T982	SiliconSys (3255)		F3054	National			TP3054	National		
	M980	Teltone		MSM6963	OKI			TP3054-1	National		120
	M981	Teltone		ETC5051	SGS-Thomson			TP3056	National		
	M982	Teltone		ETC5056	SGS-Thomson			TP3064	National		
Call Progress Tone Generator (generates standard tones)	M991	Teltone		MK5316	SGS-Thomson			SC11301	Sierra		
CCITT, S-Bus Interface Circuit	PEB2080	Siemens		MK5320	SGS-Thomson			TCM29C16	TI		
CCITT Signalling System Controller	MK5027	SGS-Thomson		Codec/Filter, μ -Law or A-Law Companding	TS5070	SGS-Thomson		TCM2916	TI		
CEPT Transceiver	DS2181	◊ Dallas		TS5071	SGS-Thomson			Codec/Filter, μ -Law or A-Law (pin selectable)	29C13	Intel	130
Click Suppressor	ZSY07	ITT		Codec/Filter, μ -Law or A-Law (Pin Selectable)	T7500	AT&T (2514)	75	29C50	Intel		
Clock Extraction Module	EF7332	SGS-Thomson		T7513	AT&T			29C51	Intel		
Clock Recovery Circuit	T7032	AT&T (2497)		Codec/Filter, μ -Law Synchronous	MB6025	Fujitsu (2634)		2913	Intel		
Clock Recovery Circuit (operates at DS1 rate or DSC1 rate)	LB1126AF	AT&T (2497)		Codec/Filter, A-Law	G24357	CMD Micro (2570)		2914	Intel		
CMOS CCITT, X.25 LAPB/LAPD Controller	MK5025	SGS-Thomson	35	MB6022	Fujitsu (2634)			MC145500	Motorola		135
Codec, μ -Law	CD22352	GE/RCA (2645)		CD22303	GE/RCA			PEB2060	Siemens		
	TP3020	National		S3506	Gould/AMI			TCM29C14	TI		
	TP3061	National		MT8961	Mitel			TCM2913	TI		
	5116	National		MT8963	◊ Mitel			TCM2914	TI		
				MT8965	Mitel			TCM4913	TI		140
				μ A30S57	National			TCM4914	TI		
				μ A3057	National			Codec/Filter, μ -Law, Parallel Interface	SC11305	Sierra	
				F30S67	National			Codec/Filter, μ -Law, Serial Interface, High Output Drive	SC11311	Sierra	
				TP3057	National			Codec/Filter, Dual, μ -Law or A-Law (Pin Selectable)	T7512	AT&T (2515)	
				TP3057-1	National			Codec, Pin Selectable μ -Law or A-Law	ZNPCM1	Plessey	
				TP3067	National			Codec, Pin Selectable μ -Law or A-Law	S291	Siemens	145
				MSM6962RS	OKI			Codec, Transition Encoded Modulation	MT8950	◊ Mitel	
				MK5326	SGS-Thomson			Codec, μ -Law	CD22354	GE/RCA (2645)	
				MK5356	SGS-Thomson			2910A	Intel		
				SC11302	Sierra			TP5116A	National		150
				TCM29C17	TI			TP5117A	National		
				TCM2917	TI			MSM6917	OKI		
				Codec/Filter, A-Law, Parallel Interface	SC11306	Sierra		M5116	SGS-Thomson		
				Codec/Filter, A-Law, Serial Interface, High Output Drive	SC11312	Sierra		TCM2910A	TI		
				Codec/Filter, A-Law Synchronous	MB6026	Fujitsu (2634)		Codec, μ -255 Law (Companding)	TCM2909	TI	
				Codec/Filter, High Precision	T7522	AT&T (2517)		Coded Data Transceiver (Manchester format)	AM7960	AMD	155

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◊ Available in Surface Mount Package

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LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Companding A/D and D/A Converter	MM8100	National		Data Access Arrangement (DAA), Telephone Line Interface	XE0002 XE1112	Xecom Xecom		Dialer, Pulse Repertory, 9 Number	UM91610	UMC	100
Companding A/D Converter	DF331A	Siliconix		Data Buffer, 212A	XR2125	Exar (2618)		Dialer, Pulse Repertory, 10 Number	MA5271 UM91611	Marconi UMC	
Companding D/A Converter	DF332A	Siliconix		Data Link Controller (controls link level for CCITT X.25 protocol)	WD2512	Western (3399)	45	Dialer, Pulse Repertory, 20 Number	STC2570C	S-MOS	
Compandor (signal expander/compressor)	LS1128A LS1129A XR2216 NE570 NE571 NE572 SA571 SA572	AT&T AT&T Exar Signetics (3163) Signetics (3163) Signetics (3154) † Signetics (3163) † Signetics	5	Data Link Controller (synchronous for HDLC, SDLC, ADCCP, CCITT X.25, ISDN, and LAPD protocols)	WD25C17	Western (3398)		Dialer, Pulse/Tone	XRT5990 MB87003 MB87004 GM6370 GM6371 GM6372 UM91213 UM91531	Exar Fujitsu Fujitsu GoldStar GoldStar GoldStar UMC UMC	105
Compression/Expansion Processor (with image bit-boundary processing)	AM7971 AM7971A	AMD AMD		Data Set Interface, Asynchronous/Synchronous Converter	MC145428	Motorola		Dialer, Pulse/Tone and DTMF	PSB8510	Siemens	
Conference Trunk, Serial PCM Interface (for six telephones/persons)	S3547	Gould/AMI		Data-Over-Voice Multiplexer, Full-Duplex	M922	Telton		Dialer, Pulse/Tone for Binary Code Input	LR4809	Sharp	
Convolutional Encoder and Viterbi Decoder	ST15268	STI	15	Delta Modulation System, Continuously Variable Slope	HC55536 HC55564 MC3417 MC3418 MC3517 MC3518	Harris Harris Motorola Motorola † Motorola † Motorola	50	Dialer, Pulse/Tone Keypad Switchable with Matched Speech Circuit	MA550	Marconi	
Crosspoint Switch, CCITT G732	MA811	Marconi		Delta Modulation System, Exponentially Variable Stepsize Algorithm	CA2842	Calmos		Dialer, Pulse/Tone Keypad Switchable with Redial	MA552	Marconi	115
Crosspoint Switch (double 4x4 matrix)	RC4444 RM4444	Raytheon (3025) Raytheon		Delta Sigma Modulator/Demodulator	ZNPCM2	Plessey	55	Dialer, Pulse/Tone Repertory (nine 18-digit memory)	MC145412 MC145413	Motorola (2974) Motorola (2974)	
Crosspoint Switch for PBX	U145	Telefunken		Dial Pulse Counter and Hook Monitor	M959	Telton		Dialer, Pulse/Tone Repertory, 4 Number	LR4807A	Sharp	
Crosspoint Switch (2x8 matrix)	M089 M099	SGS-Thomson SGS-Thomson	20	Dialer, Microcomputer (clock, duration, fee pulse counter, redial, storage)	SAA6002 MK5170	ITT SGS-Thomson		Dialer, Pulse/Tone Repertory, 10 Number	PBM3915 GM6375 MA5272 MA5273 MA5274 STC2580C MK5374 MK5375 MK5376 LR4803 TEL5453 UM91260	Ericsson GoldStar (2713) Marconi Marconi Marconi S-MOS SGS-Thomson SGS-Thomson SGS-Thomson Sharp STC UMC	120
Crosspoint Switch (4x4 matrix with control memory)	CD22100 MC142100 MC145100 μ PD22100 EFB7310 M22100	GE/RCA (2645) Motorola † Motorola NEC SGS-Thomson SGS-Thomson	25	Dialer, Combined with Matched Speech Circuit	MA554	Marconi	60	Dialer, Pulse/Tone Repertory, 20 Number	UM91270	UMC	
Crosspoint Switch (4x4x2 with control memory)	CD22101 CD22102	GE/RCA (2645) GE/RCA (2645)		Dialer Modem Peripheral, Bell 212A Compatible (1200/300 bps full duplex)	AM79CV12 AM79C12	AMD AMD	65	Dialer, Pulse/Tone Repertory, 21 Number	LR48066	Sharp	
Crosspoint Switch (8x4 matrix)	MT8804A	Mitel	30	Dialer, Pulse	XRT5992 S2560G HD61825A HD61825B DF320 DF820 DF821 DF822 DF823 AY5-9151A AY5-9151B MT4320 MT4325 MC14408 MC14409 MV4320 MV4322 MV4323 MV4325 MV4326 MV4327 STC2560 STC2565 KS5804 KS5805 KS5806 KS50981 MK50992 MK50993 MK50981 MK50982 MK50991 MK50992 M760A M761 M761A UM91510	Microchip Microchip Mitel Mitel Motorola (2974) Motorola (2974) Plessey Plessey Plessey Plessey S-MOS S-MOS Samsung Samsung (3040) Samsung Samsung SGS-Thomson SGS-Thomson SGS-Thomson SGS-Thomson SGS-Thomson SGS-Thomson SGS-Thomson SGS-Thomson SGS-Thomson UMC	70	Dialer, Pulse/Tone Repertory, 24 Number	MA5452 MA5453 MA547	Marconi Marconi Marconi	135
Crosspoint Switch (8x8x1 expandable, 2 Gb/s)	10G050	GigaBit (2693)						Dialer, Pulse/Tone, Slave	UM9160	UMC	
Crosspoint Switch (8x12 matrix)	MT8812	Mitel						Dialer, Pulse/Tone Switchable (CMOS)	LC7363N	Sanyo	
Crosspoint Switch (12x8 with control memory)	SSI78A093	SiliconSys (3255)						Dialer, Pulse/Tone (up to 28 digits)	GM6373	GoldStar	
Crosspoint Switch (16x16x1, 2 Gb/s)	10G051	GigaBit						Dialer, Pulse/Tone with Microprocessor Interface	MA525	Marconi	
Crosspoint Switch (32x32 matrix)	SC11320	Sierra	35					Dialer, Pulse/Tone (with four memories, one touch/three touch/dial)	LR48202	Sharp	140
Crosspoint Switch (8x8 matrix)	129EH-P	AT&T (2524)						Dialer, Pulse/Tone with Last Number Redial	MB87007 MB87008 MA5262 MA5263 MA5402 MA5403 MA5412 MA5413 MK5370 MK5371	Fujitsu Fujitsu Marconi Marconi Marconi Marconi Marconi Marconi SGS-Thomson SGS-Thomson	145
CTCSS (continuous tone-controlled squelch system) Encoder/Decoder	MC1938 MC4137 MC4138	NEC NEC NEC									
Current Limiter (for PBX System)	LB1019BB	AT&T	40								
Data Access Arrangement (DAA)	DS6112	Dallas									150

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Dialer, Pulse/Tone (with last number redial)	(Cont'd)			Dialer, Tone with Last Number Redial and Speech Network	MA530	Marconi		Direct Access Adapter	UM9161	UMC	
MK53721	SGS-Thomson			Dialer, Tone with Speech Network and DC Line Voltage Regulator	LB1008AE	AT&T		DMI (Digital Multiplexed Interface) Chip Set, Consists Of:	DS-1 Chip Set	AT&T	
MK53762	SGS-Thomson			PBL3780	Ericsson			DMI (Digital Multiplexed Interface) Framer	N229CG	AT&T	
TEL5413A	STC			MC34010A	Motorola (2974)			N229GB	AT&T		
UM91230	UMC			MC34011A	Motorola (2974, 2990)			DMI (Digital Multiplexed Interface) Maintenance Buffer	N229FB	AT&T	95
Dialer, Pulse/Tone (with LCD driver)	LR48106	Sharp	5	Dialer, One Key	UM95080	UMC		DMI (Digital Multiplexed Interface) Receive Synchronizer	N257AU	AT&T	
Dialer, Pulse/Tone with Redial	MC145410	Motorola (2974)		Digital Exchange Controller (ISDN access)	AM79C31A	AMD		DMI (Digital Multiplexed Interface) Transmit Formatter	N257AL	AT&T	
Dialer, Pulse/Tone with Speech Network and DC Line Voltage Regulator	TEL8401	STC		Digital Exchange Controller, Master/Slave	AM79C313	AMD		Driver/Receiver Combination, RS-232C, V-28	MC145406	Motorola	
Dialer, Pulse/Tone (with 10 number memory)	LR4801D	Sharp		Digital Frequency Detector, 2600 Hz Center Frequency with 75 Hz Bandwidth	S3524	Gould/AMI		DS1 Chip Set, Framer (provides line and frame format for DS1 and CEPT digital carrier systems)	T7229	AT&T (2518)	
LR4802A	Sharp			Digital Line Interface Circuit (full duplex transmission)	S8970	Gould/AMI		229GB	AT&T (2518)		100
LR4802I	Sharp		10	Digital Line Interface Controller	TP3110	National		DS1 Chip Set, Maintenance Buffer (provides microprocessor interface for 229GB Frame Buffer)	229FB	AT&T (2518)	
Dialer, Pulse/Tone (with 16 number memory)	LR48063	Sharp		TP3112	National			DS1 Chip Set, Receive Synchronizer (performs serial to parallel conversion on the serial data received from the framer)	257AU	AT&T (2519)	
LR48064	Sharp			TP3120	National			DS1 Chip Set, Transmit Formatter (converts 14 bits of parallel data into a serial stream)	257AL	AT&T (2519)	
Dialer, Pulse/Tone with 20 Memories (one-touch/two-touch dial)	LR48067	Sharp		TP3122	National			DS1 Line Interface	SSI78P233	SiliconSys (3255)	
Dialer, Pulse/Tone with 20 One Touch Dial Memories	LR48067	Sharp		Digital Network Interface Circuit (DNIC)	MT8972A	◊ Mitel		DTMF Generator	PDB3535	SGS-Thomson	105
Dialer, Pulse/Tone (with 5 memory dialer)	UM91225	UMC		Digital Network Interface Circuit (ISDN compatible)	MT8971	Mitel		DTMF Receiver	MB87017A	Fujitsu	
Dialer, Pulse/Tone (10 number repertory)	GM6376	GoldStar		MT8972	Mitel			UM9203	UMC		
Dialer, Pulse with Last Number Redial	MA522	Marconi		Digital Signal Processor	S77C20	Gould/AMI		UM9204	UMC		
MA542	Marconi			S7720	Gould/AMI			UM92870	UMC		
52981	Marconi			Digital Signalling Interface (provides line interface for DS1 and terminal equipment circuits)	LC1046	AT&T (2520)		DTMF Receiver (CMOS)	LC7385	Sanyo	110
LR40981A	Sharp			LC1135B	AT&T (2522)			DTMF Receiver (with supervisory tone detection)	MT3070	Mitel	
LR40982	Sharp			Digital Subscriber Controller	AM79C30	AMD		MT3071	Mitel		
LR40991	Sharp			AM79C30A	AMD			DTMF Tone Transceiver (with early detect and call-progress detection)	SSI75T2091	SiliconSys (3255)	
LR40992	Sharp			Digital Telephone Circuit (D-Phone)	MT8994	Mitel		DTMF Transceiver (call progress mode)	MT8880-1	Mitel	
LR40993	Sharp			MT8995	Mitel			DTMF Transmitter with Redial	M6569B1	SGS-Thomson	115
LR40994	Sharp			Digital Time/Space Crosspoint Switch	MT8981D	Mitel		DTMF Transmitter with Redial and Output Flash	M6579B1	SGS-Thomson	
T40992	UMC			Digital Timer/Space Switch	MT8980D	◊ Mitel		Encoder/Decoder, Forward Error Correction (decodes convolutional codes with Viterbi decoding algorithm, 2.1 Mbps)	SCOM2001B1	↑ SATCOM	
T40993	UMC			Digital Transceiver Controller (ISDN access)	AM79C312A	AMD		SCOM2001C1	SATCOM		
UM9151-2	UMC			Digital Trunk Interface (CEPT)	MH89790	Mitel		SCOM2001C2	SATCOM		
UM9152	UMC			MT8979	Mitel			Encoder/Decoder, Manchester (conforms to StarLAN specifications)	MK5033N	SGS-Thomson	120
Dialer, Pulse with Last Number Redial and Speech Network	MA528	Marconi	30	Digital Trunk Interface Circuit, CEPT	MH89780	Mitel		Encoder 8 of 8 Keyboard to Binary Encoder (4x4 key input to 4 line output)	MC14419	Motorola (2974)	
Dialer, Pulse (with 16-bit FIFO)	M969	Teltona		MH8978	◊ Mitel			Exchange Power Controller, Quad (supplies power for up to four digital phone lines)	AM7938	AMD	
Dialer, Repertory	CET200	National		Digital Trunk Interface Circuit, DS1/ESF	MH89760	Mitel		Filter, Band Pass, Sixth Order	TS8550	SGS-Thomson	
MK5175	SGS-Thomson			Digital Trunk Interface Circuit, DS1/T1	MT8975	◊ Mitel		Filter, Band Pass, Eighth Order	TS8551	SGS-Thomson	
SFF19200	SGS-Thomson			Digital Trunk Interface Circuit (DS1/T1 link)	S8975	Gould/AMI					
Dialer, Repertory with Last Number Redial	T91603	UMC	35	Digital Trunk Interface Module (DS1/T1)	MH89750	Mitel					
Dialer, Repertory, 10 Number	LR4173	Sharp		Digital Trunk Interface, T1/ESF	MT8976	Mitel					
LR4174	Sharp			Digital Trunk PLL, T1/CEPT	MT8940	◊ Mitel					
Dialer, Repertory, 20 Number, 9/18 Digit LCD Display Driver	RM9901	Ericsson		Digital Trunk PLL (T1/CEPT link)	S8940	Gould/AMI					
Dialer, Tone	LC7365N	Sanyo		Digital Trunk Transmit Equalizer, T1	MH89761	Mitel					
TEA3046	SGS-Thomson										
TEA7030	SGS-Thomson										
TEA7036	SGS-Thomson										
LR4087B	Sharp										
LR4089B	Sharp										
LR4091	Sharp										
LR4092	Sharp										
Dialer Tone/Repertory, 10 Number	MK5176	SGS-Thomson									
MK5177	SGS-Thomson										
Dialer, Tone with Last Number Redial	MA531	Marconi									
UM9169	UMC										

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Filter, Bandpass (DTMF)	AMS3044 AMS3045 CH1295 CH1296 S3525A MT8865	Aptek Aptek Cermetek Cermetek Gould/AMI Mitel	5	Filter/Tone Generator, Single Frequency Tunable Bandpass/Notch	S3526B	Gould/AMI		ISDN ANSI Standard U-Interface Basic Access Transceiver Chip Set (144 kb/s)	T7262 T7263	AT&T (2512) AT&T (2512)	90
Filter, Bandsplit (DTMF)	MV8865 TT6177	Plessey Teltone		Filter Tone Signaling, 2600 Hz	MC145432	Motorola	50	ISDN Burst Transceiver Circuit	PEB2095	Siemens	
Filter, C-Message (notch/program weighting)	RF5651	EG&G-Reticon (2611)		Filter with 10-Bit A/D Converter	RT5640	EG&G-Reticon		ISDN Communications Controller (for LAPD protocol)	PEB2070	Siemens	
Filter, CAFIR (Cascadable Adaptive Finite Impulse Response)	DSP56200	Motorola (2921)	10	Filter, Dual Switched Capacitor	LMF100	National		ISDN Data Controller	AM79C32A	AMD	
Filter, High Pass	RF5611	EG&G-Reticon (2611)		Filter, Fourth Order Switched Capacitor (Stand Alone Mode with RC or Crystal)	XR1001 XR1003 XR1004 XR1007 XR1008	Exar (2619) Exar (2619) Exar (2619) Exar (2619) Exar (2619)	55	ISDN Data Controller (provides digital customer access to the ISDN)	AM79C32	AMD	
Filter, High Pass, Programmable	S3529	Gould/AMI		Filter, Fourth-Order Switched Capacitor (Stand Alone Mode with RC or Crystal)	XR1002	Exar (2619)		ISDN, Digital Multiplexed Interface (DMI) Link Layer Controller	R8071	Rockwell	
Filter, High Pass, Third Order	TS8530	SGS-Thomson		Filter, Sixth Order Switched Capacitor Butterworth (low pass)	MF6	National		ISDN, Line Interface Unit (interfaces to the R8070 T-1/CEPT PCM transceiver)	R8069	Rockwell	95
Filter, High Pass, Sixth Order	TS8531 TS8532	SGS-Thomson SGS-Thomson		Filter, Seventh Order, Programmable (medical telemetry)	HSCF24040	Honeywell SPT	60	ISDN S Interface Device	TP3420	National	
Filter, Low Pass	RF5613	EG&G-Reticon (2611)	15	Filter, Seventh-Order Elliptic Low Pass	XR1015 XR1016	Exar (2619) Exar (2619)		ISDN Subscriber Access Controller	PEB2085	Siemens	
Filter, Low Pass Butterworth, Eighth Order	TS8514	SGS-Thomson		FM/IF System for Cordless Telephones	HA12441V	Hitachi		ISDN, T-1/CEPT PCM Transmitter	R8070	Rockwell	
Filter, Low Pass Chebychev, Eight Order	TS8513	SGS-Thomson		FM Transmitter (for cordless phones)	MC2831	Motorola (2972, 2990)		ISDN U-Interface Basic Access Transceiver Chip Set (144 kb/s)	T7260 T7261	AT&T (2511) AT&T (2511)	100
Filter, Low Pass, Fifth Order	TS8510	SGS-Thomson		Format Converter, 8-Bit	MA803	Marconi	65	ISDN Dual Data Link Controller (DDLC)	MC145488	Motorola	
Filter, Low Pass Linear Phase, Dual	MC145415	Motorola	20	Frame Aligner/Time Slot Zero Receiver	MA808	Marconi		LAN, ARCNET Chipset	NCR90C26 NCR90C32	NCR NCR	
Filter, Low Pass, Programmable	S3526 S3528	Gould/AMI Gould/AMI		Frequency Discriminator (disconnects or switches phone upon detection of a specific tone)	LS7501 LS7502 LS7503 LS7504 LS7505 LS7506 LS7507 LS7508 LS7509 LS7510	LSI Comp (2883) LSI Comp (2883) LSI Comp (2883) LSI Comp (2883) LSI Comp (2883) LSI Comp (2883) LSI Comp (2883) LSI Comp (2883) LSI Comp (2883) LSI Comp (2883)		Limiter (limits voltage on two-wire speech)	U225	Telefunken	
Filter, Low Pass Speech (dual, tunable)	MC145414	Motorola		FSK IF Amplifier, Detector	MC13055	Motorola (2972, 2990)		Line Interface Circuit	L3000	SGS-Thomson	105
Filter, Low Pass, Seventh Order	TS8511 TS8512	SGS-Thomson SGS-Thomson	25	FSK Receiver, Wideband	MC3356	Motorola (2972, 2990)		Line Interface, Receiver (for CEPT and T1 networks)	DS2187	Dallas	
Filter, Notch	RF5612	EG&G-Reticon (2611)		Gain Control Circuit with Balance Impedance Switching	MA571	Marconi		Line Interface, Transmit (for CEPT and T1 networks)	DS2186	Dallas	
Filter, Notch, Sixth Order	TS8540	SGS-Thomson		HBD3/AMI Encoder/Decoder	TCM2202	TI	70	Line Sense Relay (senses telephone line current from 20 to 125 mA)	M949	Teltone	
Filter, PCM	AMS3064 AMS3065 MC4264	Aptek Aptek NEC	30	HB3 Encoder	MJ1440	Plessey		Loop Extender Circuit	MH89726 MH89728	Mitel Mitel	110
Filter, PCM Transmit/Receive	G8912B CD22413A CD22414A HC5512 HC5512A HC5512C HC5512D 2912A TP3040 TP3040-1 TP3040A TP3040A-1 MSM6912 ETC5040 TCM2912B TCM2912C	CMD Micro GE/RCA GE/RCA Harris Harris Harris Intel National National National OKI SGS-Thomson TI TI	35	HDB3/AMI Encoder/Decoder	TCM2222	TI	75	Loopback Control (2,713 Hz)	SC11330	Sierra	
Filter, Second-Order Switched Capacitor	XR1010	Exar (2619)		HDB3/AMI Equipment Line Interface	TCM2203 TCM2204A	TI TI	80	Loopback (4-wire)	SSI78A400	SiliconSys (3255)	
Filter, Telecom/Datacom Instrumentation	XR1020	Exar (2619)		HDB3 to NRZ Binary Encoder/Decoder	MA815	Marconi	85	Loopback (4-wire with gain)	SSI78A420	SiliconSys	
				HDB3 Transceiver, with Error Detection (10 kb/s to 2.048 Mb/s)	CD22103A	GE/RCA (2646)		Master Digital-Loop Transceiver, 80 kb/s	MC145422	Motorola	
				Integrated Data Protocol Controller (supports HDLC, SDLC, LAPB, LAPD and DMI)	AM79C401	AMD		Master Digital-Loop Transceiver, 160 kb/s	MC145421	Motorola	115
								Metering Pulse Receiver (50 kHz common mode)	AMS3052	Aptek	
								Modem Circuit, Analog Front End for FAX modems	SC11030	Sierra	
								Modem Circuit, Analog Front End for High-Speed V.26, V.27, V.29 and V.33 modems	SC11033	Sierra	
								Modem Circuit, Analog Front End Receiver	TS68950 TS68951	SGS-Thomson SGS-Thomson	120
								Modem Circuit, Analog Front End XMIT/RCVR, Clock Generator	TS68952	SGS-Thomson	
								Modem Circuit, Asynchronous Monochip CCITT V.23	EFG7513	SGS-Thomson	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Modem Circuit, Bell 103 SC11002 TMS99532A	Sierra TI			Modem Circuit, Bell 1200 baud MSM6947	OKI			Modem Circuit, Data Over Voice MT8840	Mitel		
Modem Circuit, Bell 103 (-5 volt) SC11003	Sierra			Modem Circuit, Bell 212A, CCITT V.22 XR2130	Exar			Modem Circuit, Device Set CCITT V.22 bis/21, Bell 212A 103 (with controller) SSI73D2404	SiliconSys (3255)		
Modem Circuit, Bell 103 and 212A, CCITT V.21 and V.22, 300/1200 bps (with programmable gain) SC11015	Sierra			Modem Circuit, Bell 212A or 103 μA212AT	National		45	Modem Circuit, FSK Autodial Modem (Bell 103, 113, 108 and CCITT V.21 compatible) AM79101	AMD		80
Modem Circuit, Bell 103, Bell 212A and CCITT V.21/V.22	SC11014	Sierra	5	Modem Circuit, Bell 212A/103 (with integral 16C450 UART) SSI73K212U	SiliconSys (3255)			Modem Circuit, FSK Modulator/Demodulator XR210 XR210M	Exar † Exar	(2619) (2619)	
Modem Circuit, Bell 103 with Power Down Mode (300 bps)	STC9424C	S-MOS		Modem Circuit, CCITT CH1263 CH1268	Cermetek Cermetek			Modem Circuit, Full Bell 212A/103 and CCITT V.21/V.22 Compatible, 1200/300bps XE1212 XE1212L XE1214	Xecom Xecom Xecom		85
Modem Circuit, Bell 103/113 CH1262 CH1267 CH1280 S3530 MT3530 MM74HC942 STC9471 STC9472	Cermetek Cermetek Cermetek Gould/AMI Mitel National S-MOS S-MOS		10	Modem Circuit, CCITT V.21/V.23, Bell 103/113/202/140 EF7910	SGS-Thomson SGS-Thomson SGS-Thomson		50	Modem Circuit, Full Bell 212A/103 Compatible, 1200/300 bps XE1201 XE1203	Xecom Xecom		
Modem Circuit, Bell 103/113/108, Bell 202 and CCITT V.21/V.23	AM7911	AMD	15	Modem Circuit, CCITT V.21/V.23, Bell 103/113/202/148 AM7910	AMD			Modem Circuit, Full 2400/1200/300 bps Component Modem (CCITT V.22bis, V.22/V.21 and Bell 212A/103 compatible) XE2400	Xecom		
Modem Circuit, Bell 103/212A SSI73K212	SiliconSys (3255)			Modem Circuit, CCITT V.21 with Power Down Mode (300bps) STC9423C	S-MOS			Modem Circuit, Hart Modem NCR20C12	NCR		
Modem Circuit, Bell 103/212A and CCITT V.21, V.22 and V.22 bis	SC11006	Sierra		Modem Circuit, CCITT V.21 (300 baud) MC145442	Motorola		55	Modem Circuit, K224 with V.23 mode for European Applications SSI73K324	SiliconSys (3255)		90
Modem Circuit, Bell 103/212A, CCITT V.21 and V.22, 300/1200 bps SC11016	Sierra			Modem Circuit, CCITT V.21 (300 bps) STC9421C	S-MOS			Modem Circuit, Low Power K212 SSI73K212L	SiliconSys (3255)		
Modem Circuit, Bell 103/212A, CCITT V.21/V.22 SC11004	Sierra			Modem Circuit, CCITT V.22/V.21 (1200/600 baud) SSI73K221	SiliconSys (3255)			Modem Circuit, Low Power K221 SSI73K221L	SiliconSys (3255)		
Modem Circuit, Bell 103 (300 bps) STC9422C	S-MOS		20	Modem Circuit, CCITT V.22 (1200/600 baud) μAV22	National			Modem Circuit, Low Power K222 SSI73K222L	SiliconSys (3255)		
Modem Circuit, Bell 103 (3300 baud) MC145443	Motorola			Modem Circuit, CCITT V.22/21 (with integral 16C450 UART) SSI73K221U	SiliconSys (3255)		60	Modem Circuit, Low Power K224 SSI73K224L	SiliconSys (3255)		95
Modem Circuit, Bell 201B/C, 212A, CCITT V.22 and V.26 MP7223	MicroPwr			Modem Circuit, CCITT V.22bis XR2400	Exar			Modem Circuit, Low Power K224 SSI73K224L	SiliconSys (3255)		
Modem Circuit, Bell 202 or CCITT V.23 TCM3101 TCM3105	TI TI			Modem Circuit, CCITT V.22bis, V.22/V.21, Bell 212/103 (1200/300 bps) SSI73K224	SiliconSys			Modem Circuit, Low Power (5 V with V.23 mode for European applications) SSI73K322L	SiliconSys (3255)		
Modem Circuit, Bell 212A CH1760 CH1763 CH1765 CH1770 CD22212E S35213 VL7C212A	Cermetek Cermetek Cermetek Cermetek GE/RCA (2646) Gould/AMI VLSI Tech (3363, 3369)		25	Modem Circuit, CCITT V.23 SSI73M223	SiliconSys (3255)			Modem Circuit, Modem Control Processor (Bell 103, 212A, CCITT V.21/22) MP8104A	MicroPwr		
Modem Circuit, Bell 212A and CCITT V.22, DPSK TSG7515	SGS-Thomson			Modem Circuit, CCITT V.23 (1200 baud) CD22223	GE/RCA (2646)		30	Modem Circuit, Parallel Bus Modem Controller VL7C413	VLSI Tech (3370)		
Modem Circuit, Bell 212A Demodulator XR2122	Exar (2618)			Modem Circuit, CCITT (1200 baud) MSM3953 MSM6927	OKI OKI		65	Modem Circuit, Power Line and Twisted Pair NE5050	Signetics (3151)		
Modem Circuit, Bell 212A Modulator XR2121	Exar (2618)			Modem Circuit, CCITT (300 baud) MSM6926	OKI			Modem Circuit, PSK Modulator/Demodulator, Bell 201/212A, CCITT V.22/V.26 XR2123 XR2123A	Exar (2618) Exar (2618)		100
Modem Circuit, Bell 212A (module w/FCC registered DAA) DS6101 DS6103	Dallas Dallas		35	Modem Circuit, Controller for SC11004, SC11014 and SC11015 300/1200 bps modems SC11017	Sierra			Modem Circuit, Stand-Alone Modem Interface Controller VL7C414	VLSI Tech (3371)		
Modem Circuit, Bell 212A or CCITT V.22 EFG7515	SGS-Thomson			Modem Circuit, Controller for SC11006, 300/1200/2400 bps SC11011	Sierra			Modem Circuit, Twisted Pair Modem (implements Manchester or level encoding) MC68185	Motorola		
Modem Circuit, Bell 212A or 103 μA212A F1212	National National			Modem Circuit, Controller for SC11016 300/1200 bps modem SC11027 SC11028 SC11037	Sierra Sierra Sierra		70	Modem Circuit, V.22bis, Analog Front End S3550	Gould/AMI		
Modem Circuit, Bell 212A/103, CCITT V.21, V.22 and V.22bis F2224	National		40	Modem Circuit, Controller for Sierra SC11006 Modem (2400 baud, MNP service classes 2—4) SC11013 SC11019 SC11020	Sierra Sierra Sierra		75	Modem Circuit, V.22bis, Provides the DSP Portion of the system, such as A/D, D/A (part of XR-2401/02 chip set) XR2402C	Exar (2618) Exar (2618)		105
Modem Circuit, Bell 212A, 103, CCITT V.21, V.22 F2212	National			Modem Circuit, Controller for 300/1200 bps modem SC11007 SC11008	Sierra Sierra			Modem Circuit, V.22bis, 2400, 1200, 200 bps (part of XR-2401/02 chip set) XR2401C	Exar (2618)		
Modem Circuit, Bell 300 Baud MSM6946	OKI										

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

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LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Modem Circuit, 300/1200 bps (pin programmable receiver gain)	VL7C312	VLSI Tech		Modem Filter (1200 baud)	CH1710	Cermetek		PCM Signal Monitor	SP1450B	Plessey	
	VL7C412	VLSI Tech	(3369)		CH1720	Cermetek	35		SP1455B	Plessey	
					CH1730	Cermetek		PCM Transceiver	XRT5681	Exar	(2618)
					CH1740	Cermetek			TEL5220	STC	
					VL7C211	VLSI Tech					
Modem Circuit, 1200 bps	STC9120C	S-MOS		Modem Filter (1200 baud) 212/V.22	RM5632	EG&G-Reticon		PCM Transceiver, T1	XRT5684	Exar	(2618)
Modem Circuit, 1200/600/300 bps, Bell 212/103, CCITT V.22/V.21 with Integral 16C450 UART.	SSI73K222U	SiliconSys	(3255)	Modem Filter (2400 baud), V.22 b/s	RM5635	EG&G-Reticon	(2611)		XRT5690	Exar	
Modem Circuit, 2400 bps (V.22 bis)	VL7C224A	VLSI Tech	(3363, 3372)	Modem, FSK Modulator	XR2206	† Exar	(2619)	PCM Transceiver (8Mbit)	XRT5683	Exar	(2618)
					XR2206	Exar	(2619)	PCM Transcoder	HC5560	Harris	85
Modem Circuit, 1200 bps (Bell 212A/103 and V.22/21)	DS6122	Dallas		Modem Interface and Receiver Filter Circuit (300 baud modem)	CH1230	Cermetek		PCM 8-bit Format Converter	MJ1410	Plessey	
Modem Circuit, 1200/2400 bps (Bell 212A and CCITT V.22)	MP7253	MicroPwr		Modem Receiver, FSK (IEEE 802.4)	NE5081	Signetics	(3163)	Polarity Guard	LS346	SGS-Thomson	
Modem Circuit, 2400 bps Modem	SC11024	Sierra		Modem System, FSK	XR14412V	Exar	(2618)	Polynomial Generator/Checker (for character-oriented data communication links)	SCN2653A	◊ Signetics	
					MC14412	Motorola		Pulse and Tone Telephone Dialer	TCM99531	TI	
Modem Circuit, 300/1200 bps Full Duplex (Bell 212A/103/113)	MP212A	MicroPwr		Modem Transmitter, FSK (IEEE 802.4)	NE5080	Signetics	(3152)	R-Interface Module (RIM), Implements the rate adaption function within a Terminal Adaptor.	MH89500	Exar	
Modem Filter, Bell 103 (300 baud)	RM5630	EG&G-Reticon	(2611)	Modem (300 bps)	VL7C103	VLSI Tech			MH89500	Mitel	90
Modem Filter, Bell 212A/CCITT V.22	XR2126	Exar		Multifrequency Interface Line Circuit	LS342	SGS-Thomson		Random Number Generator	T7001	AT&T	(2496)
	XR2129	Exar	(2618)	PCM Conference Call and Attenuation/Noise Suppresion Circuit	M116F1	SGS-Thomson		RC Decoder, Seven Channel	NE5045	Signetics	
	S35212	◊ Gould/AMI		PCM Elastic Store	MJ1474	Plessey		RC Encoder, Programmable 7-Channel	NE5044	Signetics	
	S35212A	◊ Gould/AMI		PCM, Frame Aligner Circuit	PEB2035	Siemens		Receiver/Decoder, Serial Bi-Phase (detects 10-bit data bytes)	UM83C71	UMC	95
	MT35212A	◊ Mitel		PCM Line Interface (1.544 or 2.048 MHz data rate)	CS61534	Crystal		Receiver, DTMF	MT8870CE	Mitel	
	SC11000	Sierra		PCM Line Interface (2048 kbps)	SSI78P234	SiliconSys	(3255)		MT8870CE-1	Mitel	
	SC11001	Sierra		PCM Line Receiver and Clock Recovery Circuit	XRT5650	Exar	(2618)		MT8870CS	Mitel	
	SC11005	Sierra			XRT5750	Exar	(2618)		MT8870CS-1	Mitel	
Modem Filter, Bell 212A/CCITT V.22	XR2127	Exar	(2618)	PCM Line Repeater, T1, T148C and 2 Mb/s (two-chip set)	XRT5600	Exar		Receiver, FM/FSK/VHF	MC3364	Motorola	100
	XR2128	Exar	(2618)		XRT5620	Exar	(2618)	Relay Driver (for 48 V telephone relays)	LS1014AB	AT&T	
Modem Filter, CCITT V.21, V.23, V.26	XR1001	Exar	(2619)	PCM Line Repeater, T1, 1.544 Mb/s	CD22301	GE/RCA	(2646)		PBD3510	Ericsson	
Modem Filter Combination, V.26/Bell 201, Delay Equalizer, V.23/Bell 202 and 3kHz Lowpass	RM5636	EG&G-Reticon	(2611)	PCM, Memory Time Switch (for 2.048, 4.096, and 8.192 MHz PCM systems)	PEB2045	Siemens			PBD3511	Ericsson	
Modem Filter Combination, V.27/Bell 208, Delay Equalizer, V.23/Bell 202 and 3 kHz Lowpass	RM5637	EG&G-Reticon	(2611)	PCM, Peripheral Board Controller	PEB2050	Siemens			PBD3513	Ericsson	
Modem Filter Combination, V.29/Bell 209, Delay Equalizer, and 3 kHz Lowpass	RM5638	EG&G-Reticon	(2611)		PEB2051	Siemens			PBD3515	Ericsson	
Modem Filter, FSK Bell 103	XR2103	Exar	(2618)	PCM Receiver	MJ1472	Plessey			PBD3520	Ericsson	
	XR2103A	Exar	(2618)		MJ1473	Plessey			DS1687	† National	
Modem Filter, FSK Bell 103/113	STC9482	S-MOS		PCM Repeater	XRC240	Exar	(2618)		DS3686	National	
Modem Filter, FSK CCITT V21	STC9481	S-MOS			XRC262	Exar	(2618)		DS3687	National	
Modem Filter, PSK Bell 212A	XR2120	Exar	(2618)		XRC277	Exar	(2618)		UDN2585A	Sprague	(3258)
Modem Filter with Equalizer, 212A/V.22	SSI73M3522	SiliconSys	(3255)		RPT82	PMI			UDN2588A	Sprague	(3258)
Modem Filter (300 baud)	RM5631	EG&G-Reticon	(2611)		RPT83	PMI			UDN2957A	Sprague	
					RPT87	PMI		Relay Driver (for 48 V telephone relays) See also Interface, Memory and Peripheral Drivers	UDN2580A	Sprague	(3258)
	MC145440	Motorola		PCM Repeater/Receiver	XRT56L22	Exar	(2618)	Relay Driver, Quad	μA3680	National	
	MC145441	Motorola		PCM Repeater, Two-Chip Set (TIC)	XRC587	Exar		Relay Driver, Quad Negative Voltage	μA3680C	National	
					XRC588	Exar			DS3680	National	
				PCM Repeaters	RPT86	PMI		Relays, High Voltage, Optically Coupled	LH1085AT	AT&T	(2536)
								Reverse Line Interface Circuit (performs 2-wire to 4-wire conversion while emulating telephone instrument electrical functions when co-located with switching system.)	AMS2039	Aptek	
									AMS2040	Aptek	
									AMS2041	Aptek	
									AMS2042	Aptek	120

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line				
Ring Detector	LB1006 TCM1506B TCM1512B	SGS-Thomson TI TI	5	Speech Circuit for Electronic Telephones (Cont'd)			55	Subscriber Line Interface Circuit (two chip set)			105				
Ring Detector (operates from 14 to 66 Hz)	ZN480E ZN480J	Plessey Plessey		TEA1061 TEA1067 TEL3106 U4056B U4056B1 U454B	Signetics Signetics (3166) STC Telefunken Telefunken Telefunken	G24002 G24010		◊ CMD Micro ◊ CMD Micro	(2571) (2571)						
Ring Detector (operates from 16 to 68 Hz)	LB1006AB	AT&T		Speech Circuit, Low Voltage Network (with dialer interface)				Subscriber Line Interface Circuit with Magnetic Compensation							
Ring Driver	TCM1501B	TI		KA2425A	Samsung	TP3200 TP3202 TP3204		National National National							
SASSD Circuit with SL1 Codec Interface	MA857	Marconi		Speech Circuit (mask programmable)				Subscriber Line Interface Circuit (24 V)							
Serial Communications Controller (two independent HDLC channels)	SAB82520	Siemens	PBL3726	SGS-Thomson	AMS2406 AMS2408	Aptek Aptek	60	Subscriber Line Interface Circuit (2-wire to 4-wire conversion)			110				
Serial Receiver (changes T1-D2 or T1-D3 input to parallel output)	R8060 SSI78P8060	Rockwell SiliconSys	Speech Circuit, Telephone Speech Network (with dialer interface)			MH88610			Mitel						
Serial Transmitter (generates 193-Bit data stream in T1-D2 or T1-D3 format)	R8050 SSI78P8050	Rockwell SiliconSys	Speech Circuit, Voice Scrambler (for communication transmitter and receiver)			Subscriber Line Interface Circuit			TI						
Shift Register, Dual 1008 Bit	MA802	Marconi	LC8931			Sanyo		Subscriber Network Interface Circuit (CCITT 1.430 and T Interface Compatible)				MT8930 Mitel			
Slave Digital-Loop Transceiver, 80 kb/s	MC145426	Motorola	Speech Circuit with DTMF Interface			L3212 PSB4500 PSB4501		SGS-Thomson Siemens Siemens	Supernet Chipset for the Fiber Distributed Data Interface (RAM buffer controller)			AM79C81 AM79C82 AM79C83 AM7984 AM7985	AMD AMD AMD AMD AMD		
Slave Digital-Loop Transceiver, 160 kb/s	MC145425	Motorola	Speech Circuit with DTMF Interface (low voltage)			L3211	SGS-Thomson	65	Switch, Bilateral (for remote subscriber line test unit)			115			
Source Driver, 8-Channel (LEDs and incandescent lamps)	KA2580A KA7588A	Samsung (3040) Samsung	Speech Network and Tone Dialer			MC34013	◊ Motorola		LB1060AB				AT&T		
Speakerphone Circuit	CS262 CS272 PBM3910 PBM3911 XRT6420-2 XRT6425 KA2420 LB1020 IR3N79 IR3N81A	Cherry Semi Cherry Semi Ericsson Ericsson Exar Exar Samsung SGS-Thomson Sharp Sharp	Speech Network (for ECM receiver)			IR3N71 IR3N82	Sharp Sharp		Switchhook, Electronic (optically coupled SPST switch)				LH1056A TYPE LH1061A TYPE	AT&T (2536) AT&T (2536)	
Speakerphone Circuit, Voice Switched	MC34018 MC34118	Motorola (2977, 2990) Motorola (2977, 2991)	StarLAN Coded Data Transceiver			AM7961	AMD		Synchronous Protocol Data Formatter (supports T1/DS1 24-channel and CEPT 32-channel modes)				T7115	AT&T (2503)	
Speakerphone Circuit (volume pre-set)	IR3N84	Sharp	StarLAN Hub (10-port stand-alone)			WDLAN-H10	Western		70	Telephone Battery Feed Circuit			LB1011 SGS-Thomson		
Speakerphone Circuit (with speech network)	IR3N83	Sharp	Subscriber Line Audio-Processing Circuit (combination codec/filter)			AM7901B	AMD	Telephone Controller (single-chip 8-bit CMOS microcontroller)			SAB80C382 SAB80C482	Siemens Siemens			
Speakerphone (two-chip set)	LB1020AF LB1021AD XRT6420 XRT6421	AT&T AT&T Exar Exar	Subscriber Line Interface Circuit			AM7950 AM7953 AM7957 AMS2002 AMS2006 AMS3081 AMS3082 PBL3736 PBL3762 HC5502A HC5504 HC5508 HC5509 MH88500 MC34F19 MC34F19A MC3419 MC3419A MC3419C KA2412 LS285A TCM42048 TCM42078 TCM4208	AMD AMD AMD Aptek Aptek Aptek Aptek Ericsson Ericsson Harris Harris Harris Harris Mitel Motorola Motorola Motorola Motorola Motorola Samsung SGS-Thomson TI TI TI	75		Telephone Interface Circuit			LH1028BB	AT&T	
Speech Circuit for Electronic Telephones	PBL3726-X PBL3781 XRT5995 GL6901 HA16803 MC34014	Ericsson Ericsson Exar GoldStar (2713) Hitachi Motorola (2976, 2990)	Subscriber Line Interface Circuit, Digital Adaptor (a TCM ISDN compatible, two wire, short loop transceiver)			TP3401	National			Telephone Restrictor			CRN3300	SGS-Thomson	
TP5700 TP5700A LS288 LS356 LS388 LS656 IR3N31 TEA1060	National National SGS-Thomson SGS-Thomson SGS-Thomson SGS-Thomson Sharp Signetics	50	Subscriber Line Interface Circuit (performs 2-wire to 4-wire conversion)			LS285A TCM4204A TCM4207A	SGS-Thomson TI TI			85	Telephone (single-chip)			LB1009	SGS-Thomson
			Subscriber Line Interface Circuit (SLIC)			PBL3764 MC3419-1L	Ericsson Motorola		Teletex Analog Component			GL3917	GoldStar		
									Teletext, Color Video Display Generator (NAPLPS protocol)			R6549	Rockwell (3028)		
								Teletext CRT Controller for CEPT videotex standard			SAA5350	Signetics			
								Time Division Multiplexing, Temporal Matrix for 8x8 frame switching			EF7331	SGS-Thomson			
								90	Time Division Switch, 1024-Channel CMOS (crosspoint switch for PBX systems)			μPD43501	NEC		
									Time Slot Access Circuit			MJ1446	Plessey		
									Time Slot Assigner Circuit			MA5981 MA5983 MC14416 MC14417 MC14418	Marconi Marconi Motorola Motorola Motorola		

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Time Slot Zero Receiver	MJ1445	Plessey		Tone Generator (DTMF)		(Cont'd)		Tone Receiver, DTMF		(Cont'd)	
Time Slot Zero Transmitter	MJ1444	Plessey		PCD3312	Signetics		60	M967	Teltone		
Token Ring Jitter Attenuator (IEEE 802.5 network)	CS80600	Crystal		STC5089	Sprague			TT6174	Teltone		
Tone Decoder	XR2567	Exar (2619)	5	STC5089L	STC			Tone Receiver, DTMF (hybrid)			120
	XR2567M	† Exar (2619)		TCM5087	TI		65	AMS3020	Aptek		
	MT8860	Mitel		TCM5089	TI			AMS3023	Aptek		
	MT8862	◊ Mitel		UM95087	UMC			AMS3024	Aptek		
	LMC567	National		UM95089	UMC			AMS3101	Aptek		
	MV8860	Plessey	10	UM9559E	UMC			AMS3103	Aptek		
	MV8862	Plessey		UM9559F	UMC			AMS3104	Aptek		
	MV8863	Plessey						M988	Teltone		
	IR3N05/N	Sharp		Tone Generator (DTMF) with Call Progress Detection	SSI75T2090	SiliconSys (3255)		Tone Receiver, 12 kHz	AMS3050	Aptek	125
Tone Decoder, MF	SSI78A207	SiliconSys (3255)		Tone Generator (DTMF) with Redial			70	Tone Receiver, 16 kHz	AMS3051	Aptek	
Tone Decoder (operates from 0.01 Hz to 500 kHz)	XR2211C	Exar (2619)		S2569	◊ Gould/AMI			Tone Receiver, DTMF	MT8880	◊ Mitel	
	XR2211M	† Exar (2619)	15	S2569A	◊ Gould/AMI			Tone Ringer	GL6840	GoldStar (2713)	130
	XR567AC	◊ Exar (2619)		UM9169A	UMC			HA16802	Hitachi		
	XR567AM	◊† Exar (2619)		Tone Generator (generates 15 tone pairs)	AMS3501	Aptek	75	HA16804	Hitachi		
	LM567C	National		Tone/Pulse Dialer (5 memory)				HA16805	Hitachi		
	XR2211C	Raytheon (3025)		UM91225A	UMC			HA16805	Hitachi		
	XR2211M	† Raytheon (3025)	20	UM91225B	UMC			ZN488E	Plessey		
	LM567C	Samsung (3040)		UM91225C	UMC			ML8204	SGS-Thomson		
	NE567	Signetics		UM91225D	UMC			ML8205	SGS-Thomson		
	SE567	† Signetics		Tone/Pulse Dialer (10 memory)	UM91261	UMC		IR3N32/N	Sharp		135
Tone Decoder, PBAX	MSM6920	OKI		Tone/Pulse Dialer (10 pps)			80	IR3N34/N	Sharp		
Tone Decoder, Terminal	MSM6945	OKI	25	UM91210E	UMC			Tone Ringer (bridge output)	GM6840	GoldStar	
Tone Decoder (touchtone frequencies)	LM567CL	Samsung (3040)		UM91220	UMC			Tone Ringer Driver			140
Tone Detector (touchtone frequencies)	LS1130AC	AT&T		Tone/Pulse Dialer (15 memory)	UM91265	UMC		TCM1531	TI		
Tone Generator (DTMF)	S2559E	◊ Gould/AMI		Tone/Pulse Dialer (20 pps)				TCM1532	TI		
Tone Generator (CCITT R1 tones)	M993	Teltone		UM91210F	UMC			TCM1536	TI		
Tone Generator (DTMF)			30	Tone Receiver	G8870	◊ CMD Micro (2567)		TCM1539	TI		
PBD3535	Ericsson			Tone Receiver Circuit, Dual (with filters)			85	Tone Ringer (operates from ring signal, drives piezoelectric element)			145
PBD3551	Ericsson			AMS3210	Aptek			LB1004AC	AT&T		
ICM7206A	GE/Intersil (2678)			G8880	CMD Micro (2566)			LB1005AB	AT&T		
ICM7206B	GE/Intersil (2678)			Tone Receiver, DTMF			90	LB1005BB	AT&T		
ICM7206C	GE/Intersil (2678)			AMS3201	Aptek			LB1005CB	AT&T		
ICM7206D	GE/Intersil (2678)			AMS88205-5NC	Aptek			CS34017	Cherry Semi		
CD22859	GE/RCA (2646)		35	CS202	Crystal			MC34012	Motorola (2975, 2990)		
GL6801	GoldStar (2713)			CS203	Crystal			MC34017	Motorola (2975, 2990)		
GM6380	GoldStar (2713)			CS204	Crystal		95	Tone Ringer (operates from ring signal, drives speaker)			150
S25089	Gould/AMI			CS8870	Crystal			CS8204	Cherry Semi		
S2559F	◊ Gould/AMI		40	CD22202	GE/RCA (2645)			CS8205	Cherry Semi		
S2579	◊ Gould/AMI			CD22203	GE/RCA (2645)			XRT8205	Exar		
SBA5091	ITT			CD22204E	GE/RCA (2645)			S2561	◊ Gould/AMI		
SRA5089	ITT			MH88305	Mitel			MC34012-1	Motorola (2975, 2990)		
MC14410	Motorola (2974)			MT8870	◊ Mitel			MC34012-2	Motorola (2975, 2990)		
TP5088	National		45	MT8870-1	◊ Mitel			MC34012-3	Motorola (2975, 2990)		155
TP5089	National			MK5102-5	SGS-Thomson		100	KA2410	Samsung (3040)		
μPC767	NEC			MK5103-5	SGS-Thomson			KA2411	Samsung (3040)		
KA2413	Samsung			SC11202	Sierra			KA2418	Samsung (3040)		
KS5808	Samsung (3040)			SC11203	Sierra			KA2419	Samsung		160
MK5089	Samsung		50	SC11204	Sierra			ML8204	Samsung		
MK5087	SGS-Thomson			SC11270	Sierra			M764	SGS-Thomson		
MK5089	SGS-Thomson			SC11271	Sierra			M764A	SGS-Thomson		
MK5091	SGS-Thomson			SSI75T201	SiliconSys (3255)		105	PSB6520	Siemens		
MK5092	SGS-Thomson			SSI75T202	SiliconSys (3255)			PSB6521	Siemens		
MK5094	SGS-Thomson			SSI75T203	SiliconSys (3255)			TCM1520A	TI		165
MK5380	SGS-Thomson			SSI75T204	SiliconSys (3255)			Tone Ringer (2-tone)			
MK5389	SGS-Thomson		55	SSI75T957	SiliconSys (3255)			LB1005	SGS-Thomson		
M751	SGS-Thomson			M927	Teltone		110	LS1240	SGS-Thomson		
	(Continued)			M937	Teltone			LS1241	SGS-Thomson		
				M947	Teltone			Tone Ringer (32-tone)	LB1004	SGS-Thomson	
				M948	Teltone			Tone Transceiver (DTMF)			170
				M956	Teltone		115	SSI75T2089	SiliconSys (3255)		
				M957	Teltone						

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Telecommunication Circuits (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line
Transceiver, DTMF	MT8880A	◊ Mitel		Voice Transmission Privacy Circuit	DVS100	Marconi	
	SC11280	Sierra		Single-Chip Telephone Circuit	lb1009be	AT&T	40
	SC11289	Sierra			LB1009AE	AT&T	
	SC11290	Sierra			LB1009BE	AT&T	
Transceiver, 4-Wire Digital, Multi-Point Baseband	29C53	Matra-Harris	5	Dual Tone Generator (touchtone frequencies)	SBA5089	ITT	
Transcoder, ADPCM (32/24/16/8 kb/s)	SC11360	Sierra			EFB7189	SGS-Thomson	
Transcoder, B8ZS, B6ZS, and HDB3 to NRZ	MC145439	Motorola			PSB8593	Siemens	45
Transcoder, HDB31/AMI to NRZ	MC142103	Motorola			PCD3311	Signetics	
Transmission Circuit w/ Dialer Interface, Low Voltage	TEA1068	Signetics					
Transmitter/Encoder, Serial Bi-Phase (10 bits per data byte transmission)	UM83C70	UMC	10				
Transmitter, Two-Wire, 4 to 20 mA (DIE package designed to be integrated into transducer hybrids)	XTR101 DIE	Burr-Brown					
		(2546)					
Tri-Port Memory (T1 carrier)	R8040	Rockwell					
T1/CEPT Elastic Store	DS2175	◊ Dallas					
T1/CEPT PCM Jitter Attenuator	CS61600	Crystal					
T1/CEPT PCM Line Interface	CS61574	Crystal	15				
	CS6158	Crystal					
T1 Line Interface (line driver)	XRT5675	Exar					
		(2618)					
T1 Line Interface (1.544 MHz data rate)	CS61544	Crystal					
T1 Network Interface Unit (for 1.544 Mbps T1 services)	DS2190	Dallas					
T1 Receiver Buffer	DS2176	◊ Dallas	20				
T1, Serial T1 Transceiver (193E,S)	DS2180	◊ Dallas					
UART for Peripheral/Modem Control	KS5812	Samsung					
UNITS (User Network Interface for Switches)	T7252A	AT&T					
		(2509)					
Universal Voice-Signal Conditioner (for telephone handsets)	LB1068BC	AT&T					
V.35 Interface Transmitter/Receiver	XRT3588	Exar	25				
	XRT3589	Exar					
		(2618)					
Videotext, Error Correction	MSM6254	OKI					
Viterbi Decoder (error correction device, 17 Mbp/s)	Q1401C	◊ Qualcomm					
		(3021)					
	Q1401M	◊† Qualcomm					
		(3021)					
Viterbi Decoder (for forward error correction)	STEL2015	STI	30				
	STEL2016	STI					
	STEL2017	STI					
	STI2010	STI					
		(3264)					
Voice Frequency Level Expander	LB1026AA	AT&T	35				
	LB1026AB	AT&T					
Voice Processor (for answering machine)	UM5102	UMC					
Voice Processor, for Voice Storage, Security System Telecommunications	UM5100	UMC					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

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LINEAR—Timers

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Analog Clock Circuit (32 kHz)	CD22777	GE/RCA		Timer, CMOS, Low Voltage, 2.5 MHz, 2%	ALD1504	AdvLinear	60	Dual Monostable Multivibrator	BA225F	ROHM	115
Digital Clock Timer	LR3419	Sharp		Timer, CMOS, 2.5 MHz, 2%	ALD1502	AdvLinear			BA226AF	ROHM	
Event/Hour Meter, 5–1/2 Digit LCD Drive	ICM7249	GE/Intersil		Timer (CMOS 555), Low Power	ICM7555	◊ GE/Intersil (2685)		Dual Timer, LinCMOS	TLC556C	◊ TI	
	ICM7249M	† GE/Intersil			ICM7555M	◊† GE/Intersil (2685)			TLC556I	◊ TI	
Internal Current Source	XR320	Exar	5		GLC555	GoldStar (2713)			TLC556M	◊† TI	
Long Period (1 sec to 50 hours)	M51849	Mitsubishi			GL555	GoldStar (2713)	65	Quad, CMOS, Low Voltage, 2.0 MHz, 2%	ALD4503	◊ AdvLinear	
Low Voltage CR Timer	TC9160	Toshiba			ICM7555	◊ Maxim		Quad, CMOS, 2.0 MHz, 2%	ALD4501	◊ AdvLinear	120
Micropower, Long Range (microseconds to days)	XR2243	Exar (2619)			μPD5555	NEC		Quad, Current Sink Output	XR558C	Exar	
Precision	LM122	† National	10	Timer (CMOS 555), Low Power, 2.0 MHz	ALD555	◊† AdvLinear	70		XR558M	† Exar	
	LM2905	National		Timer (CMOS 555), Low Voltage, 2.0 MHz	ALD555-1	◊† AdvLinear			NE558	Samsung (3039)	
	LM322	National		Timer, LinCMOS	TLC555C	◊ TI (3325)			NE558	Signetics	125
	LM3905	National			TLC555I	◊ TI (3325)			SA558	Signetics	
Precision, Long Term (3 seconds to 1 week)	MW107	AnalogSys			TLC555M	◊ TI (3325)			SE558	† Signetics	
Programmable (includes a counter for long time delays)				Timer, LinCMOS, High Speed, Low Power	TLC551C	TI (3325)	75	Quad, Current Source Output	XR559C	Exar	
Binary Control	XR2240C	Exar (2619)		Timer, LinCMOS, 1-Volt Operation	TLC552C	TI			XR559M	† Exar	
	XR2240M	† Exar (2619)	15	Timer, Long Range	BU2300A	ROHM					
	ICM7240	GE/Intersil (2685)			BU2300AF	ROHM					
	ICM7242	GE/Intersil (2685)		Timer (pulse width from μs to hours for output)	BA222	ROHM					
	ICM7250	GE/Intersil (2685)		Timer with +12 Counter (time constant 7200 RC)	ZN1034E	Plessey	80				
	LS7210	LSI Comp (2883)		Timer with Counter, (time constant 128 RC)	XR2242C	Exar (2619)					
	ICM7240	◊ Maxim			XR2242M	† Exar (2619)	25	Dual, CMOS, Low Voltage, 2.0 MHz, 2%	ALD2504	◊ AdvLinear	
	ICM7242	◊ Maxim		Dual, CMOS, 2.5 MHz, 2%	ALD2502	◊ AdvLinear					
	ICM7250	◊ Maxim		Dual (CMOS 556) Low Power	ICM7556	GE/Intersil (2685)	85				
	ICM7260	◊ Maxim			ICM7556M	† GE/Intersil (2685)					
	MC14541BA	† Motorola (2946)			GLC556	GoldStar (2713)					
	MC14541BC	Motorola (2946)			ICM7556	◊ Maxim					
	μA2240C	National		Dual (dual 555)	XRL556C	Exar (2619)	90				
	μA2240C	TI			XRL556M	† Exar (2619)					
Programmable Timer					XR556C	◊ Exar (2619)					
	ZN1036D	Plessey			XR556M	◊† Exar (2619)					
	ZN1036E	Plessey			M5E556A	Mitsubishi					
	LR3472	Sharp	30		MC3456	Motorola					
Time Delay Generator (0–20 ns, 1 ps resolution)	16G060	GigaBit (2693)			MC3556	† Motorola	95				
Timer	XRL555	◊ Exar (2619)			μA556C	National					
	XR555C	◊ Exar (2619)			LM556	† National					
	XR555M	◊† Exar (2619)			LM556C	National					
	NE555	GE/Intersil	35		NE556	Samsung (3039)	100				
	CA555	† GE/RCA (2656)			LM556	SGS-Thomson					
	CA555C	GE/RCA (2656)			NE556	Signetics					
	HA17555	Hitachi			NE556-1	Signetics					
	M5E555	Mitsubishi			SA556	Signetics	105				
	M5E555A	Mitsubishi	40		SA556-1	Signetics					
	MC1455	Motorola (2989)			SE556	† Signetics					
	MC1555	† Motorola			SE556-1	† Signetics					
	μA555C	National			SE556-1C	† Signetics					
	LM555C	National			NE556	TI	110				
	μPC1555	NEC	45		SA556	TI					
	RC555	Raytheon			SE556	† TI					
	NE555	Samsung (3039)									
	LM555	SGS-Thomson			Dual (dual 555), Pinout Variations	XR2556C	Exar (2619)				
	NE555	Signetics	50			XR2556M	† Exar (2619)				
	SE555	† Signetics									
	SE555C	† Signetics									
	ULN2430M	Sprague									
	355A/C	TeledyneS									
	355B/M	† TeledyneS									
	NE555	TI	55								
	SA555	† TI									
	SE555	† TI									
	TA7326	Toshiba									
	TA7327	Toshiba									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

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LINEAR—Voltage Regulators

Output Voltage, V	Output Current (mA)	Device	Source	Line	Output Voltage, V	Output Current (mA)	Device	Source	Line
Fixed, Positive					5	500	μA78M05C	TI	(Cont'd)
2.2	35	LBR022BS	AT&T				μA78M05M	† TI	
2.6	100	μA78L02AC	◊ TI		750		CS925	Cherry Semi	70
		μA78L02C	◊ TI				CS935	Cherry Semi	
		TA7316	Toshiba				LM2925	National	
4	100	AN78L04	Panasonic	5			LM2935	National	
4.6	35	LBR046AS	AT&T				LM2935	SGS-Thomson	
5		IP1R18A-05	IPS		1000		M5F7805	Mitsubishi	75
		IP2R18A-05	IPS				LM109K	† Motorola (2959)	
		IP3R18A-05	IPS				LM209K	Motorola (2959)	
							LM309K	Motorola (2959)	
	35	LBR050AB	AT&T	10			μA109M	† National	
		LBR050AC	AT&T				μA309C	National	80
		LBR050AK	AT&T				LM109K	‡ National	
		LBR050AS	AT&T				LM2940C-12	National	
	100	M5278L05	Mitsubishi				LM2940C-15	National	
		LM2931-5	Motorola (2962, 2989)	15			LM2940C-5.0	National	
		LM2931A-5.0	Motorola (2959, 2962, 2989)				LM2940T-5	National	85
		MC78L05AC	Motorola (2959, 2990)				LM309K	National	
		MC78L05C	Motorola (2959, 2990)				AN7805	Panasonic	
		μA78L05C	National	20			MC7805C	Samsung	
		LM140LA-5	National				μA7805	† SGS-Thomson	
		LM78L05A	National				L7805	† SGS-Thomson	90
		LM78L05C	National				L7805C	SGS-Thomson	
		LP2950A	National				SFC2109M	SGS-Thomson	
		LP2950C	National				SG109K	† SiliconG	
		LP2951A	◊ National	25			SG209K	SiliconG	
		LP2951C	◊ National				SG309K	SiliconG	95
		AN78L05	Panasonic				μA7805C	TI	
		MC78L05	Samsung				TA78005A	Toshiba	
		μA78L05AC	◊ TI	30			UC7805A	† Unitrode	
		μA78L05C	◊ TI				UC7805AC	Unitrode	
		TA78L005	Toshiba		1500		GL7805	GoldStar (2714)	100
		TA78L005A	Toshiba				IP140-5	† IPS	
	150	LM2930-5	TI				IP140A-5	† IPS	
		LM330-5	TI				IP240-5	IPS	
	200	LM109H	Motorola (2959)	35			IP240A-5	IPS	
		LM209H	Motorola (2959)				IP340-5	IPS	105
		LM309H	Motorola (2959)				IP340A-5	IPS	
		μA1524A	National				IP7805	† IPS	
		μA3524A	National				IP7805A	† IPS	
		LM109H	† National	40			IP7805AC	IPS	
		LM2930-5	National				IP7805C	IPS	110
		LM309H	National				LM140-5	† IPS	
		LM330-5	National				LM240-5	IPS	
		SFC2109	† SGS-Thomson	45			LM340-5	IPS	
		SFC2209	SGS-Thomson				LAS15A05	Lambda	
		SFC2309	SGS-Thomson				LAS1505	Lambda	115
		SG209T	SiliconG				LT1086-5	LinearTech	
	250	LM342-5	National				42094-005	Micropac	
	300	AN78N05	Panasonic	50			LM140-5	† Motorola (2959, 2961)	
	400	L4805	SGS-Thomson				LM340-5	Motorola (2959)	120
	500	IP78M05	IPS				MC7805	† Motorola (2959)	
		IP78M05A	IPS				MC7805A	† Motorola (2959)	
		IP78M05AC	IPS				MC7805AC	Motorola (2959)	
		IP78M05C	IPS				MC7805C	Motorola (2959)	
		TDD1605	ITT	55			TL780-5C	Motorola	
		M5F78M05	Mitsubishi				μA7805C	National	125
		MC78M05C	Motorola (2959, 2990)				μA7805M	† National	
		μA78M05C	National				LM140-5	† National	
		μA78M05M	† National	60			LM140A-5	† National	
		LM341-5	National				LM2931-5	National	
		LM78M05	National				LM2940-5	National	130
		MC78M05C	Samsung				LM340-5	National	
		L2605	SGS-Thomson				LM340A-5	National	
		L4705	SGS-Thomson				LM7805	National	
		L487	SGS-Thomson	65			L7805AC	SGS-Thomson	
		L78M05C	SGS-Thomson				SG140-05	SiliconG	135
		TEA7034	SGS-Thomson				SG240-05	SiliconG	
			(Continued)				SG340-05	SiliconG	
							SG7805	† SiliconG	
							SG7805A	† SiliconG	140
							SG7805AC	SiliconG	
							SG7805C	SiliconG	
			(Continued)					(Continued)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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LINEAR—Voltage Regulators (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line	Output Voltage, V	Output Current (mA)	Device	Source	Line
Fixed, Positive (Cont'd)					(Cont'd)				
5	1500	LM340-5 TL780-05C UC7805 UC7805C	TI TI † Unitorde Unitorde		5	5000	μA78H05 μA78H05A	National National	
	2000	HA17805P LAS16A05 LAS1605 LAS1605B L78S05 L78S05C	Hitachi Lambda Lambda Lambda † SGS-Thomson SGS-Thomson	5		7500 8000	LT1083-5 LAS39A05 LAS39A05K LAS3905 LAS3905K	LinearTech Lambda Lambda Lambda Lambda	75
	2200	TL780-05	TI			10000	MLM196-05 MLM396-05 42050-510 42052-510 μA78P05	Micropac Micropac Micropac Micropac National	80
	3000	IP123 IP123A IP223 IP223A IP323 IP323A LM123 LM223 LM323 LAS14A05 LAS1405 LAS1405B LM123 LM123A LM323 LM323A LT1085-5 LT123A LT323A LM123 LM123A LM223 LM223A LM323 LM323A MC78T05 MC78T05A MC78T05AC MC78T05C μA123 μA223 μA323 LM123 LM137HV LM323 LM323A SH123 SH223 SH323 LM323 LM123 LM323 SG123 SG123A SG137HV SG153-05 SG223 SG223A SG253-05 SG323 SG323A SG353-05	† IPS † IPS IPS IPS IPS IPS † IPS IPS IPS Lambda Lambda Lambda † LinearTech † LinearTech LinearTech † LinearTech LinearTech † LinearTech † LinearTech † Motorola (2960) † Motorola (2960) Motorola (2960) Motorola (2960) Motorola (2960) Motorola (2960) † Motorola (2959) † Motorola (2959) Motorola (2959) Motorola (2959) National † National National † National † National National National † National National National Samsung † SGS-Thomson SGS-Thomson † SiliconG SiliconG † SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG Lambda Lambda Lambda LinearTech † LinearTech LinearTech MicroNet Micropac Micropac		10				
						20000	42055-520	Micropac	85
					5.1	35	LBR051AB	AT&T	
					5.2	35	LBR052AS	AT&T	
					6	100	AN78L06 TA78L006 TA78L006A	Panasonic Toshiba Toshiba	90
						300 500	AN78N06 TDD1606 M5F78M06 MC78M06C μA78M06C μA78M06M AN78M06 MC78M06C L78M06C μA78M06C	Panasonic ITT Mitsubishi Motorola (2960) National † National Panasonic Samsung SGS-Thomson TI	95
						1000	M5F7806 AN7806 MC7806C μA7806	Mitsubishi † Panasonic Samsung SGS-Thomson	100
						1500	GL7806 LAS15A06 LAS1506 LM340-6 MC7806 MC7806A MC7806AC MC7806C L7806 L7806AC L7806C SG140-06 SG240-06 SG340-06 SG7806 SG7806A SG7806AC SG7806C μA7806C	GoldStar (2714) Lambda Lambda Motorola (2960) † Motorola (2960) † Motorola (2960) † Motorola (2960) Motorola (2960) National † SGS-Thomson SGS-Thomson SGS-Thomson SiliconG SiliconG SiliconG † SiliconG † SiliconG SiliconG SiliconG TI	105
						2000	HA17806P CJSE017 CJSE019 CJSE021	Hitachi Solitron Solitron Solitron	125
						3000	MC78T06 MC78T06C	† Motorola Motorola	130
						10000	42050-610 42052-610	Micropac Micropac	
						20000	42055-620	Micropac	
					6.2	100	μA78L62C μA78L06AC μA78L06C	National † TI † TI	135
					7	100	HA17807 AN78L07 TA78L007 TA78L007A	Hitachi Panasonic Toshiba Toshiba	140
(Continued)					(Continued)				

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

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LINEAR—Voltage Regulators (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line	Output Voltage, V	Output Current (mA)	Device	Source	Line	
Fixed, Positive (Cont'd)					(Cont'd)					
7	300	AN78N07	Panasonic	5	8	10000	42052-810	Micropac	70	
	500	M5F78M07	Mitsubishi			20000	42055-820	Micropac		
		AN78M07	Panasonic			8.2	100	μA78L82C		National
	1000	M5F7807	Mitsubishi			8.5	400	L4885		SGS-Thomson
		AN7807	Panasonic			500	L2685	SGS-Thomson		
7.5	10000	42050-710	Micropac	10	9	1000	μA7885C	National	75	
		42052-710	Micropac				MC7885C	Samsung		
	20000	42055-720	Micropac				μA7885C	TI		
	100	TA78L075	Toshiba				μA78L09C	National		
		TA78L075A	Toshiba				AN78L09	Panasonic		
8	1000	L78C75C	SGS-Thomson	15		300	AN78N09	Panasonic	85	
		L78S75	SGS-Thomson			500	M5F78M09	Mitsubishi		
		L7875	SGS-Thomson			1000	M5F7809	Mitsubishi		
		L7875C	SGS-Thomson				AN7809	Panasonic		
						1500	GL7809	GoldStar (2714)		
		MC78L08AC	Motorola (2960, 2990)	20	10		L78S09	SGS-Thomson	90	
		MC78L08C	Motorola (2960, 2990)				L7809	SGS-Thomson		
		AN78L08	Panasonic				SL78S09C	SGS-Thomson		
		μA78L08AC	TI			10000	42052-910	Micropac		
		μA78L08C	TI			20000	42055-920	Micropac		
		TA78L008	Toshiba	25		100	M5278L10	Mitsubishi	95	
		TA78L008A	Toshiba				AN78L10	Panasonic		
	150	LM2930-8	TI				AN78M10	Panasonic		
	200	LM2930-8	National				μA78L10AC	TI		
	300	AN78N08	Panasonic				μA78L10C	TI		
500	TDD1608	ITT	30			TA78L010	Toshiba	100		
	M5F78M08	Mitsubishi				TA78L010A	Toshiba			
	MC78M08C	Motorola (2960)			200	LH0075	National			
	μA78M08C	National			300	AN78N10	Panasonic			
	μA78M08M	TI			400	L4810	SGS-Thomson			
		AN78M08	Panasonic	35		500	TDD1610	ITT	105	
		MC78M08C	Samsung				M5F78M10	Mitsubishi		
		μA2808	SGS-Thomson				MC78M10C	Samsung		
		L78M08C	SGS-Thomson				L2610	SGS-Thomson		
		μA78M08C	TI				L4710	SGS-Thomson		
	1000	M5F7808	Mitsubishi	40			μA78M10C	TI	110	
		LM2940T-8	National			1000	M5F7810	Mitsubishi		
		AN7808	Panasonic				LM2940T-10	National		
		MC7808C	Samsung				AN7810	Panasonic		
						1500	LAS15A10	Lambda		
	1500	GL7808	GoldStar (2714)	45			LAS1510	Lambda	115	
		HA17808	Hitachi				μA7810C	TI		
		LAS15A08	Lambda			2000	L78S10	SGS-Thomson		
		LAS1508	Lambda				L78S10C	SGS-Thomson		
		LM140-8	Motorola (2960)			5000	PH20310	MicroNet		
		LM340-8	Motorola (2960)	50		9000	42050-109	Micropac	120	
		MC7808	Motorola (2960)				42052-109	Micropac		
		MC7808A	Motorola (2960)			20000	42055-1020	Micropac		
		MC7808AC	Motorola (2960)			10.3	LBR103DB	AT&T		
		MC7808C	Motorola (2960)			55	12	IP1R18A-12		IPS
	μA7808C	National		IP2R18A-12	IPS					
	μA7808M	TI		IP3R18A-12	IPS					
	L7808	SGS-Thomson		LBR120AB	AT&T					
	L7808AC	SGS-Thomson		M5278L12	Mitsubishi					
		L7808C	SGS-Thomson	60			MC78L12AC	Motorola (2960, 2990)	130	
		SG140-08	SiliconG				MC78L12C	Motorola (2960, 2990)		
		SG240-08	SiliconG				μA78L12C	National		
		SG340-08	SiliconG				LM140LA-12	TI		
		SG7808	SGS-Thomson				LM340LA-12	National		
		SG7808A	SGS-Thomson	65			LM78L12A	National	135	
		SG7808AC	SGS-Thomson				LM78L12C	National		
		SG7808C	SGS-Thomson				AN78L12	Panasonic		
		μA7808C	TI				MC78L12	TI		
		LAS16A08	Lambda				MC78L12	TI		
		LAS1608	Lambda				LM140LA-12	National		
		LAS1608B	Lambda				LM340LA-12	National		
	2000	LAS1608B	Lambda				LM78L12A	National		
	3000	MC78T08	Motorola (2960)				LM78L12C	National		
		MC78T08C	Motorola (2960)				AN78L12	Panasonic		
		PH20308	MicroNet				MC78L12	TI		
		μA78H08C	National				MC78L12	TI		
							MC78L12	TI		
							MC78L12	TI		
							MC78L12	TI		

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Voltage Regulators (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line	Output Voltage, V	Output Current (mA)	Device	Source	Line	
Fixed, Positive (Cont'd)					(Cont'd)					
12	100	μA78L12AC μA78L12C TA78L012 TA78L012A	TI TI Toshiba Toshiba	5	12	1500	SG7812AC SG7812C μA7812C LM340-12 TL780-12C UC7812A UC7812AC	SiliconG SiliconG TI TI TI † Unitorde Unitorde	75	
250		LM342-12	National		2000		HA17812P LAS16A12 LAS1612 LAS1612B L78S12C L7812 L7812C	Hitachi Lambda Lambda Lambda SGS-Thomson † SGS-Thomson SGS-Thomson		80
300		52051-012 AN78N12	Micropac Panasonic		2200 3000		IP123-12 IP123A-12 IP223-12 IP223A-12 IP323-12 IP323A-12 LAS14A12 LAS1412 LAS1412B LT1085-12 52053-012	† IPS † IPS IPS IPS IPS IPS Lambda Lambda Lambda LinearTech Micropac		
500		IP78M12 IP78M12A IP78M12AC IP78M12C TDD1612 M5F78M12 MC78M12C	IPS IPS IPS IPS ITT Mitsubishi Motorola (2960, 2990)		25		MC78T12 MC78T12A MC78T12AC MC78T12C SG153-12 SG253-12 SG353-12	† Motorola (2960) † Motorola (2960) Motorola (2960) Motorola (2960) † SiliconG SiliconG SiliconG		100
		μA78M12C μA78M12M LM341-12 LM78M12 AN78M12 MC78M12C L78M12C μA78M12C μA78M12M	National † National National National Panasonic Samsung SGS-Thomson TI † TI	30		LAS19A12 LAS1912 LAS1912B LT1084-12 PH20312 μA78H12A	Lambda Lambda Lambda LinearTech MicroNet National	105		
	1000	M5F7812 MC7812C μA2812 TA78012A UC7812 UC7812C	Mitsubishi Samsung SGS-Thomson Toshiba † Unitorde Unitorde	35		LT1083-12 42050-128 42052-128	LinearTech Micropac Micropac		110	
	1500	GL7812 IP140-12 IP140A-12 IP240-12 IP240A-12 IP340-12 IP340A-12 IP7812 IP7812A IP7812AC IP7812C LM140-12 LM240-12 LM340-12 LAS15A12 LAS1512 LT1086-12 42094-012	GoldStar † IPS † IPS IPS IPS IPS IPS † IPS † IPS IPS IPS † IPS IPS IPS Lambda Lambda LinearTech Micropac	40		MLM196-12 MLM396-12 μA78P12	Micropac Micropac National	115		
		LM140-12 LM140A-12 LM340-12 LM340A-12 MC7812 MC7812A MC7812AC MC7812C TL780-12C μA7812C μA7812M LM140-12 LM140A-12 LM2940-12 LM340-12 LM340A-12 LM7812 L7812 L7812AC L7812C SG140-12 SG240-12 SG340-12 SG7812 SG7812A	† Motorola (2960) † Motorola (2960) Motorola (2960) Motorola (2960) † Motorola (2960) Motorola (2960) Motorola (2960) Motorola (2960) Motorola (2960) National † National † National National National National † SGS-Thomson SGS-Thomson SGS-Thomson † SiliconG SiliconG SiliconG † SiliconG † SiliconG	45	16000	42055-1216	Micropac		120	
				50	13.2	100	TA78L132 TA78L132A	Toshiba Toshiba		125
				55	13.8	1500	LAS15CB	Lambda	130	
				60	14	8000	42050-148 42052-148	Micropac Micropac		135
				65		16000	42055-1416	Micropac	140	
				70	15		IP1R18A-15 IP2R18A-15 IP3R18A-15	IPS IPS IPS		
						35 100	LBR150AS MC78L15AC MC78L15C μA78L15C LM140LA-15 LM340LA-15 LM78L15A LM78L15C AN78L15 MC78L15 μA78L15AC μA78L15C TA78L015 TA78L015A	AT&T Motorola (2961, 2990) Motorola (2961, 2990) National † National National National National Panasonic Samsung † TI † TI Toshiba Toshiba		
(Continued)					(Continued)					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◇ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Voltage Regulators (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line	Output Voltage, V	Output Current (mA)	Device	Source	Line
Fixed, Positive (Cont'd)					(Cont'd)				
15	250	LM342-15	National	15	2000		L78S15C	SGS-Thomson	75
	300	52051-015	Micropac				CJSE001	Soliton	
		AN78N15	Panasonic	5	2200		CJSE003	Soliton	80
	500	IP78M15	IPS		3000		CJSE005	Soliton	
		IP78M15A	IPS				TL780-15	TI	
		IP78M15AC	IPS				IP123-15	† IPS	
		IP78M15C	IPS				IP123A-15	† IPS	
		TDD1615	ITT				IP223-15	IPS	
		M5F78M15	Mitsubishi				IP223A-15	IPS	
		MC78M15C	Motorola (2961, 2990)				IP323-15	IPS	
							IP323A-15	IPS	
							LAS14A15	Lambda	
		μA78M15C	National	10			LAS1415	Lambda	85
		μA78M15M	† National				LAS1415B	Lambda	
		LM341-15	National	15			52053-015	Micropac	90
		LM78M15	National				MC78T15	† Motorola (2961)	
		AN78M15	Panasonic				MC78T15A	† Motorola (2961)	90
		MC78M15C	Samsung				MC78T15AC	Motorola (2961)	
		L78M15C	SGS-Thomson				MC78T15C	Motorola (2961)	90
		μA78M15C	TI				SG153-15	† SiliconG	
							SG253-15	SiliconG	95
							SG353-15	SiliconG	
	1000	M5F7815	Mitsubishi	20	5000		LAS19A15	Lambda	95
		MC7815C	Samsung				LAS1915	Lambda	
		L7815	† SGS-Thomson	25			LAS1915B	Lambda	100
		L7815C	SGS-Thomson				PH20315	MicroNet	
		TA78015A	Toshiba		8000		42050-158	Micropac	100
		UC7815	† Unitrode				42052-158	Micropac	
		UC7815A	† Unitrode		10000		MLM196-15	Micropac	105
		UC7815AC	Unitrode				MLM396-15	Micropac	
		UC7815C	Unitrode		16000		42055-1516	Micropac	105
							42050-168	Micropac	
							42052-168	Micropac	110
							42055-1612	Micropac	
	1500	GL7815	GoldStar (2714)	30	8000		MC78L18AC	Motorola (2961)	110
		IP140-15	† IPS				MC78L18C	Motorola (2961)	
		IP140A-15	† IPS				AN78L18	Panasonic	115
		IP240-15	IPS				TA78L018	Toshiba	
		IP240A-15	IPS				TA78L018A	Toshiba	120
		IP340-15	IPS						
		IP340A-15	IPS						125
		IP7815	† IPS				52051-018	Micropac	
		IP7815A	† IPS				AN78N18	Panasonic	130
		IP7815AC	IPS						
		IP7815C	IPS				TDD1618	ITT	135
		LM140-15	† IPS				M5F78M18	Mitsubishi	
		LM240-15	IPS				MC78M18C	Motorola (2961)	140
		LAS15A15	Lambda				AN78M18	Panasonic	
		LAS1515	Lambda				MC78M18C	Samsung	140
		42094-015	Micropac				L78M18C	SGS-Thomson	
		LM140-15	† Motorola (2960)				SG7818AC	SiliconG	140
		LM340-15	Motorola (2960)						
		MC7815	† Motorola (2961)				M5F7818	Mitsubishi	140
		MC7815A	† Motorola (2961)				AN7818	† Panasonic	
		MC7815AC	Motorola (2961)				MC7818C	Samsung	140
		MC7815C	Motorola (2961)				μA2818	SGS-Thomson	
		μA7815C	National				L7818	† SGS-Thomson	140
		μA7815M	† National				L7818C	SGS-Thomson	
		LM140-15	† National						140
		LM2940-15	National				HA17818	Hitachi	
		LM340-15	National				LAS15A18	Lambda	140
		LM340A-15	National				LAS1518	Lambda	
		LM7815	National				42094-018	Micropac	140
		L7815AC	SGS-Thomson				LM340-18	Motorola (2960)	
		SG140-15	† SiliconG				MC7818	† Motorola (2961)	140
		SG240-15	SiliconG				MC7818A	† Motorola (2961)	
		SG7815	† SiliconG				MC7818AC	Motorola (2961)	140
		SG7815A	† SiliconG				MC7818C	Motorola (2961)	
		SG7815AC	SiliconG				μA7818C	National	140
		SG7815C	SiliconG				μA7818M	† National	
		μA7815C	TI				L7818AC	SGS-Thomson	140
		LM340-15	TI				SG140-18	SiliconG	
		TL780-15C	TI				SG240-18	SiliconG	140
							SG340-18	SiliconG	
	2000	HA17815P	Hitachi				SG7818	† SiliconG	140
		LAS16A15	Lambda				SG7818A	† SiliconG	
		LAS1615	Lambda						140
		LAS1615B	Lambda						
		L78S15	† SGS-Thomson						140

† Military Temperature Range (−55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Voltage Regulators (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line	Output Voltage, V	Output Current (mA)	Device	Source	Line
Fixed, Positive (Cont'd)					Fixed, Positive (Cont'd)				
18	1500	SG7818C μA7818C	Silicon TI	5	24	1500	MC7824A MC7824AC MC7824C μA7824C μA7824M	† Motorola Motorola Motorola National † National	(Cont'd) (2961) (2961)
	2000	MC78T18 MC78T18C L78S18 L78S18C	† Motorola Motorola † SGS-Thomson SGS-Thomson				SG140-24 SG340-24 SG7824 SG7824A SG7824AC SG7824C μA7824C	† SiliconG SiliconG † SiliconG † SiliconG SiliconG SiliconG TI	70
	3000	52053-018	Micropac			2000	HA17824P MC78T24 MC78T24C L78S24 L78S24C	Hitachi † Motorola Motorola † SGS-Thomson SGS-Thomson	75
	8000	42050-188 42052-188	Micropac Micropac			3000	52053-024 42050-244 42052-244	Micropac Micropac Micropac	80
	12000	42055-1812 42055-1812	Micropac Toshiba			4000	42055-2410	Micropac	85
20	100	AN78L20 TA78L020 TA78L020A	Panasonic Toshiba Toshiba	15	26	4000	42050-264 42052-264	Micropac Micropac	90
	300	AN78N20	Panasonic			8000	42055-2608	Micropac	95
	500	M5F78M20 MC78M20C	Mitsubishi Motorola (2961)		28	4000	42050-284 42052-284	Micropac Micropac	
		AN78M20 L78M20C SG7820A SG7820AC SG7820C μA78M20C	Panasonic SGS-Thomson † SiliconG SiliconG SiliconG TI		30	300 1500 3000 4000	52051-030 42094-030 52053-030 42050-304 42052-304	Micropac Micropac Micropac Micropac Micropac	
	1000	M5F7820 AN7820 SG140-20 SG240-20K SG340-20 SG7820	Mitsubishi Panasonic † SiliconG SiliconG SiliconG † SiliconG		32	4000	42050-324 42052-324	Micropac Micropac	
	1500	LAS15A20 LAS1520	Lambda Lambda	30	34	4000	42050-344 42052-344	Micropac Micropac	100
	2000	CJSE009 CJSE011 CJSE013	Solitron Solitron Solitron	35	75	10	TL780-15C	Motorola	105
	8000	42050-208 42052-208 42055-2010	Micropac Micropac Micropac		Fixed, Negative				
22	4000	42050-224 42052-224	Micropac Micropac		2	1000 1500	MC7902C LAS18A02 LAS1802	Samsung Lambda Lambda	110
	10000	42055-2210	Micropac		3	100	MC79L03AC MC79L03C	Motorola Motorola	
24	100	MC78L24AC MC78L24C AN78L24 TA78L024 TA78L024A	Motorola (2961) Motorola (2961) Panasonic Toshiba Toshiba		4	100 300	AN79L04 AN79N04	Panasonic Panasonic	
	300	52051-024 AN78N24	Micropac Panasonic		5		IP1R17A-05 IP2R17A-05 IP3R17A-05 IP1R19A-05 IP2R19A-05 IP3R19A-05	IPS IPS IPS IPS IPS IPS	
	500	TDD1624 M5F78M24 MC78M24C μA78M24C μA78M24M AN78M24 MC78M24C L78M24C μA78M24C	ITT Mitsubishi Motorola (2961) National † National Panasonic Samsung SGS-Thomson TI	50		100	MC79L05AC MC79L05C LM79L05 LM79L05A AN79L05 MC79L05C MC79L05 MC79L05A	Motorola (2959, 2990) Motorola (2959, 2990) National National Panasonic Samsung TI TI	115
	1000	M5F7824 AN7824 MC7824C μA2824 L7824 L7824C	Mitsubishi † Panasonic Samsung SGS-Thomson † SGS-Thomson SGS-Thomson	55		250 300 500	LM320ML05 AN79N05 IP79M05 IP79M05A IP79M05AC IP79M05C M5F79M05	National Panasonic IPS IPS IPS IPS Mitsubishi	120
	1500	GL7824 LAS15A24 LAS1524 42094-024 LM340-24 MC7824	GoldStar (2714) Lambda Lambda Micropac Motorola (2960) † Motorola (2961)	60					125
				65					130

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

Output Voltage, V	Output Current (mA)	Device	Source	Line	Output Voltage, V	Output Current (mA)	Device	Source	Line
Fixed, Negative (Cont'd)					(Cont'd)				
5	500	MC79M05	Motorola (2959, 2990)		5.2	2100 3000	μ A7952 LM145K5 LM345K5	TI † National National	70
		μ A79M05AC	National		6	100 300 500	AN79L06 AN79N06 M5F79M06 MC79M06C μ A79M06C	Panasonic Panasonic Mitsubishi Samsung TI	75
		μ A79M05M	† National	5		1000	M5F7906 AN7906 MC7906C	Mitsubishi Panasonic Samsung	80
		LM120H5	† National			1500	LAS18A06 LAS1806 MC7906C μ A7906C	Lambda Lambda Motorola (2960) TI	
		LM320H5	National	10		2000	CJSE018 CJSE020	Solitron Solitron	85
		LM320MP5	National			5000	42051-065	Micropac	
		LM79M05	National	15	7	300 500 1000	AN79N07 M5F79M07 M5F7907 AN7907	Panasonic Mitsubishi Mitsubishi Panasonic	90
		MC79M05C	Samsung	20		5000	42051-075	Micropac	
		μ A79M05C	TI	25	8	300 500	AN79N08 M5F79M08 μ A79M08AC μ A7908M MC79M08C μ A79M08C	Panasonic Mitsubishi National † National Samsung TI	95
		μ A79M05M	† TI	30		1000	M5F7908 MC7908C μ A7908C MC7908C L7908C	Mitsubishi Motorola (2960) National Samsung SGS-Thomson	100
	1000	M5F7905	Mitsubishi	35			SG120-08 SG320-08 SG7908 SG7908A SG7908AC SG7908C μ A7908C	† SiliconG SiliconG † SiliconG † SiliconG SiliconG SiliconG TI	105
		AN7905	Panasonic	40		1500	GL7908 LAS18A08 LAS1808	GoldStar Lambda Lambda	
		MC7905C	Samsung	45		5000	42051-085	Micropac	110
	1500	GL7905	GoldStar (2714)	50	9	300 500 1000	AN79N09 M5F79M09 M5F7909 AN7909	Panasonic Mitsubishi Mitsubishi Panasonic	115
		IP120-5	† IPS			1500	42051-095	Micropac	
		IP120A-5	† IPS		10	300 500	AN79N10 M5F79M10 MC79M10	Panasonic Mitsubishi Samsung	120
		IP220-5	IPS			1000	M5F7910 AN7910	Mitsubishi Panasonic	
		IP220A-5	IPS	55		1500	LAS18A10 LAS1810	Lambda Lambda	125
		IP320-5	IPS			5000	42051-105	Micropac	
		IP320A	IPS	60	12		IP1R17A-12 IP2R17A-12 IP3R17A-12 IP1R19A-12 IP2R19A-12 IP3R19A-12	IPS IPS IPS IPS IPS IPS	130
		IP7905	† IPS				MC79L12AC MC79L12C LM79L12	Motorola (2960, 2990) Motorola (2960, 2990) National	135
		IP7905A	† IPS			100			
		IP7905AC	IPS						
		IP7905C	IPS						
		LM120-5	† IPS						
		LM220-5	IPS						
		LM320-5	IPS						
		LAS18A05	Lambda						
		LAS1805	Lambda						
		42095-005	Micropac						
		MC7905C	Motorola (2959)						
		μ A7905C	National						
		μ A7905M	† National						
		LM120K5	† National						
		LM320K5	National						
		LM320T5	National						
		LM7905	National						
		μ A7905	SGS-Thomson						
		L7905C	SGS-Thomson						
		SG120-05	† SiliconG						
		SG220-05	SiliconG						
		SG320-05	SiliconG						
		SG7905A	† SiliconG						
		SG7905C	SiliconG						
		μ A7905C	TI						
		UC7905	† Unitrode						
		UC7905A	† Unitrode						
		UC7905AC	Unitrode						
		UC7							

◆ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Voltage Regulators (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line	Output Voltage, V	Output Current (mA)	Device	Source	Line
Fixed, Negative (Cont'd)					15		IP1R17A-15 IP2R17A-15 IP3R17A-15 IP1R19A-15 IP2R19A-15 IP3R19A-15	IPS IPS IPS IPS IPS IPS	70
12	100	LM79L12A AN79L12 MC79L12C MC79L12 MC79L12A	National Panasonic Samsung TI TI	(Cont'd)		100	MC79L15AC MC79L15C LM79L15 LM79L15A AN79L15 MC79L15C MC79L15 MC79L15A	Motorola (2961, 2990) Motorola (2961, 2990) National National Panasonic Samsung TI TI	75
	200	LM120H12 LM320H12	† National National	5		200	LM120H15 LM320H15	† National National	
	300	52052-012 AN79N12	Micropac Panasonic			250 300	LM320ML15 52052-015 AN79N15	National Micropac Panasonic	85
	500	IP79M12 IP79M12A IP79M12AC IP79M12C M5F79M12 MC79M12 MC79M12C μA79M12AC μA79M12M LM320MP12 LM79M12 MC79M12C μA79M12C μA79M12M	IPS IPS IPS IPS Mitsubishi Motorola (2960, 2990) Motorola (2960, 2990) National † National National National Samsung TI † TI	10 15 20		500	GL7909 IP79M15 IP79M15A IP79M15AC IP79M15C M5F79M15 MC79M15 MC79M15C μA79M15AC μA79M15M LM320MP15 LM79M15 MC79M15C μA79M15C	GoldStar (2714) IPS IPS IPS IPS Mitsubishi Motorola (2961, 2990) Motorola (2961, 2990) National † National National National Samsung TI	90 95 100
	1000	M5F7912 LM120K12 LM320K12 LM320T12 AN7912 MC7912C	Mitsubishi † National National National Panasonic Samsung	25		1000	M5F7915 MC79L15A LM120K15 LM320K15 LM320T15 AN7915 MC7915C	Mitsubishi Motorola (2961, 2990) † National National National Panasonic Samsung	105
	1500	GL7912 IP120-12 IP120A-12 IP220-12 IP220A-12 IP320-12 IP320A-12 IP7912 IP7912A IP7912AC IP7912C LM120-12 LM220-12 LM320-12 LAS18A12 LAS1812 42095-012 MC7912AC MC7912C μA7912C μA7912M LM7912 μA7912 L7912C SG120-12 SG220-12 SG320-12 SG7912 SG7912A SG7912AC SG7912C μA7912C UC7912 UC7912A UC7912AC UC7912C	GoldStar (2714) † IPS † IPS IPS IPS IPS IPS † IPS † IPS IPS IPS † IPS IPS IPS Lambda Lambda Micropac Motorola (2960) Motorola (2960) National † National National SGS-Thomson SGS-Thomson † SiliconG SiliconG SiliconG † SiliconG † SiliconG SiliconG SiliconG TI † Unitrode † Unitrode Unitrode Unitrode	30 35 40 45 50 55 60 65		1500	GL7915 IP120-15 IP120A-15 IP220-15 IP220A-15 IP320-15 IP320A-15 IP7915 IP7915A IP7915AC IP7915C LM120-15 LM220-15 LM320-15 LAS18A15 LAS1815 42095-015 MC7915AC MC7915C μA7915C μA7915M LM120-15 LM7915 μA7915 L7915C SG120-15 SG220-15 SG320-15 SG7915 SG7915A	GoldStar (2714) † IPS † IPS IPS IPS IPS IPS † IPS † IPS IPS IPS † IPS IPS IPS Lambda Lambda Micropac Motorola (2961) Motorola (2961) National † National † National National SGS-Thomson SGS-Thomson † SiliconG SiliconG SiliconG † SiliconG † SiliconG	110 115 120 125 130 135
	3000	52054-012	Micropac						
	4000	42051-124	Micropac						
14	4000	42051-144	Micropac						(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

•Macrocell

◊ Available in Surface Mount Package

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LINEAR—Voltage Regulators (Cont'd)

Output Voltage, V	Output Current (mA)	Device	Source	Line	Output Voltage, V	Output Current (mA)	Device	Source	Line	
Fixed, Negative (Cont'd)					(Cont'd)					
15	1500	SG7915AC SG7915C μA7915C UC7915 UC7915A UC7915AC UC7915C	SiliconG SiliconG TI † Unitorde † Unitorde Unitorde Unitorde	5	24	1500	GL7924 LAS18A24 LAS1824 42095-024 MC7924C L7924C μA7924C	GoldStar Lambda Lambda Micropac Motorola (2961) SGS-Thomson TI	70	
	2000	42051-154 CJSE002 CJSE004 CJSE006	Micropac Solitron Solitron Solitron	10		3000	42051-243 52054-024	Micropac Micropac	75	
	3000	52054-015	Micropac		26	3000	42051-263	Micropac		
16	4000	42051-164	Micropac		28	3000	42051-283	Micropac		
18	100	MC79L18C AN79L18	Motorola (2961) Panasonic	15	30	300 1500 3000	52052-030 42095-030 42051-303 52054-030	Micropac Micropac Micropac Micropac	80	
	300	52052-018 AN79N18	Micropac Panasonic		32	3000	42051-323	Micropac		
	500	M5F79M18 MC79M18	Mitsubishi Samsung		36	3000	42051-363	Micropac		
	1000	M5F7918 AN7918 MC7918C	Mitsubishi Panasonic Samsung	20	Fixed, Dual					
	1500	LAS18A18 LAS1818 42095-018 MC79L18AC MC7918C L7918C SG120-18 SG320-18 SG7918 SG7918A SG7918AC SG7918C μA7918C	Lambda Lambda Micropac Motorola (2961) Motorola (2961) SGS-Thomson † SiliconG SiliconG † SiliconG † SiliconG † SiliconG SiliconG SiliconG TI	25	± 6	5000	42051	Micropac	85	
	3000	52054-018	Micropac		± 12	100	LM126 LM326	† National National		
	4000	42051-184	Micropac	30	± 15	100	XR1468 XR1568 XR4195 MC1468 MC1568 LM125 LM325 RC4195 RM4195 SG1468 SG1568 SG4501	Exar (2619) † Exar ◊ Exar Motorola † Motorola † National National Raytheon (3025) † Raytheon SiliconG † SiliconG SiliconG	90	
20	100	AN79L20	Panasonic	35		200	SG1501A SG2501A SG3501A	† SiliconG SiliconG SiliconG	100	
	300	AN79N20	Panasonic		5,5	750,10	LM2935 LM2935	National SGS-Thomson		
	500	M5F79M20 μA79M20C	Mitsubishi TI	40		1000,50	LT1005C LT1005M	LinearTech LinearTech	105	
	1000	M5F7920 AN7920	Mitsubishi Panasonic	45		3000,75	LT1035	LinearTech		
	1500	LAS18A20 LAS1820 L7920C SG120-20 SG7920 SG7920A SG7920AC SG7920C	Lambda Lambda SGS-Thomson † SiliconG † SiliconG † SiliconG SiliconG SiliconG	50	12,5	3000,75	LT1036C LT1036M	LinearTech † LinearTech		
	2000	CJSE010 CJSE012 CJSE014	Solitron Solitron Solitron	55	Adjustable, Positive					
	3000	42051-204	Micropac		7	3000	IP3R07 IP3R07A	IPS IPS	110	
22	3000	42051-223	Micropac		16	1.3 1.5 2	40 40 40	ICL7663 ICL7663 ICL7663A MAX663	◊ GE/Intersil (2676) ◊ Maxim ◊ Maxim Maxim	115
24	100	MC79L24AC MC79L24C AN79L24	Motorola (2961) Motorola (2961) Panasonic	60		4	8000	LAS39U	Lambda	
	300	52052-024 AN79N24	Micropac Panasonic	65	20	1.2	10000	LM196 LM396	National National	120
	500	M5F79M24 MC79M24C μA79M24C	Mitsubishi Samsung TI			2	20	SFC2300	SGS-Thomson	
	1000	M5F7924 AN7924 MC7924C	Mitsubishi Panasonic Samsung		24	3	150	LM2931	National	
					26	1.8	12	CA3085	† GE/RCA (2651, 2657, 2659)	
					27	0	200	LH0075 LH0075C	◊ † National ◊ National	
					30	2	20	LM100 SFC2100 SFC2200	† GE/Intersil † SGS-Thomson SGS-Thomson	125
(Continued)					(Continued)					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Voltage Regulators (Cont'd)

Adjustable, Positive (Cont'd)					(Cont'd)						
Output Voltage Hi	Low	Output Current (mA)	Device	Source	Line	Output Voltage Hi	Low	Output Current (mA)	Device	Source	Line
						32	1.2	5000	SG338 SG338A	SiliconG SiliconG	(Cont'd)
30	3	Shunt 1800	TL430C L200	TI SGS-Thomson		36	1.7	100	CA3085A	† GE/RCA (2651, 2657, 2659)	75
	4	1500 2000 3000 5000	LAS15U LAS16U LAS14AU LAS19U	Lambda Lambda Lambda Lambda	5		2.5	100	TL431C TL431M μA431AC TL431C TL431M	† Motorola (2991) † Motorola (2991) National ♦ TI ♦† TI	80
	4.5	12	LM305 μA305C LM305 SG305	GE/Intersil National National SiliconG	10		2.85	2000	TDA200	SGS-Thomson	
	5	500 1000 5000	μA78MGC μA78GC μ78HG	National National National	15	37	1.2	100	LM117L LM217L LM317L LM317L	† Motorola (2962) Motorola (2962) Motorola (2962, 2989) National	85
32	1.2	100 1000 3000	TL317 LT1038C LT1038M	TI LinearTech † LinearTech	20			500	SG117 SG217 SG217A SG317 SG317A	† SiliconG SiliconG SiliconG SiliconG SiliconG	90
			IP150 IP150A IP250 IP250A IP350 IP350A LM150 LM250 LM350 LLM350 LM150 LM150A LM350 LM350A LT150A LT350A	† IPS † IPS IPS IPS IPS IPS † IPS IPS IPS Lambda † LinearTech † LinearTech LinearTech LinearTech † LinearTech LinearTech	25			1000 1500	M5N317L GL317 IP117 IP117A IP217 IP217A IP317 IP317A LM117 LM217 LM317 LLM117 LLM317 LM117 LM317 LT117A LT317A MCELM117 MCELM217 MCELM317	Mitsubishi GoldStar (2714) † IPS † IPS IPS IPS IPS IPS † IPS IPS IPS Lambda Lambda † LinearTech LinearTech † LinearTech LinearTech MCE MCE MCE	95
			LM150 LM250 LM350 μA150 μA250 μA350 LM150 LM350 SG150 SG150A SG250 SG250A SG350 SG350A UC150 UC250 UC350	† Motorola (2962) Motorola (2962) Motorola (2962) † National National National † National National † SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG † Unitrode Unitrode Unitrode	30				LM117 LM217 LM317 μA117M μA317C LM117 LM317 LM117 LM217 LM317 SG117 SG117A SG217 SG217A SG317 SG317A LM217 LM317 UC117 UC217 UC317	† Motorola (2962) Motorola (2962) Motorola (2962, 2989) † National National † National National † SGS-Thomson SGS-Thomson † SGS-Thomson † SiliconG SiliconG SiliconG SiliconG SiliconG SiliconG TI TI † Unitrode Unitrode Unitrode	100
			IP138 IP138A IP238 IP238A IP338 IP338A LM138 LM238 LM338 LLM338 LM138 LM338 LT138A LT338A	† IPS † IPS IPS IPS IPS IPS † IPS IPS IPS Lambda † LinearTech LinearTech † LinearTech LinearTech	35				IP1R07A IP2R07A LLM150	IPS IPS Lambda	105
			μA138 μA238 μA338 LM138 LM338 SG138 SG138A SG238 SG238A	† National National National † National National † SiliconG SiliconG SiliconG SiliconG	40				LLM138	Lambda	110
		5000	IP138 IP138A IP238 IP238A IP338 IP338A LM138 LM238 LM338 LLM338 LM138 LM338 LT138A LT338A	† IPS † IPS IPS IPS IPS IPS † IPS IPS IPS Lambda † LinearTech LinearTech † LinearTech LinearTech	45				μA723 CA723 CA723C LM723 LM723C	† National National National † National † GE/Intersil † GE/RCA (2651, 2657, 2659) GE/RCA (2651, 2657, 2659) † GE/RCA GE/RCA	115
			μA138 μA238 μA338 LM138 LM338 SG138 SG138A SG238 SG238A	† National National National † National National † SiliconG SiliconG SiliconG SiliconG	50						120
			IP138 IP138A IP238 IP238A IP338 IP338A LM138 LM238 LM338 LLM338 LM138 LM338 LT138A LT338A	† IPS † IPS IPS IPS IPS IPS † IPS IPS IPS Lambda † LinearTech LinearTech † LinearTech LinearTech	55						125
			μA138 μA238 μA338 LM138 LM338 SG138 SG138A SG238 SG238A	† National National National † National National † SiliconG SiliconG SiliconG SiliconG	60						130
			IP138 IP138A IP238 IP238A IP338 IP338A LM138 LM238 LM338 LLM338 LM138 LM338 LT138A LT338A	† IPS † IPS IPS IPS IPS IPS † IPS IPS IPS Lambda † LinearTech LinearTech † LinearTech LinearTech	65						135
			μA138 μA238 μA338 LM138 LM338 SG138 SG138A SG238 SG238A	† National National National † National National † SiliconG SiliconG SiliconG SiliconG	70						140
						2	150		μA723 CA723 CA723C LM723 LM723C	GE/Intersil † GE/RCA (2651, 2657, 2659) GE/RCA (2651, 2657, 2659) † GE/RCA GE/RCA	(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Voltage Regulators (Cont'd)

Adjustable, Positive (Cont'd)					Adjustable, Negative							
Output Voltage Hi	Low	Output Current (mA)	Device	Source	Line	Output Voltage Hi	Low	Output Current (mA)	Device	Source	Line	
37	2	150	HA17723 MC1723 MC1723C μA723C μA723M LM723 LM723C LM723 LM723 LM723C SFC2723C SFC2723EC μA723 μA723C SA723C SG723 SG723C μA723 μA723C μA723M	Hitachi † Motorola (2962, 2989) Motorola (2962, 2989) National † National ‡ National National † Samsung (3039) ‡ SGS-Thomson ‡ SGS-Thomson ‡ SGS-Thomson SGS-Thomson Signetics Signetics Signetics † SiliconG SiliconG TI TI ‡ TI		5	15	2	10000	MLM196N MLM396N	† Micropac Micropac	70
	2.5	250	LM317M	Motorola (2962, 2989)	20	32	1.0	3000	LT1033C LT1033M	LinearTech † LinearTech	85	
	5	25	μA376C LM376	National National			1.2	3000	LM333	National		
38	2	100 150	SG3532 LAS1000 LAS723	SiliconG Lambda Lambda	25	37	1.2	500 1000 1500	LM337M M5N337L IP137 IP137A IP237 IP237A IP337 IP337A LM137 LM237 LM337 LM137 LM337 LT137A LT337A MCELM137 MCELM237 MCELM337	Motorola (2962) Mitsubishi † IPS † IPS IPS IPS IPS IPS † IPS IPS † LinearTech LinearTech † LinearTech LinearTech MCE MCE MCE	90	
40	1.25 4.5	1500 12	KA78S40 μA105M LM105 LM205 LM105 LM205 SG105 SG205	Samsung (3039) † National ‡ National National † SGS-Thomson SGS-Thomson † SiliconG SiliconG	30				LM137 LM237 LM337 LM137 LM337 LM137 LM337 SG137 SG137A SG237 SG237A SG337 SG337A LM337 UC137 UC237 UC337	† Motorola (2962) Motorola (2962) Motorola (2962) ‡ National National † SGS-Thomson SGS-Thomson † SiliconG † SiliconG SiliconG SiliconG SiliconG TI † Unitorde Unitorde Unitorde	95	
		45	μA305AC LM305A LM305 SG305A	National National SGS-Thomson SiliconG	35				LM104 LM204 LM104 LM204 SG104 SG204 SG304	‡ National National † SGS-Thomson SGS-Thomson † SiliconG SiliconG SiliconG	100	
46	1.7	100	CA3085B	† GE/RCA (2651, 2657, 2659)	40	40	0.015	20	LM104 LM204 LM104 LM204 SG104 SG204 SG304	‡ National National † SGS-Thomson SGS-Thomson † SiliconG SiliconG SiliconG	105	
47	1.2	1500	SG117MV SG217MV SG317MV	† SiliconG SiliconG SiliconG	45	47	1.2	500	LM137HV LM337HV LT137AHV LM337HV LM117AHV LM317AHV LT117AHV LM117HV SG117HV	† LinearTech LinearTech LinearTech LinearTech † LinearTech LinearTech † LinearTech ‡ National † SiliconG	110	
48	2	100 150	SG1532 SG2532 LAS1100 LAS723B	† SiliconG SiliconG Lambda Lambda	50				IP137AHV IP117HV IP217AHV IP217HV IP317AHV IP317HV LM117HV LM217HV LM317HV LM117AHV LM317AHV LT117AHV LM117HV SG117HV	† IPS † IPS IPS IPS IPS IPS † IPS IPS IPS † LinearTech LinearTech † LinearTech ‡ National † SiliconG	115	
56	8	1000	CJCA001 CJCA007	Solitron Solitron	55	60			LM137HV LM337HV LT137AHV LT337AHV	† LinearTech LinearTech † LinearTech LinearTech	120	
57	1.2	500 1500	LM117HV LM317HV LT317AHV IP117AHV IP117HV IP217AHV IP217HV IP317AHV IP317HV LM117HV LM217HV LM317HV LM117AHV LM317AHV LT117AHV LM117HV SG117HV	† LinearTech LinearTech LinearTech † IPS † IPS IPS IPS IPS IPS † IPS IPS IPS † LinearTech LinearTech † LinearTech ‡ National † SiliconG	65		1500	IP137AHV IP137HV	† IPS † IPS	125		
77	2	150	TDB1146	SGS-Thomson							130	
											135	

(Continued)

† Military Temperature Range (-55° to 125°C) ‡ High Radiation Resistance *Typical Value *Macrocell ‡ Available in Surface Mount Package

Adjustable, Negative (Cont'd)					Switching Regulator Circuits				
Output Voltage	Low	Output Current (mA)	Device	Source	Output Voltage	Low	Output Current (mA)	Device	Source
47	1.2	1500	IP237AHV	IPS				CS2843A	Cherry Semi
			IP237HV	IPS				CS3524	Cherry Semi
			IP337AHV	IPS				CS3524A	Cherry Semi
			IP337HV	IPS				CS3525A	Cherry Semi
			LM137HV	† IPS				CS3527A	Cherry Semi
			LM237HV	IPS				CS3843A	Cherry Semi
			LM337HV	IPS				CS5560N	Cherry Semi
			LM137HV	† LinearTech				CS5561N	Cherry Semi
			LM337HV	LinearTech				CS593C	Cherry Semi
			LT137AHV	† LinearTech				CS594C	Cherry Semi
			LT337AHV	LinearTech				CS595C	Cherry Semi
			LM337HV	National				RL3525A	Ericsson
			SG237HV	SiliconG				RL3846	Ericsson
			SG337HV	SiliconG					
56	8	1000	CJCA002	Solitron				XR1524	† Exar (2619)
			CJCA008	Solitron				XR1525A	† Exar
								XR1527A	† Exar
								XR2230	◊ Exar
								XR2235	Exar
57	1.2	100	LM337L	National				XR2524	◊ Exar (2619)
		1500	LM137	‡ National				XR2525A	Exar
			LM337	National				XR2527A	Exar
			LM137	† SGS-Thomson					
			LM337	SGS-Thomson				XR3524	◊ Exar (2619)
			UC137	† Unitrode				XR3525A	Exar
			UC237	Unitrode				XR3527A	Exar
			UC337	Unitrode					
								XR494	◊ Exar (2619)
								XR495	◊ Exar (2619)
								MB3759	Fujitsu
								MB3760	Fujitsu
								CA1523	GE/RCA (2657, 2659)
								CA1524	† GE/RCA (2651)
								CA2524	GE/RCA (2651)
								CA3524	GE/RCA (2651, 2657, 2659)
								GL494	GoldStar (2714)
								HA16654	Hitachi
								HA17524	Hitachi
								IP1D03	IPS
								IP1524	† IPS
								IP1524B	† IPS
								IP1525A	† IPS
								IP1526	† IPS
								IP1526A	† IPS
								IP1527A	IPS
								IP1842	† IPS
								IP1843	† IPS
								IP1844	IPS
								IP1845	IPS
								IP2524	IPS
								IP2524B	IPS
								IP2525A	IPS
								IP2526	IPS
								IP2526A	IPS
								IP2527A	

♦ Available in Surface Mount Package

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LINEAR—Voltage Regulators (Cont'd)

Output Voltage					Output Voltage						
Hi	Low	Output Current (mA)	Device	Source	Line	Hi	Low	Output Current (mA)	Device	Source	Line
Switching Regulators (Cont'd)						Switching Regulator Circuits (Cont'd)					
Switching Regulator Circuits (Cont'd)											
			IP494AC	◊ IPS	5				LM2524	National	75
			IP5560	◊ IPS					LM3524	National	
			IP5560C	◊ IPS					LM3525A	National	
			IP5561	◊ IPS					LM3527A	National	
			IP5561C	◊ IPS					LM3578	National	
			TDA1060	IPS	10				SH1605A	National	80
			LAS3800	Lambda					ZN1060E	† Plessey	
			LAS3840	Lambda					ZN1066E	Plessey	
			LAS4082	Lambda					ZN1066J	† Plessey	
			LAS6320	Lambda					RC4191	Raytheon (3025)	
			LAS6321P	Lambda	15				RC4192	Raytheon (3025)	85
			LAS6330A	Lambda					RC4193	Raytheon (3025)	
			LAS6331A	Lambda					RC4391	Raytheon (3025)	
			LAS6350	Lambda					RM4191	† Raytheon	
			LAS6351	Lambda					RM4192	† Raytheon	
			LAS6380	Lambda	20				RM4193	Raytheon	90
			LAS6381	Lambda					RM4391	Raytheon	
			LT1524	† LinearTech					μA78S40	Samsung	
			LT1525A	† LinearTech					L296	SGS-Thomson	
			LT1526	† LinearTech					L296P	SGS-Thomson	
			LT1527A	† LinearTech	25				L4960	SGS-Thomson	95
			LT3524	LinearTech					L4962	SGS-Thomson	
			LT3525A	LinearTech					L4964	SGS-Thomson	
			LT3526	LinearTech					SG1524A	SGS-Thomson	
			LT3527A	LinearTech					SG1525A	† SGS-Thomson	
			SG1524	† LinearTech	30				SG1527A	SGS-Thomson	100
			SG1525A	LinearTech					SG2524	SGS-Thomson	
			SG1527A	LinearTech					SG2524A	SGS-Thomson	
			SG3524	LinearTech					SG2525A	SGS-Thomson	
			SG3525A	LinearTech					SG2527A	SGS-Thomson	
			SG3527A	LinearTech	35				SG3525A	SGS-Thomson	105
			UC1846	† LinearTech					SG3527A	SGS-Thomson	
			UC1847	† LinearTech					TEA1001	SGS-Thomson	
			UC3846	LinearTech					TEA2018	SGS-Thomson	
			UC3847	LinearTech					TEA2019	SGS-Thomson	
			MAX4193	Maxim	40				UAA4001	SGS-Thomson	110
			MAX4391	Maxim					UAA4003	SGS-Thomson	
			MAX630	Maxim					UAA4006	SGS-Thomson	
			MAX634	Maxim					UC1840	SGS-Thomson	
			M5T494	Mitsubishi					UC2840	SGS-Thomson	
			μA78S40	Motorola	45				UC3840	SGS-Thomson	115
			MC33063	Motorola (2963)					UD1524A	SGS-Thomson	
			MC34060	Motorola (2963, 2991)					IR3M01	Sharp	
			MC34063	Motorola (2963, 2991)					IR3M02A/AN	Sharp	
			MC34129	Motorola (2963, 2978, 2991)					IR9494	Sharp	
			MC3420	Motorola	50				TDA4600-2	Siemens	120
			MC35060	Motorola (2963)					TDA4601	Siemens	
			MC35063	† Motorola (2963)					TDA4700A	Siemens	
			MC3520	† Motorola					TDA4718A	Siemens	
			SG1525A	† Motorola (2964)					NE5560	Signetics (3183)	
			SG1526	Motorola (2964)	55				NE5561	Signetics (3184)	125
			SG1527A	† Motorola (2964)					NE5562	Signetics (3185)	
			SG2525A	Motorola (2964)					NE5568	Signetics (3187)	
			SG2526	Motorola (2964)					SE5560	† Signetics	
			SG2527A	Motorola (2964)					SE5561	† Signetics	
			SG3525A	Motorola (2964)	60				SE5562	Signetics	130
			SG3526	Motorola (2964)					SG3524	Signetics	
			SG3527A	Motorola (2964)					SG1524	◊ SiliconG	
			TL494C	Motorola (2964)					SG1524B	◊ SiliconG	
			TL494M	† Motorola (2964)					SG1525A	◊ SiliconG	
			μA494C	National	65				SG1526	◊ SiliconG	135
			μA494M	† National					SG1527A	◊ SiliconG	
			μA78S40C	National					SG2524	◊ SiliconG	
			μA78S40M	† National					SG2524B	◊ SiliconG	
			LH1605	† National					SG2525A	◊ SiliconG	
			LH1605C	National	70				SG2526	◊ SiliconG	140
			LM1524	† National					SG2527A	◊ SiliconG	
			LM1525A	† National					SG3524	◊ SiliconG	
			LM1527A	† National					SG3524B	◊ SiliconG	
			LM1578	† National					SG3525A	◊ SiliconG	
				(Continued)					SG3526	◊ SiliconG	145
									SG3526A	◊ SiliconG	
									SG3527A	◊ SiliconG	
									SM600	SiliconG	
									SM601	SiliconG	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

LINEAR—Voltage Regulators (Cont'd)

Output Voltage					Output Voltage				
Hi					Hi				
Low					Low				
Output Current (mA)					Output Current (mA)				
Device					Device				
Source					Source				
Line					Line				
Switching Regulators (Cont'd)					Switching Regulator Circuits (Cont'd)				
Switching Regulator Circuits (Cont'd)									
	SM602	SiliconG			UC2524	Unitrode			
	SM610	SiliconG			UC2524A	Unitrode			70
	SM611	SiliconG			UC2525A	Unitrode			
	SM612	SiliconG			UC2526A	Unitrode			
	PWM125A	† Siliconix	5		UC2527A	Unitrode			
	PWM125C	Siliconix			UC2840	Unitrode			
	PWM127A	† Siliconix			UC3524	Unitrode			75
	PWM127C	Siliconix			UC3524A	Unitrode			
	PWM25A	† Siliconix			UC3525A	Unitrode			
	PWM25C	Siliconix	10		UC3526A	Unitrode			
	PWM27A	† Siliconix			UC3527A	Unitrode			
	PWM27C	Siliconix			UC3840	Unitrode			
	SI9110	Siliconix			UC493A	† Unitrode			80
	SI9111	Siliconix			UC493AC	Unitrode			
	SI9100	Siliconix	15		UC494A	† Unitrode			
	TL493C	TI			UC494AC	Unitrode			
	TL494C	TI			UC495	Unitrode			
	TL494M	† TI			UC495A	† Unitrode			85
	TL495C	TI			UC495AC	Unitrode			
	TL497AC	TI	20		UC495B	† Unitrode			
	TL594C	TI			UC495BC	Unitrode			
	TL595C	TI							
	L296	Unitrode			Switching Regulator, 1 A				
	PIC600	Unitrode				MC33129	Motorola (2963)		
	PIC601	Unitrode				UC1842A	† Motorola		90
	PIC602	Unitrode				UC1843A	† Motorola		
	PIC610	Unitrode							
	PIC611	Unitrode				UC2842A	Motorola (2963, 2991)		
	PIC612	Unitrode				UC2843A	Motorola (2963, 2991)		
	PIC625	Unitrode	30			UC3842A	Motorola (2963, 2991)		
	PIC626	Unitrode				UC3843A	Motorola (2963, 2991)		95
	PIC627	Unitrode			Switching Regulator, 1.25 A	LT1072C	LinearTech		
	PIC635	Unitrode				LT1072M	† LinearTech		
	PIC636	Unitrode			Switching Regulator, 2.5 A	LT1071C	LinearTech		
	PIC637	Unitrode	35			LT1071M	† LinearTech		
	PIC645	Unitrode			Switching Regulator, 5 A	LT1070C	LinearTech		100
	PIC646	Unitrode				LT1070M	† LinearTech		
	PIC647	Unitrode			Switching Regulator, 5A	LT1070M	TI		
	PIC655	Unitrode							
	PIC656	Unitrode	40						
	PIC657	Unitrode							
	PIC660	Unitrode							
	PIC661	Unitrode							
	PIC662	Unitrode							
	PIC670	Unitrode	45						
	PIC671	Unitrode							
	PIC672	Unitrode							
	PIC730	Unitrode							
	PIC740	Unitrode							
	PIC800	Unitrode	50						
	PIC801	Unitrode							
	PIC810	Unitrode							
	PIC811	Unitrode							
	UC1524	Unitrode							
	UC1524/883B								
	† Unitrode		55						
	UC1524A	Unitrode							
	UC1524A/883B								
	† Unitrode								
	UC1525A	Unitrode							
	UC1525A/883B								
	† Unitrode								
	UC1526/883B		60						
	† Unitrode								
	UC1526A	Unitrode							
	UC1527A	Unitrode							
	UC1527A/883B								
	† Unitrode								
	UC1535	Unitrode							
	UC1840	Unitrode	65						
	UC1840/883B								
	† Unitrode								
	UC1842/883B								
	† Unitrode								
(Continued)									

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

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LINEAR—Other Devices

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Microprocessor Control Unit	CA2854	Calmos		Active Filters (See also Linear - Telecommunications Circuits)				Balanced Mixer, Double balanced with oscillator	NE602	Signetics (3155)	
Microprocessor Power Supply System Voltage Regulator	LM2984C	National			AF100	† National			SA602	† Signetics	
Sine Wave Reference (for transducer excitation)	SWR200C	Thaler			AF150	National		Balanced Modulator/Demodulator	AD630	AD (2433, 2462)	85
	SWR200M	† Thaler		Air Flow Sensor	SG3509	SiliconG			MC1496	Motorola (2973, 2989)	
AC Detector (Detects presence or absence of a/c signals, includes adjustable threshold and time delay.)	3050	Adv Analog (2403)	5	Air-Core Meter Driver	LM1819	National			MC1596	† Motorola (2973)	
AC, Line Current Consumption Circuit for Switch Mode Power Supplies	TDA4814	Siemens		Alarm Circuits, Temperature	3030	Adv Analog (2403)			LM1496	National	
AC Phase Control	TEA1007	Telefunken		Alarm Circuits, Tone Alarm (Comparator with AC output)	3010	Adv Analog (2403)	55		LM1596	† National	90
	U211B	Telefunken		Alarm Circuits, Tri-state Alert/Alarm (LED Driver)	3020	Adv Analog (2403)			SL640C	Plessey	
AC Phase Control. See also SCR this section	TEA1087	Telefunken							SL641C	Plessey	
	U111	Telefunken		Analog Delay Line (bucket brigade device, 1024 samples)	RD5108	EG&G-Reticon (2611)	10		LS025	◇ SGS-Thomson	
AC Power Controller (external mechanical switch control, 10 levels of output power)	LS7310	LSI Comp (2883)		Analog Delay Line (bucket brigade device, 256 samples)	RD5106	EG&G-Reticon (2611)			S042	Siemens	
	LS7311	LSI Comp (2883)		Analog Delay Line (bucket brigade device, 512 samples)	RD5107	EG&G-Reticon (2611)			MC1496	Signetics	
AC Power Controller (external touch control, 10 levels of output power)	LS7312	LSI Comp (2883)		Analog Multiplier, Quad.	AH5890	OEI	60		MC1596	† Signetics	95
	LS7313	LSI Comp (2883)							SG1496	◇ SiliconG	
Active Filter, Adaptive High-Pass	LF581	Gennum	15	Analog Shift Register (Bucket Brigade Device) Dual 512 stage, acts as a variable delay line in the audio frequency range)	MN3001	Panasonic			SG1596	◇ SiliconG	
Active Filter, Mask Programmable	U3408M	Telefunken			MN3003	Panasonic			TA7320	Toshiba	
Active Filter, Resistor Programmable	FLJ-R	Datel		Analog Shift Register (Bucket Brigade Device, 1024 stage)	MN3007	Panasonic	20				
	FLJ-R3	Datel (2599)			MN3204	Panasonic		Bandgap Reference, 1.25 V	TSC04A	TeledyneS	
	FLJ-R8	Datel (2599)			MN3207	Panasonic			TSC04AM	† TeledyneS	100
	FLJ-VR	Datel		Analog Shift Register (Bucket Brigade Device, 128 Stage)	MN3006	Panasonic			TSC05A	TeledyneS	
	FLT-U2	Datel (2599)		Analog Shift Register (Bucket Brigade Device, 2048 stage)	MN3008	Panasonic	25		TSC05AM	† TeledyneS	
	RU5621	EG&G-Reticon (2611)		Analog Shift Register (Bucket Brigade Device, 256 Stage)	MN3009	Panasonic		Battery Charger, Sealed Lead Acid	UC3906	Unitrode	
	RU5622	EG&G-Reticon (2611)		Analog Shift Register (Bucket Brigade Device, 3328 stage)	MN3011	Panasonic			CS2516	Cherry Semi	
Active Filter, Voltage Programmable	FLJ-VB	Datel (2599)		Analog Shift Register (Bucket Brigade Device, 3,5,190 stages)	MN3012	Panasonic	30	Bit Rate Generator	MC145411	Motorola	105
	FLJ-VH	Datel (2599)		Analog Shift Register (Bucket Brigade Device, 4096 stage)	MN3005	Panasonic					
	FLJ-VL	Datel (2599)		Analog Shift Register (Bucket Brigade Device, 512 stage)	MN3002	Panasonic		Blowout Resistant Transistor (simulates 40 V transistor with special protection)	LM195	† National	
Active Filters	RU5620	EG&G-Reticon (2611)		Analog Shift Register (Bucket Brigade Device, 512 stage)	MN3004	Panasonic			LM295	National	
Active Filters (See also Linear - Telecommunications Circuits)	UAF11	Burr-Brown		Analog Shift Register (Bucket Brigade Device, 512 stage)	MN3004	Panasonic			LM395	National	
	UAF11H	† Burr-Brown		Analog Shift Register Clock Generator/Driver	MN3101	Panasonic	35	Boost Converter (1 V to 5 V @ 1 amp)	MAX645	Maxim	
	UAF21	Burr-Brown (2550)		Analog Switch Array (8x12 crosspoint array)	MT8814	Mitel		Boost Converter (1 V to 5 V @ 40 mA)	MAX644	Maxim	110
	UAF21H	† Burr-Brown (2550)		Analog Video Switch and Amplifier (CMOS/BI-MOS)	CA3256	GE/RCA (2655, 2658)		Boost Converter (2 V to 5 V @ 40 mA)	MAX645	Maxim	
	UAF31	Burr-Brown		Attenuator, 3 1/2-Digit BCD, digitally controlled	AD7525K	◇ AD (2470)		Bridge Transducer Switch	UC3704	Unitrode	
	UAF41	Burr-Brown (2550)			AD7525T	◇ † AD (2470)		Calibrator, High Precision	HCA124010	Honeywell SPT	
	CH1290	Cermetek		Attenuator, 6-Bit (0.25dB/step, 0 to 15.75dB range)	CDG4460J	TopazSemi	40	Carrier Current Transceiver	LM1893	National	
	CH1295	Cermetek						Clock and Data Recovery Circuit (2.0 GHz NRZ data rate)	16G040	GigaBit (2693)	115
	CH1296	Cermetek		Attenuator, 8-Bit (0.50dB/step, 0 to 127.5dB range)	CDG4469J	TopazSemi	45	Comparator, Cache Address	TMS2150-45	◇ TI (3298)	
	RU5621	EG&G-Reticon (2611)		Auto-Zero (reduces input offset voltage of an amplifier to 5 µV)	LMC669	National			TMS2150-55	◇ TI (3298)	
	RU5622	EG&G-Reticon (2611)						Comparator, Drives Lamps, Relays or Logic Loads	4082/03	Burr-Brown	
	LTC1059C	LinearTech						Comparator, High-Speed	LT685	LinearTech	75
	LTC1059M	† LinearTech						Comparator, Programmable Quad, Micropower	LP165	National	120
	LTC1060C	LinearTech							LP365	National	
	LTC1061C	LinearTech						Comparator, Read Chain Data	TL712	◇ TI	
	LTC1061M	† LinearTech							TL721	◇ TI	
	LTC1062C	LinearTech						Comparator, Window (Internally set limits)	MK104	AnalogSys	
	LTC1062M	† LinearTech							4115/04	Burr-Brown	125
	LTC1064C	LinearTech						Comparator, Dual, ECL Compatible	µA6687M	† National	
	LTC1064M	† LinearTech							µA6687V	National	
	MF10	◇ Maxim						Comparators, Programmable with Memory (High/Low Comparator)	CA3099	† GE/RCA	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

◇ Available in Surface Mount Package

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Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Constant Current Source, 1 μ A to 10 mA	LM234	LinearTech	5	Current-Mode PWM Controller	(Cont'd)		55	Data Acquisition System, 8 Channel, 8-Bit Conversion, Microprocessor Compatible			100	
	LM334	LinearTech										
	LM134	↑ National										
	LM234	National										
	LM334	National										
Control Circuit for Switched-Mode Power Supply	TEA1039	Signetics (3188)										
Control, Power Supply	TDA2582	Signetics					60				105	
Controller, Bang-Bang for ON-OFF Control Loops	LTC1041	LinearTech										
Controller, Switch Mode Power Supply												
	UC1850	Unitrode										
	UC1850/883B	Unitrode										
	UC2850	Unitrode	10				65				110	
	UC3850	Unitrode										
Converter, LVDT to digital, 14 bit	2554	AD (2421)										
Converter, LVDT to digital, 16 bit	2556	AD (2421)										
Converter, RMS to DC (300 MHz 3dB bandwidth)	LT1088	LinearTech										
Coordinate Converter (polar to cartesian)	5090A	OEI	15				70				115	
Crosspoint Switch (4x1 video)	GX414	Gennum										
CRT Geometry/Focus Corrector												
	C310	Intronics										
	C311	Intronics										
	C312	Intronics	20				75				120	
	C410	↑ Intronics										
	C411	↑ Intronics										
Current Mirror, Adjustable Ratio NPN	TL010	TI										
Current Mode Controller, Dual Channel	MC33065	Motorola										
	MC34065	Motorola	25				80				125	
Current Mode PWM Control Circuit	LS2842A	Gennum										
Current Reference, 100 μ A	REF200M	Burr-Brown (2551)										
Current Sensing Latch												
	SG1549	◊ ↑ SiliconG										
	SG2549	◊ SiliconG	30				85				130	
	SG3549	◊ SiliconG										
Current Source, 4-Bit	μ A9650C	National										
Current Source, 7 A Constant	HS7067	National										
	HS7107	National										
Current/Voltage Mode PWM Controller			35				90				135	
	UC1825	Unitrode										
	UC1825/883B	↑ Unitrode										
	UC2825	Unitrode										
	UC3825	Unitrode										
Current-Mode Control (1 MHz hysteretic)	CS320	Cherry Semi	40				95				140	
	CS321	Cherry Semi										
Current-Mode PWM Controller												
	CS3842A	Cherry Semi										
	UC1842	↑ SGS-Thomson										
	UC2842	SGS-Thomson	45				100				145	
	UC3842	SGS-Thomson										
	SG1842	↑ SiliconG										
	SG1843	↑ SiliconG										
	SG1846	↑ SiliconG										
	SG1847	↑ SiliconG	50				105				150	
	SG2842	SiliconG										
	SG2843	SiliconG										
	SG2846	SiliconG										
	SG2847	SiliconG										

♦ Available in Surface Mount Package

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IC MASTER

LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Data Acquisition System, 16 Channel, Sample/Hold, 12-Bit Conversion	HDAS16MC HDAS16MM	Datel † Datel	(2597) (2597)	DC to DC Converter (28V to 5V)	A971 A972 PS2805 PS2815	Adv Analog Adv Analog Adv Analog Adv Analog	(2402) (2402)	Digital Gain Set, for setting gain of op-amps	LF13006 LF13007	National National	
Data Acquisition System, 16 Channel 8-Bit Conversion	DAS952R ADC0816C ADC0817C	Datel National † National	(2597)	DC-DC Converter (0.9V–1.7V to 3V or 5.5V)	CA424	Calmos		Digital to Resolver Converter, 14-Bit	MDRC	ILC-DDC	
Data Acquisition System (16 SE channels, 12-bit resolution)	MDAS16	Datel	(2597)	DC-to-DC Converter	PWR11XX PWR13XX PWR53XX PWR59XX	Burr-Brown Burr-Brown Burr-Brown Burr-Brown	(2562) (2562) (2562) (2562)	Digital to Resolver/Synchro Converter	DSC11520	ILC-DDC	70
Data Acquisition System (16 single-ended channels, 12-bit resolution)	SDM872	Burr-Brown	(2560)	DC-to-DC Converter (+5V, ±15V outputs)	PWR5038	Burr-Brown		Digital to Synchro and Digital to Resolver Converter, 14-Bit	DSC644	ILC-DDC	
DC/DC Converter (±15 Vdc, ±15 mA output)	PWR70	Burr-Brown	(2562)	DC-to-DC Converter (±12V, ±15V outputs from +5V)	PWR5104 PWR5105	Burr-Brown Burr-Brown		Digital to Synchro Converter, 14-Bit	DSC544	ILC-DDC	
DC/DC Converter (±15 Vdc, ±25 mA output)	PWR71 PWR74	Burr-Brown Burr-Brown	(2562) (2562)	DC-to-DC Converter Control Circuit	MC33063A MC34063A MC35063A	Motorola Motorola Motorola † Motorola	(2963) (2963, 2991) (2963)	Digital-to-Resolver Converter	DRC1745 DRC1746	AD AD	(2422) (2422)
DC/DC Converter (±15 Vdc, 100 mA output)	PWR72	Burr-Brown	(2562)	DC-to-DC Converter (0.9V to 1.7V, 3V to 5.5V)	CA426	Calmos		Divider (See also Multipliers/Dividers below.)	AD535J AD535K DIV100	AD AD Burr-Brown	(2432) (2432) (2550)
DC/DC Converter (1.5 W output)	PWR2XX	Burr-Brown	(2562)	DC-to-DC Converter (1 mV p-p noise max.)	PWR1546A	Burr-Brown	(2563)	Driver, Control Circuit for Fast Switching Transistors	UAA4002	SGS-Thomson	
DC/DC Converter (2 W output)	PWR3XX PWR6XX	Burr-Brown Burr-Brown	(2562) (2562)	DC-to-DC Converter (5V to ±10V)	MAX680	Maxim		Driver, Switch Driver, for Power Transistors	SG1629 SG3629	† SiliconG SiliconG	80
DC/DC Converter (3 W output)	PWR4XX	Burr-Brown	(2562)	DC-to-DC Converter (8 kVpk isolation)	PWR1726	Burr-Brown	(2562)	Driver, Dual High Current MOSFET Compatible Output Driver	UC1706 UC3706	† Unitorde Unitorde	
DC/DC Converter (4 W output)	PWR5XX	Burr-Brown		DC-to-DC Converter (13 to 50 V)	PS6009	Adv Analog	(2402)	Driver, Dual, High-Current MOSFET Output	UC1707 UC3707	† Unitorde Unitorde	
DC/DC Converter (5 W output)	PWR7XX PWR8XX	Burr-Brown Burr-Brown	(2562) (2562)	DC-to-DC Converter (13 to 60 V)	PS6008	Adv Analog	(2402)	Driver, Four Channel	LAS8071P LAS8091P	Lambda Lambda	85
DC/DC Converter (450 mW output)	PWR1XX	Burr-Brown	(2562)	DC-to-DC Converter, 1500V Isolation (±7V, ±18V outputs)	PWS725 PWS740	Burr-Brown Burr-Brown	(2547, 2562) (2547, 2562)	Electronic Switching Circuit (for ignition applications)	CA3165	GE/RCA	(2653)
DC to DC Converter	IR3M03A IR3M03AN	Sharp Sharp		DC-to-DC Converter, 3500V Isolation (±7V, ±18V outputs)	PWS726	Burr-Brown	(2547, 2562)	Equalizer	ML202	MicroLinear	
DC to DC Converter (–15V to –5.2V)	PS9002	Adv Analog		DC-to-DC Voltage Converter	TSC7660C	TeledyneS		Fiber Optic LED Driver	SFD4001	STC	
DC to DC Converter (±5–16V to four outputs)	724	Burr-Brown	(2547)	Deglitcher Circuit	4903	TeledyneP		Fiber Optic Receiver Limiting Amplifier	SFA4011	STC	90
DC to DC Converter (±5–16V to dual outputs)	722	Burr-Brown	(2547)	Deglitcher (suppresses transients at outputs of D/A)	4902 4902HR	TeledyneP TeledyneP		Fiber Optic Receiver Transimpedance Amplifier	SFA4021	STC	
DC to DC Converter (four channel, dual output)	PWR1017	Burr-Brown	(2562)	Detector/Alarm System (with integral drivers for piezoelectric and mechanical horns)	CA3164A	GE/RCA	(2659)	Filter, Adaptive High-Pass (with independent gain block)	LS581	Gennum	(2691)
DC to DC Converter, Universal Microprocessor Power Supply Controller	TCA5600	Motorola		Differential Amplifier (unity gain)	INA117A INA117B	† Burr-Brown † Burr-Brown	(2545) (2545)	Filter, Digitally Programmable Low Pass	MAX270 MAX271	Maxim Maxim	
DC to DC Converter (5 V to –15, –10, –5, 10 and 15 V)	AD7560	AD	(2471)	Digital Compact Disc Sample and Hold Circuit	HA12077NT	Hitachi		Filter, E ² Programmable Dual BiQuad	SC22322 SC22324	Sierra Sierra	95
DC to DC Converter (12V to 5V)	A970	† Adv Analog		Digital Compact Disc 16-Bit DAC	HA12076NT	Hitachi		Filter, Low Pass, Seventh Order Elliptic	XR1015 XR1016	Exar Exar	(2619) (2619)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

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LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Filter, Switched Capacitor (1/3 octave bandpass)	RM5604A	EG&G-Reticon	5	Frequency-to-Voltage Converter (100 kHz)	4704	TeledyneP	45	Image Sensor, CCD (2/3inch, EIA TV standard, 574Hx485V frame transfer)	LC9911	Sanyo	95
Filter, Switched Capacitor (5th order highpass)	RF5611A	EG&G-Reticon		Frequency-to-Voltage Converter (100 kHz precision)	4710	TeledyneP		Image Sensor, CCD (1/2inch color, NTSC standard, frame transfer)	LC9973	Sanyo	
Filter, Switched Capacitor (6th order bandpass)	RF5614A	EG&G-Reticon		Function Generator, D/A Controller	CY360	Cybernetic		Image Sensor, CCD (1/2inch, EIA TV standard, 400Hx504V frame transfer)	LC9921B	Sanyo	
	RF5616A	EG&G-Reticon		Gain/Attenuator Block	ML203	MicroLinear		Image Sensor, CCD Line Sensor with 2K Pixels	LZ2019	Sharp	
Filter, Switched Capacitor (7th order lowpass)	RF5609A	EG&G-Reticon	10	Gain Control, programmable gain/loss control	SC11310	Sierra	50	Image Sensor, CCD Line Sensor (512 pixels)	LZ2018	Sharp	100
Filter, Switched Capacitor (4th order universal, digitally programmable)	CS7004	Crystal		Gain Control (programmable gain/loss control with EEPROM)	SC22310	Sierra		Image Sensor, Circular, Self Scanning	RO64	EG&G-Reticon	
Filter, Switched Capacitor (8th order universal, digitally programmable)	CS7008	Crystal		Gear Tooth Sensor	UGN3056	Sprague			RO720B	EG&G-Reticon	
Filter, Switched-Capacitor (programmable)	TSGF04	SGS-Thomson		Ground Fault Interrupter	HA16636	Hitachi		Image Sensor, Line Array	TC102-1	TI	
	TSGF08	SGS-Thomson	15	LM1851	Raytheon (3025)			TC103-1	TI	105	
	TSGF12	SGS-Thomson		Hall Effect Devices (sense magnetic field) See also Digital-Other Digital Devices	HKZ101	Siemens		TC104-1	TI		
Filter, Dual Universal	ML2110	MicroLinear			SAS231W	Siemens	55	Image Sensor, Linear Self Scanning			
Filter, Dual Universal (high frequency)	ML2111	MicroLinear			TL172C	TI		RL0064A	EG&G-Reticon		
Flasher (LED)	LM3909	National	20	TL173C	TI	60	RL0128E	EG&G-Reticon			
Flasher, Pulse Generator	U175	Telefunken		TL3013	TI		RL0128G	EG&G-Reticon			
	U176	Telefunken		TL3101	TI		RL0128L	EG&G-Reticon			
Fluid Detector (oscillator, balance detector)	LM1830	National		Hall Effect Switches (senses magnetic field)	UGN3119T		Sprague (3259)	65	RL0128S	EG&G-Reticon	
	ULN2429A	Sprague	25	UGN3119U	Sprague (3259)		RL0128SAF	EG&G-Reticon			
Fluid Level Detector (non-flammable fluids)	LM1042	National		UGN3120T	Sprague (3259)		RL0256C	EG&G-Reticon			
Flux Valve to Digital Converter	FDC632	ILC-DDC		UGN3120U	Sprague (3259)		RL0256E	EG&G-Reticon			
Flyback Converter Control Circuit	TDA4601	Motorola		UGN3140T	Sprague (3259)		RL0256G	EG&G-Reticon			
	TDA4601B	Motorola	30	UGN3140U	Sprague (3259)	65	RL0512C	EG&G-Reticon			
Flyback Converter Regulator Control Circuit	TDA4600	Motorola		UGS3119T	Sprague		RL0512E	EG&G-Reticon			
Frequency Switch, Programmable	MC3344	Motorola		UGS3119U	Sprague		RL0512G	EG&G-Reticon			
Frequency-to-Voltage Converter	451	AD (2420)		UGS3120T	Sprague		RL0512S	EG&G-Reticon			
	453	AD (2420)	35	UGS3120U	Sprague	70	RL1024C	EG&G-Reticon			
	MB4206	Fujitsu		UGS3140T	Sprague		RL1024G	EG&G-Reticon			
	MB4207	Fujitsu		UGS3140U	Sprague		RL1024H	EG&G-Reticon			
Frequency-to-Voltage Converter (precision)	CS2907	Cherry Semi					RL1024S	EG&G-Reticon			
	CS2917	Cherry Semi	40	Hall-Effect Switch (for alternating magnetic field)	TLE4901F	Siemens	RL1024SF	EG&G-Reticon			
	XR2917	Exar		Image Area Sensor, CCD Area Sensor with 270K Pixels (for 1/2" NTSC color)	LZ2111	Sharp	RL1728H	EG&G-Reticon			
	LM2907	National			LZ2112	Sharp	RL2048H	EG&G-Reticon			
	LM2917	National		Image Area Sensor, CCD Area Sensor with 320K Pixels (for 1/2" PAL color)	LZ2121	Sharp	RL4096	EG&G-Reticon			
	L290	SGS-Thomson	45	LZ2122	Sharp	RL512SAF	EG&G-Reticon				
	L291	SGS-Thomson		Image Area Sensor, Linear Self Scanning			CCD111	National			
	L292	SGS-Thomson		RA128x128	EG&G-Reticon	75	CCD112	National			
	L293	SGS-Thomson		RA256x256B	EG&G-Reticon		CCD122	National			
	4736	TeledyneP	Image Rotator	6125A	OEI		CCD123	National			
	LM2907	TI	Image Sensor, Area, Linear Self-Scanning	RA0100A	EG&G-Reticon		CCD133	National			
	LM2917	TI	50	RA0128A	EG&G-Reticon	CCD134	National				
Frequency-to-Voltage Converter (1 MHz)	4706	TeledyneP		RA1441A	EG&G-Reticon	CCD143	National				
Frequency-to-Voltage Converter (10 kHz)	4702	TeledyneP		Image Sensor, Area, 488x380 Element, CCD	CCD222	National	CCD145	National			
	4714	TeledyneP					CCD151	National			
	4722	TeledyneP	55	Image Sensor, CC Photodiode	CCPD128x4	EG&G-Reticon	Image Sensor, Linear Self-Scanning				
Frequency-to-Voltage Converter (10 kHz precision)	4708	TeledyneP		CCPD128x8	EG&G-Reticon	80	RL01024SAX	EG&G-Reticon			
				RL0256D	EG&G-Reticon		RL0128SAX	EG&G-Reticon			
				RL0512D	EG&G-Reticon		RL0256CEQ	EG&G-Reticon			
			RL0512R	EG&G-Reticon	RL0512SAX		EG&G-Reticon				
			60	RL1024D	EG&G-Reticon	85	Image Sensor, Matrix (525h x 492v)				
				RL1282D	EG&G-Reticon		MB8037A	Fujitsu			
				RL1284D	EG&G-Reticon		MB8038A	Fujitsu			
				RL1288D	EG&G-Reticon		Image Sensor Support				
			65	RL2048D	EG&G-Reticon	TMS3471	TI				
				Image Sensor, CCD (1/6inch, 180Hx260V frame transfer)	LC9943	Sanyo	TMS3472	TI			
							TMS3473	TI			
							Image Sensor, 64K Elements Total (32K light sensing elements)	IS32	MicronTech		
			70			Image Sensor, 128x1, CCD	TC102	TI			
							Image Sensor, 256K Elements Total (64K light sensing elements)	IS256	MicronTech		
							Image Sensor, 256x1, CCD	CCD111	National		
								CCD112	National		

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◇ Available in Surface Mount Package

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LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Image Sensor, 1024x1, CCD	CCD133	National		Light Activated Switch	ZNP100	Plessey		Multifunction Converters (XY/Z)expM	4301	Burr-Brown	
	CCD134	National			ZNP102	Plessey			4302	Burr-Brown	
					ZNP103	Plessey				(2549)	
Image Sensor, 1728x1, CCD	CCD121	National		Light Detector (with buffer amplifier)	U123	Telefunken		Multiplier/Divider	AD632A	Burr-Brown	
	CCD122	National								(2549)	
	CCD123	National		Light Sensor	ULN3311D	† Sprague (3259)			AD632B	Burr-Brown	
Image Sensor (2048 element)	MB8033	Fujitsu			ULN3311T	Sprague (3259)				(2549)	
					ULN3312D	† Sprague (3259)			AD632S	† Burr-Brown	
					ULN3312T	Sprague (3259)				(2549)	
Image Sensor, 2048x1, CCD	CCD143	National		Line Protector, Octal (over-voltage/over-current limiting device)	LB1010AD	AT&T			AD632T	† Burr-Brown	
	CCD145	National								(2549)	
	TC103	TI		Linear Hall-Effect Devices	TL3103C	TI		Multipliers	AD539J	AD (2432, 2462)	
Image Sensor, 3456x1, CCD	CCD151	National			TL3103I	TI			AD539K	AD (2432, 2462)	
	TC104	TI		Log/Antilog Amplifier	AD640	AD (2433, 2452)			AD539S	† AD (2432, 2462)	
Image Sensor (4096 element)	MB8035	Fujitsu							AD632	AD (2432, 2462)	
				Log/Antilog Amplifier (4 decade)	759	AD			MPY534	Burr-Brown	
Image Sensor, 192x165, CCD	TC210	TI								(2549)	
	TC211	TI		Log/Antilog Amplifier (6 decade)	755	AD			XR2208	Exar	
Image Sensor, 2952x1, CCD	TC106-1	TI							XR2208M	† Exar	
				Logarithmic Operator (negative input)	4358	TeledyneP			XR2228	Exar	
Image Sensor, 754x488, CCD	TC240	TI			4363	TeledyneP			XR2228M	† Exar	
	TC241	TI		Logarithmic Operator (positive input)	4357	TeledyneP			ICL8013C	GE/Intersil	
Infrared Remote Control System	SDA3208	Siemens			4362	TeledyneP				(2678)	
Instrumentation Amplifier	4253	TeledyneP		Low Battery Indicator, Triggers on 3 V (for use with 3 NiCd cells)	ICM7201	GE/Intersil			ICL8013M	† GE/Intersil	
Isolation Power Supply (3100V)	710	Burr-Brown		LVDT Signal Conditioner	NE5521	Signetics (3180)				(2678)	
		(2547)			SE5521	Signetics			CA3091	† GE/RCA (2659)	
Isolation Power Supply (3400V)	PWS727	Burr-Brown		LVDT to Digital Converter (1 kHz to 10 kHz reference frequency)	2550/460	† AD (2421)			MC1494	Motorola	
		(2547)			2550/560	AD (2421)			MC1495	Motorola	
	PWS728	Burr-Brown		LVDT to Digital Converter (400 Hz reference frequency)	2550/410	† AD (2421)			MC1594	† Motorola	
		(2547)			2550/510	AD (2421)			MC1595	† Motorola	
	PWS750	Burr-Brown		LVDT-to-Digital Converter	2582	AD (2421)			SG1495	♦ SiliconG	
		(2547)		Magnetic Amplifier Control Circuit	UC1838	Unitrode			SG1595	♦† SiliconG	
Isolation Power Supply (4200V)	700	Burr-Brown			UC2838	Unitrode			TA7158	Toshiba	
		(2547)			UC3838	Unitrode					
Lamp Monitors for 24 V Systems (trucks, buses, railroad, and marine use)	ULN2457A	Sprague		Micropower Regulator and Comparator (125 mA output current)	LT1020C	LinearTech		Multipliers/Dividers	AD532J	♦ AD (2432, 2462)	
					LT1020M	† LinearTech			AD532K	♦ AD (2432, 2462)	
Laser Diode Driver Circuit	IR3C07/N	Sharp		Moisture Sensor	HIO55001-6	Harris			AD532S	♦† AD (2432, 2462)	
	IR3C08	Sharp		Motor, Brushless DC Motor Commutator	LS7262	LSI Comp (2883)			AD533J	AD (2470)	
Level Detector, Fluid	LM903	National			LS7264	LSI Comp (2883)			AD533K	AD (2470)	
Level Detector, Logarithmic, 10 Step Analog	NSL4944	National		Motor, Brushless DC Motor Speed Controller, 4 Phase					AD533L	AD (2470)	
Level Detector, 12-Point (for fluorescent displays)	LC7555	Sanyo		Motor, DC Motor Controller (position and velocity control)	GL1200	Galil			AD533S	† AD (2470)	
	LC7556	Sanyo			TLP298	TI (3322)			AD534J	♦ AD (2432, 2462)	
Level Meter, Analog Input Drives a Bar of LED's	LB1405	Sanyo		Motor Driver	L298	Unitrode			AD534K	♦ AD (2432, 2462)	
	UAA170	Siemens		Motor Driver, Full Bridge, Dual	UC1610	† Unitrode			AD534L	♦ AD (2432, 2462)	
	UAA180	Siemens			UC3610	Unitrode			AD534S	♦† AD (2432, 2462)	
Level Meter Detector (9 levels detect/drive)	MB3764	Fujitsu		Motor Driver, Dual, Schottky Diode					AD534T	♦† AD (2432, 2462)	
									AD538	AD (2432, 2462)	
Level Meter, 5-Dot LED	GL1223	GoldStar (2712)		Motor Speed Regulator, Auto Reverse	TDA7272	SGS-Thomson			MPY100	Burr-Brown	
Level Translator, High-Voltage (for driving the AP0130NA MOSFET array)	HT0130P	AT&T		Motor Speed Regulator (for small dc motors). See also Linear—Consumer Circuits.	KA2401	Samsung				(2549)	
					KA2402	Samsung			MPY100A	Burr-Brown	
					KA2403	Samsung				(2549)	
				Multifunction Converter (generates output = (V1+V2)	LH0094	National			MPY100S	† Burr-Brown	
					LH0094C	National				(2549)	
									MPY634	Burr-Brown	
										(2549)	
									4203	Burr-Brown	
									4203S	† Burr-Brown	
									4204	Burr-Brown	
									4204S	† Burr-Brown	
									4205	Burr-Brown	
									4205S	† Burr-Brown	
									4206	Burr-Brown	
									4213	Burr-Brown	
									4213S	† Burr-Brown	
									4213U	Burr-Brown	
									4213V	Burr-Brown	
									4213W	Burr-Brown	
									4214	Burr-Brown	
									4214M	† Burr-Brown	
									RC4200	Raytheon (3025)	
									RC4200A	Raytheon (3025)	
								Noise Generator (psuedo-random sequence generator for audio)	MM5837	National	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

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LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Op Amp/Comparator (with shutdown control and isolated transistor)	CA3177E	GE/RCA (2652, 2656)		Optoisolator, Open-Collector Output (3kV dc isolation)				Overvoltage Protector (up to 35 V, 20 A)			
					6N136	TI			42093-0720	Micropac	
					6N137	TI			42093-0820	Micropac	
Op Amp (triple programmable array)	CA144	Calmos		Optoisolator, Dual Open-Collector Output (3kV dc isolation)	HCPL2630	TI	65		42093-0920	Micropac	125
Optocoupler	TIL102	TI	5	Oscillator, Crystal Clock (250 kHz to 60 MHz)					42093-1020	Micropac	
	TIL103	TI			CK1100A	Solarise			42093-1220	Micropac	
	TIL111	TI			CK1114A	Solarise			42093-1420	Micropac	
	TIL112	TI			CK1144A	Solarise			42093-1620	Micropac	130
	TIL113	TI			CK1145A	Solarise			42093-1820	Micropac	
	TIL114	TI		Oscillator, Fixed Frequency (10 Hz to 20 kHz)			70	Overvoltage Protector (up to 35 V, 25 A)			
	TIL115	TI			4025	Burr-Brown			42093-0525	Micropac	
	TIL116	TI	10	Oscillator, General Purpose (external crystal required)					42093-0625	Micropac	
	TIL117	TI			LS1122AC	AT&T			42093-0725	Micropac	
	TIL118	TI			LS1123AC	AT&T			42093-0825	Micropac	135
	TIL119	TI		Oscillator, Resistor Tuneable					42093-0925	Micropac	
	TIL119A	TI			ROJ20	Datel	15		42093-1025	Micropac	
	TIL120	TI		Oscillator, Quadrature					42093-1225	Micropac	
	TIL121	TI			4423	Burr-Brown			42093-1425	Micropac	140
	TIL124	TI		Over/Under-Voltage Detector, Dual					42093-1625	Micropac	
	TIL125	TI			ICL7665	GE/Intersil (2677)	20		42093-1825	Micropac	
	TIL126	TI							42093-2025	Micropac	
	TIL127	TI		Overvoltage and Overtemperature Protector				Overvoltage Protector (up to 35 V, 30 A)			
	TIL128	TI			MPC2011	Motorola			42093-0530	Micropac	
	TIL128A	TI			MPC2012	Motorola			42093-0630	Micropac	
	TIL153	TI	25		MPC2014	Motorola			42093-0730	Micropac	145
	TIL154	TI			MPC2015	Motorola			42093-0830	Micropac	
	TIL155	TI		Overvoltage Protector					42093-0930	Micropac	
	TIL156	TI			L20V12	Lambda	80		42093-1030	Micropac	
	TIL157	TI			L20V15	Lambda			42093-1230	Micropac	
	TIL157A	TI			L20V24	Lambda			42093-1430	Micropac	150
	TIL186	TI	30		L20V5	Lambda			42093-1630	Micropac	
	TIL187	TI			L60V12	Lambda			42093-1830	Micropac	
	TIL189	TI			L60V15	Lambda		85	42093-2030	Micropac	
	TIL190	TI			L60V24	Lambda					
	3N261	TI			L60V5	Lambda			Overvoltage Protector (up to 35 V, 35 A)		
	3N262	TI			MC34062	Motorola			42093-0535	Micropac	155
	3N263	TI	35		MC3423	Motorola (2990)			42093-0635	Micropac	
	4N22	TI			MC3523	† Motorola	90		42093-0735	Micropac	
	4N23	TI			μPC3423	NEC			42093-0835	Micropac	
	4N24	TI			SG1542	‡ SiliconG			42093-0935	Micropac	
	4N25	TI			SG2542	‡ SiliconG			42093-1035	Micropac	160
	4N26	TI	40		SG3423	‡ SiliconG			42093-1235	Micropac	
	4N27	TI			SG3423A	‡ SiliconG		95	42093-1435	Micropac	
	4N28	TI			SG3523	‡ SiliconG			42093-1635	Micropac	
	4N35	TI			SG3523A	‡ SiliconG			42093-1835	Micropac	
	4N36	TI			SG3542	‡ SiliconG			42093-2035	Micropac	
	4N37	TI	45								
	4N47	TI		Overvoltage Protector (up to 35 V, 10 A)				Overvoltage Protector (up to 35 V, 6 A)			
	4N48	TI			42092-1010	Micropac			42092-056	Micropac	165
	4N49	TI			42092-1210	Micropac			42092-066	Micropac	
	6N138	TI			42092-1410	Micropac	100		42092-076	Micropac	
	6N139	TI	50		42092-1610	Micropac			42092-086	Micropac	
Optocoupler, High DC Transfer Ratio	MCT2	TI			42092-1810	Micropac			42092-096	Micropac	
	MCT2E	TI			42092-2010	Micropac			42092-106	Micropac	170
Optocoupler/Optoisolator, High Speed	HCPL2601	TI			42092-510	Micropac	105		42092-126	Micropac	
Optocoupler (used with telephone ring detector)	TIL181	TI			42092-610	Micropac			42092-146	Micropac	
Optoelectronic switch, Twilight Sensor	ULN3390D	Sprague	55		42092-710	Micropac			42092-166	Micropac	
	ULN3390T	Sprague			42092-810	Micropac			42092-186	Micropac	
Optoisolator, Buffer Open-Collector Output (5kV peak isolation)	OPI8013	TI		Overvoltage Protector (up to 35 V, 15 A)			110	Peak Detector (senses and holds peak)			
Optoisolator, Buffer Totem-Pole Output (5kV peak isolation)	OPI8012	TI			42092-1015	Micropac			4085	Burr-Brown (2549)	
Optoisolator, Inverter Open-Collector Output (5kV peak isolation)	OPI8015	TI			42092-1215	Micropac			4085M	† Burr-Brown (2549)	
Optoisolator, Inverter Totem-Pole Output (5kV peak isolation)	OPI8014	TI	60		42092-1415	Micropac			AH503	‡ OEI	
Optoisolator, Open-Collector Output (3kV dc isolation)	HCPL2502	TI			42092-1615	Micropac			AH504	‡ OEI	
	6N135	TI			42092-1815	Micropac	115		5030A	OEI	180
					42092-2015	Micropac			5032A	OEI	
					42092-515	Micropac			5902	† OEI	
					42092-615	Micropac			PKD01	PMI	
					42092-715	Micropac			PKD01A	† PMI	
					42092-815	Micropac	120		PKD01B	† PMI	185
					42092-915	Micropac					
				Overvoltage Protector (up to 35 V, 20 A)				Phase Control	TLE3101	Siemens	
					42093-0520	Micropac			TLE3102	Siemens	
					42093-0620	Micropac			TLE3103	Siemens	
									TLE3104	Siemens	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

‡ Available in Surface Mount Package

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LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Phase/Frequency Comparator (1 GHz)	10G044-2	GigaBit (2693)		Power Supply Control (voltage reference, over and under voltage sensing)	UC2903	Unitrode		Pulse Width Modulator	HS3761RH	† Harris	100
Phase/Frequency Comparator (750 MHz data rate)	16G044-3	GigaBit (2693)			UC3543	Unitrode			SLE4520	Siemens	
Phase/Frequency Discriminator (digital)	AD9901	AD (2433, 2452)			UC3544	Unitrode		Pulse Width Modulator Control Circuit (current mode)			
Phototransistor					UC3901	Unitrode	60		CS2844	Cherry Semi	
LS600	TI				UC3903	Unitrode			CS2845	Cherry Semi	
TIL601	TI		5	Power Supply Control (voltage reference, quad over and under voltage sensing)					CS3844	Cherry Semi	105
TIL602	TI				ULN8130A	Sprague		Pulse Width Modulator Controller			
TIL603	TI				ULN8131A	Sprague			UC3843	SGS-Thomson	
TIL604	TI								UC3844	SGS-Thomson	
TIL604HR2	TI			Power Supply Controller (negative switch-mode)	RC4292	Raytheon (3025)		Pulse Width Modulator Controller, Programmable, Off-Line	SG1840	† SiliconG	
TL603	TI		10		RM4292	Raytheon			SG2840	SiliconG	
1N5722	TI			Power Supply Controller (resonant mode)	GP605	Gennum (2692)	65		SG3840	SiliconG	110
1N5723	TI							Pulse Width Modulator, Current Mode			
1N5724	TI			Power Supply Controller (resonant mode 10 kHz to 1 MHz)	LD405	Gennum (2692)			SG1825	† SiliconG	
1N5725	TI			Power Supply Controller, Resonant Mode (10KHz to 1 MHz)	LS405	Gennum			SG2825	SiliconG	
PIN Diode Driver									SG3825	SiliconG	
DH0035	† National		15	Power Supply Controller (voltage reference, pulse generator and timing circuitry, error amp)				Pulse Width Modulator, Primary Side	XRT469	Exar (2619)	
DH0035C	National				TL496C	TI		Pulse Width Modulator (PWM) Control Circuit with On-Chip 5 Volt Precision Reference			
UDS5791H	† Sprague			Power Supply, Linear Regulator, High Efficiency					MC33060A	Motorola (2963)	115
Pluse Width Modulator Controller	UC3845	SGS-Thomson			UC1834	† Unitrode	20		MC34060A	Motorola (2963, 2991)	
Potentiometer, E ²					UC1834/883B	† Unitrode			MC35060A	† Motorola (2963)	
X9103	Xicor	(3421)			UC2834	Unitrode			TL594C	Motorola (2964)	
X9103M	† Xicor	(3421)			UC3834	Unitrode			TL594M	† Motorola (2964)	
X9104	Xicor	(3421)		Power Supply Monitor				Pulse Width Modulator, Regulating			
X9104M	† Xicor	(3421)			MB3771	Fujitsu	75		SG1526B	† SiliconG	120
X9503	Xicor	(3421)		Power Supply Monitor (w/timer)					SG2526B	SiliconG	
X9503M	† Xicor	(3421)			MB3773	Fujitsu			SG3526B	SiliconG	
Potentiometer, E ² (with 8-bit DAC and voltage reference)	SC22300	Sierra	25	Power Supply Monitoring IC (monitors independent voltages)	TDA4917A	Siemens		Pulse Width Modulator with Precise 5 Volt Reference			
Potentiometer, Dual Double	TDA1074A	Signetics		Power Supply Overvoltage Sensing Circuit, Pin Programmable	MC35062	Motorola			μA1524A	† National	
Potentiometer, 3 1/2-Digit BCD									μA2524A	National	125
AD7525K	◊ AD	(2470)		Power Supply Overvoltage Sensing Circuit, Three-Terminal				Pulse Width Modulator, Single Uncommitted	TL496	TI	
AD7525L	◊ AD	(2470)			MC34061	Motorola	30		TL497A	TI	
AD7525U	◊† AD	(2470)			MC34061A	Motorola		Pulse Width Modulator, Single-Ended			
Potentiometer, 5-Volt Only (nonvolatile)	X9MME	Xicor (3461)	30		MC35061A	Motorola			UC1823	Unitrode	
Power Control Zero Voltage Switch	SL445A	Plessey		Power Supply Supervisory Circuit					UC1823/883B	Unitrode	
Power Converter, Off-Line (50W)	HS9503	National			SG3524	◊ SGS-Thomson			UC2823	Unitrode	130
Power Fail Detector	ICL7677	GE/Intersil (2677)			SG3524A	◊ SGS-Thomson		Pulse-Width Modulator Control System (for switching regulators, motor-speed controllers)			
Power Fault Monitor, Quad (monitors 4 dc voltages and the ac line)					UC3524A	SGS-Thomson			XR2230	◊ Exar	
SG1548	† SiliconG		35		TL7702A	◊ TI		Pulse-Width Modulator (frequency adjustable to 500 kHz)	LB1048AA	AT&T	
SG2548	SiliconG				TL7705A	◊ TI		Pulse-Width Modulator, Switched-Mode (adjustable to 500 kHz)	LB1132AC	AT&T	
SG3548	SiliconG				TL7709A	◊ TI		Pulse-Width Modulator, Single Uncommitted			
Power Supply Control (voltage reference, over and under voltage sensing)					TL7712A	◊ TI			LT1070	TI	135
LBR SERIES	AT&T				TL7715A	◊ TI			MC34060	TI (3322)	
XR1543	Exar (2619)			Power Supply Supervisory Circuit, Over-Voltage Monitor	MC3423	TI	90	Pulse-Width Modulator, Dual Uncommitted			
XR2543	Exar								SG2524	TI	
XR3543	Exar		40	Power Supply Supervisory Circuit (triple over/under voltage transient supervision)	CA2862	Calmos			SG2525A	TI	
SG1543	◊† SiliconG			Power Supply Supervisory/Over-Under Voltage Protection Circuit	MC3425	Motorola			SG2527A	TI	
SG1544	◊† SiliconG								SG3525A	TI	140
SG2543	◊ SiliconG			Pressure Sensors, Piezoresistive (integral gain-set resistor)	1210	IC Sensors	45		SG3527A	TI	
SG2544	◊ SiliconG				1220	IC Sensors			TL493	TI	
SG3543	◊ SiliconG			Programmable Tone/Noise Generator					TL494	TI	
SG3544	◊ SiliconG				SN76494	TI			TL495	TI	
UC1543	† Unitrode				SN76496	TI	50		TL594	TI	145
UC1543/883B	† Unitrode			Proximity Detector, Electromagnetic	CS209	Cherry Semi			TL595	TI	
UC1544	† Unitrode								UC3846	TI	
UC1544/883B	† Unitrode			Pulse Width Control Circuit					UC3847	TI	
UC1901	† Unitrode				MB3759	Fujitsu		Pulse-Width Modulator (200 kHz ramp generation frequency)	LB1117AC	AT&T	
UC1901/883B	† Unitrode							PWM Control Circuit, High-Speed			
UC1903	† Unitrode								MB3769	Fujitsu	150
UC2543	Unitrode										
UC2544	Unitrode										
UC2901	Unitrode										

(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

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◊ Available in Surface Mount Package

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Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
PWM Controller, Programmable, Off Line	UC1841	Unitrode		Reference Voltage (two terminal active circuit) 1.235 V $\pm$ 2%	LM385-1	Motorola		Reference Voltage, 2.5 V	LM236-2	National	(Cont'd)
	UC2841	Unitrode			LM385B-1	Motorola			LM236A-2	National	
	UC3841	Unitrode			LM185	† National			LM285-2	National	
Reference voltage, -10 V.	REF08A	† PMI			LM285	National			LM336-2	◊ National	
	REF08G	PMI			LM385	◊ National			LM368-2	National	
	REF08H	PMI							LM385-2	◊ National	
Reference Voltage, -10 V	VRE101C	Thaler		Reference Voltage, 1.2 V	LT1034-12	LinearTech			μ PC1060	NEC	
	VRE101M	† Thaler		Reference Voltage, 1.23 V	AD589J	AD (2426, 2462)		Reference voltage, 2.5 V.	REF03G	◊ PMI	
Reference Voltage, -10V/10.24V	REF08	PMI			AD589K	AD (2426, 2462)			REF43F	PMI (3012)	
					AD589L	AD (2426, 2462)			REF43G	PMI (3012)	
Reference Voltage, ($\pm$ 5 V)	LT1029AC	LinearTech			AD589M	AD (2426, 2462)		Reference Voltage, 2.5 V	REF03	Raytheon	
	LT1029AM	† LinearTech			AD589S	† AD (2426, 2462)			REF03C	Raytheon	
	LT1029C	LinearTech			AD589T	† AD (2426, 2462)			REF03D	Raytheon	
	LT1029M	† LinearTech			AD589U	† AD (2426, 2462)			TDB0136	SGS-Thomson	
	VRE107C	Thaler			ICL8069	GE/Intersil			TDC0136	† SGS-Thomson	
	VRE107M	† Thaler				(2677)			SG1503	SiliconG	
Reference Voltage, $\pm$ 10 V	AD2702J	AD (2426, 2461)			ICL8069M	† GE/Intersil			SG2503	SiliconG	
	AD2702L	AD (2426, 2461)			LM185-1	† National			SG3503	SiliconG	
	AD2702S	† AD (2426, 2461)			LM285-1	National			LT1009M	TI (3322)	
	AD2702U	AD (2426, 2461)			LM385-1	◊ National		Reference Voltage, 2.5 V (trimmable output)	ZNREF025	Plessey	
	AD2712K	AD (2426)		Reference Voltage, 1.26 V (two terminal active circuit)	ZN423	Plessey		Reference Voltage, 2.5 (1% Tolerance)	REF25	Plessey	
	AD2712L	AD (2426)						Reference Voltage, 2.5, 5.0, 7.5, and 10.0 V	AD584J	◊ AD (2426, 2462)	
	AD2720	AD							AD584K	◊ AD (2426, 2462)	
	R675B-3	† HybridSys							AD584L	◊ AD (2426, 2462)	
	R675C-3	HybridSys							AD584S	◊† AD (2426, 2462)	
	HC2702	◊ HyComp							AD584T	◊† AD (2426, 2462)	
	HC2702-883	◊† HyComp							AD584U	◊† AD (2426, 2462)	
	HC2712	◊ HyComp							AD584J	Maxim	
	HC2712-883	◊† HyComp							AD584K	Maxim	
	VRE102C	Thaler							AD584L	Maxim	
	VRE102M	† Thaler							AD584S	† Maxim	
Reference Voltage, $\pm$ 10V	52101	† Micropac							AD584T	† Maxim	
Reference Voltage, $\pm$ 15 V	VRE135	Thaler							AD584U	† Maxim	
Reference Voltage, Adjustable to 36V	KA431	Samsung (3039)						Reference Voltage, 2.5, 5.0, 7.5, and 10.0V	AD584	Maxim	
Reference Voltage (high temperature)	VRE120	Thaler						Reference Voltage, 2.5V	REF03	PMI	
Reference Voltage, Pin-Programmable Outputs ($\pm$ 5V, 5V and 10V, -5V and -10V dual outputs or 5V, -5V, 10V, -10V single outputs)	AD588A	AD (2426)							REF43	PMI (3012)	
	AD588B	AD (2426)						Reference voltage, 2.5V.	REF43B	† PMI (3012)	
	AD588C	AD (2426)						Reference Voltage, 2.5V (1% tolerance)	REF25Z	Plessey	
	AD588S	† AD (2426)						Reference Voltage, 4 V (trimmable output)	ZNREF040	Plessey	
	AD588T	† AD (2426)						Reference Voltage, 4V	LB1081AC	AT&T	
Reference Voltage, Programmable	TL430	TI						Reference Voltage, 5 V	ADREF02H	AD	
	TL431	◊ TI							ADREF02A	† AD (2426, 2462)	
Reference Voltage (two terminal active circuit) 1.225 V $\pm$ 1%)	LT1034	LinearTech							ADREF02E	AD (2426,	

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Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Reference Voltage, 5 V		(Cont'd)		Reference Voltage, 8V (trimmable output)				Reference Voltage, 10 V (or -10 V)		(Cont'd)	
MPREF-02F	MicroPwr			LB1081EC	AT&T			REF01C	LinearTech		
MPREF-02H	MicroPwr						60	REF01E	LinearTech		
LM136-5	† National			Reference Voltage, 10 V				REF01H	LinearTech		130
LM136A-5	† National			ADREF01A	† AD (2426, 2462)			AD2700J	Maxim		
LM168-5	† National			ADREF01E	AD (2426, 2462)			AD2700L	Maxim		
LM236-5	National			ADREF01H	AD (2426, 2462)			AD2700S	Maxim		
LM236A-5	National			AD587	AD (2426, 2462)			AD2700U	Maxim		
LM268-5	National			LT1021-10	LinearTech		65	AD2701J	Maxim		135
LM336-5	◊ National			AD581J	Maxim			AD2701K	Maxim		
LM336B-5	◊ National			AD581K	Maxim			AD2701L	Maxim		
LM368-5	National			AD581L	Maxim			AD2701S	† Maxim		
REF02	◊ PMI			AD581T	† Maxim		70	AD2701U	† Maxim		
REF02A	◊ PMI			AD581U	† Maxim			AD2710L	Maxim		140
REF02C	◊ PMI			LM169	† National			REF01	◊ Maxim		
REF02D	◊ PMI			LM369	National			REF01A	◊ Maxim		
REF02E	◊ PMI			VRE100C	Thaler			REF01C	◊ Maxim		
REF02H	◊ PMI			VRE100M	† Thaler		75	REF01D	◊ Maxim		
REF05A	PMI							REF01E	◊ Maxim		145
REF05B	† PMI			Reference Voltage, 10 V, Kelvin Sensed Output (1 mV accuracy)	MAX671C	Maxim		REF01H	◊ Maxim		
REF02	Raytheon (3025)		20	MAX671M	Maxim			MPREF-01	† MicroPwr		
REF02A	Raytheon (3025)							LH0070	† National		
REF02C	Raytheon (3025)			Reference Voltage, 10 V, Kelvin Sensed Output (2.5 mV accuracy)	MAX670C	Maxim		LM168-10	† National		
REF02D	Raytheon (3025)			MAX670M	Maxim			LM268-10	National		150
REF02E	Raytheon (3025)			Reference Voltage, 10 V (trimmable output)				LM368-10	National		
REF02H	Raytheon (3025)		25	REF101J	Burr-Brown		80	REF01	◊ PMI		
TSC9495C	TeledyneS				(2551)			REF01A	◊ PMI		
VRE105C	Thaler			REF101S	† Burr-Brown			REF01C	◊ PMI		155
VRE105M	† Thaler				(2551)			REF01E	◊ PMI		
				ZNREF100	Plessey			REF01H	◊ PMI		
Reference Voltage, 5 V (trimmable output)								REF10A	† PMI		
ZNREF050	Plessey			Reference Voltage, 10 V (or -10 V)				REF10B	† PMI		
Reference Voltage, 5.0 V				AD2700J	AD (2426, 2461)		85	REF01	Raytheon (3025)		
LT1019C-5	LinearTech		30	AD2700L	AD (2426, 2461)			REF01A	Raytheon (3025)		160
LT1019M-5	† LinearTech			AD2700S	† AD (2426, 2461)			REF01C	Raytheon (3025)		
Reference Voltage, 5V				AD2700U	† AD (2426, 2461)			REF01D	Raytheon (3025)		
REF05	PMI			AD2701J	AD (2426)			REF01E	Raytheon (3025)		
Reference Voltage, 5V (trimmable output)				AD2701L	AD (2426)			REF01H	Raytheon (3025)		
LB1081BC	AT&T			AD2701S	† AD (2426)		90	REF01H	Raytheon (3025)		165
Reference Voltage, 5V (1% Tolerance)				AD2701U	† AD (2426)			TSC9496C	TeledyneS		
REF50	Plessey			AD2710K	AD (2426)						
REF50Z	Plessey			AD2710L	AD (2426)			Reference Voltage, 10.0 V			
Reference Voltage, 6.2 V				AD2720A	AD		95	LT1019C-10	LinearTech		
LM168-6	† National			AD2720C	AD			LT1019M-10	† LinearTech		
LM268-6	National			AD2720S	† AD			Reference Voltage, 10			

◆ Available in Surface Mount Package

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LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Relays, High Voltage, Optically Coupled	LH1056A TYPE	AT&T	(2536)	RMS to DC Converter	AD536AJ	AD	(2432)	Sample and Hold Circuits	SHC80	Burr-Brown	(Cont'd)
	LH1061A TYPE	AT&T	(2536)		AD536AK	AD	(2432)		SHC803	Burr-Brown	
	LH1061AB	AT&T	(2536)		AD536AS	† AD	(2432)				(2556)
	LH1085AT	AT&T	(2536)		AD636J	AD	(2432)		SHC804	Burr-Brown	(2556)
					AD636K	AD	(2432)				
Resolver and Synchro Systems	MSC2S20	AD				AD637J	AD	(2432, 2462)	SHC85	Burr-Brown	(2556)
	SDC1740	AD	(2421)			AD637K	AD	(2432, 2462)	SHC85ET	Burr-Brown	(2556)
	SDC1741	AD	(2421)			4340	Burr-Brown				
	SDC1742	AD	(2421)			4341	Burr-Brown				
	1S14	AD	(2470)			LH0091	† National				
	1S20	AD	(2421)		LH0091C	National					
	1S24	AD	(2470)	RMS to DC Converter (true RMS)	AD737A	AD	(2432)				
	1S40	AD	(2421)		AD737B	AD	(2432)				
	1S44	AD	(2470)		AD737J	AD	(2432)				
	1S60	AD	(2421)		AD737K	AD	(2432)				
	1S61	AD	(2421)								
	1S64	AD	(2470)	RMS-to-DC Converter	AD736	AD	(2432)				
	1S74	AD	(2470)								
	2S20	AD	(2470)		Sample and Hold Amplifier	AD681	AD	(2423)			
	5S70	AD	(2422)			AD683	AD	(2423)			
	5S72	AD	(2422)			AD684	AD	(2423, 2450)			
				SHA1144		AD	(2423)				
				SHC702		Burr-Brown					
						(2556)					
					SHMHU	Datel	(2597)				
					SHMUH3	Datel					
					SHM30C	Datel	(2597)				
					Sample and Hold Circuit	SH376	Adv Analog	(2403)			
						SHA2110	Analogic				
						SHA2111	Analogic				
						SHA2140	Analogic				
					SHA2141	Analogic					
					SHM9MC	Datel	(2597)				
					SCS3001	STC					
					Sample and Hold Circuit (dual high-performance)	SHA2400	Analogic				
	Resolver, Digital to Resolver Converter (DRC)	DRC1765	† AD	(2470)	Sample and Hold Circuits	A880	Adv Analog				
		DRC1766	† AD	(2470)		A882	Adv Analog				
DRC10520		ILC-DDC		SH346		† Adv Analog	(2403)				
				SH347		† Adv Analog	(2403)				
Resolver to Digital Converter (10-bits)	RDC630	ILC-DDC		ADSHC-85		AD					
Resolver to Digital Converter (12-bits)	RDC632	ILC-DDC		ADSHC-85E		† AD					
Resolver to Digital Converter (14-bits)	RDC634	ILC-DDC		ADX346		AD					
Resolver to Digital Converter (16-bits)	RDC502	ILC-DDC		AD346		AD	(2423, 2462)				
Resolver to Digital Converter, 10- to 14-Bit Programmable Resolution	SDC14564	ILC-DDC		AD582K		AD	(2423, 2462)				
	SDC14565	ILC-DDC		AD582S		† AD	(2423, 2462)				
	SDC14566	ILC-DDC		AD583K	AD	(2423)					
Resolver to Digital Converter, 12-Bit	IDC14542	ILC-DDC		AD583S	† AD	(2423)					
	IDC35300	ILC-DDC		AD585J	◊ AD	(2423, 2461)					
Resolver to Digital Converter, 14-Bit	IDC14544	ILC-DDC		AD585S	◊† AD	(2423, 2461)					
Resolver to Digital Converters (10, 12, 14 or 16-bit)	RDC19200	ILC-DDC		HTC0300	AD	(2423, 2462)					
Resolver-to-Digital Converter	RDC1740	AD	(2421)	HTC0500	AD	(2471)					
	RDC1741	AD	(2421)	HTS0025	AD	(2423)					
	RDC1742	AD	(2421)	MP260	Analogic						
Resonant-Mode Controller	UC1860	Unitrode		MP270	Analogic						
	UC2860	Unitrode		MP271	Analogic						
	UC3860	Unitrode		MP282A	Analogic						
Ring Demodulator/Balanced Mixer	SI8901A	Siliconix		SHC298AM	Burr-Brown	(2556)					
				SHC5320K	Burr-Brown	(2556)					
				SHC5320S	Burr-Brown	(2556)					
				SHC600B	Burr-Brown	(2556)					
				SHC601B	Burr-Brown	(2556)					
				SHC76BM	Burr-Brown	(2556)					
				SHC76K	Burr-Brown	(2556)					

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line	
Sample and Hold Circuits (Cont'd)				Signal Processor, Real Time Digital Processing of Analog Signals (programmable)				Switched Capacitor Filter, Second Order				
	LH0023	† National	5		2920	Intel	60		XR1010	Exar	100	
	LH0023C	National			2921	Intel			Switched Capacitor Filter, Universal	National		
	LH0043	† National			Smart Power Switch	Unitrode			MF5	National		
	LH0043C	National			UC3720	Unitrode			Switched Capacitor Filter (zero offset)	Maxim		
	LH0053	† National			Smoke Detector, Interconnectable	Motorola			MAX280	Maxim		
	LH0053C	National	10		MC14468	Motorola	65		Switched Capacitor Filter, Dual, General Purpose, 2nd Order	TI	105	
	SHM6401	National			SMPS Controller	GL8901			TLC10	TI		
	μPC398	NEC				GoldStar (2714)			TLC20	TI		
	5021	OEI			SMPS Controller, Current Mode	TSC170C			Switched Capacitor Filter, Dual (second order)	† National		
	5025	OEI				TeledyneS (3268)			MF10A	† National		
	SMP10A	† PMI	15		TSC170M	† TeledyneS (3268)	70		MF10C	National	110	
	SMP10B	† PMI			TSC171C	TeledyneS (3268)			Switched Capacitor Filter, Fourth Order	National		
	SMP10E	PMI			TSC171M	† TeledyneS (3268)			Switched Capacitor Voltage Converter	LinearTech		
	SMP10F	PMI							LT1054C	LinearTech		
	SMP11A	† PMI			SMPS Controller, High Voltage	TeledyneS			LT1054M	† LinearTech		
	SMP11B	† PMI	20		TSC9110	TeledyneS	75		Switched Capacitor Voltage Converter (+5 V to ±9 V)	LinearTech	115	
	SMP11E	PMI			TSC9111	TeledyneS			LT1026	LinearTech		
	SMP11F	PMI			SMPS Controller (1 watt)	TeledyneS			Switched Capacitor Voltage Converter (positive to negative)	National		
	SMP11G	PMI			TSC9100	TeledyneS			LMC7660	National		
	SMP81E	PMI			TSC9101	TeledyneS			Switched-Mode Power Supply Control Circuit	Siemens		
	SMP81F	PMI	25		TSC9102	TeledyneS	80		Switched-Mode Power Supply Controller Set (chip set)	GE/Intersil	120	
	SSM2300	PMI			Sonar Ranging Module	TI			ICL7675	GE/Intersil (2677)		
	L298	SGS-Thomson			SN28827	TI			ICL7676	GE/Intersil (2677)		
	LF198	† Signetics			SN28828	TI			Switches	ICL8018AC		
	LF298	Signetics			TL851	TI			ICL8018AM	† GE/Intersil		
	LF398	Signetics	30		TL853	TI	85		ICL8019AC	GE/Intersil	125	
	NE5060	Signetics			Sonar Ranging Receiver	TI			ICL8019AM	† GE/Intersil		
	NE5537	Signetics			TL852	TI			ICL8020AC	GE/Intersil		
	SE5537	† Signetics			Start-Up Controller, Off-Line	† SiliconG			ICL8020AM	† GE/Intersil		
	SSM2300	SSM Audio			SG1540	SiliconG			Switching Regulator Control System (low power dc-to-dc converter)	CA420		
	CSH101A	† TeledyneC	35		SG2540	SiliconG	90		Switching Regulator Power Output Stages, Negative Inputs (60 V)	SM635	130	
	4856	TeledyneP			SG3540	SiliconG			SM636	† SiliconG		
	4860	TeledyneP			Strain Gauge Conditioner (4 channel)	SCM103			SM637	† SiliconG		
	4860HR	† TeledyneP				Datel (2598)			SM655	† SiliconG		
					Strain Gauge Input Module	5B38			SM656	† SiliconG		
Sample and Hold (hybrid)				Streaming Tape Read/Write Control				Switching Regulator Power Output Stages, Positive Inputs (60 V)				
	AH20016	Analogic	40		TL041	TI	95		SM625	† SiliconG	135	
SCR/TRIAC Control (for push-button control)					Supervisory Power Supply Circuit (non-inverting voltage detector)	MAX8211			SM626	† SiliconG		
	UAA4007	SGS-Thomson				MAX8212		Maxim		SM627		† SiliconG
	UAA4008	SGS-Thomson			Supply Voltage Supervisor	TL7702M				SM645		† SiliconG
						TL7705M		† TI		SM646		† SiliconG
SCR/TRIAC Control (Long Cycle)				Switch Bank, Programmable EEPROM Digital/Analog				Switching Regulator, PWM Controller				
	TEA1510	SGS-Thomson	45		SC22304	Sierra	100		HA16654	Hitachi	140	
SCR/TRIAC Control (phase control)					Switch Bank and Memory Circuit				HA16664	Hitachi		
	UAA145	Telefunken								HA16666		Hitachi
	UAA146	Telefunken			Switch, Industrial (1 amp relay driver)	LM1921						
	U208	Telefunken			Switch, Solid-State (1 amp with built-in error detection circuit)	LM1951						
SCR/TRIAC Control (zero voltage control)				Switched Capacitor Bandpass Filter, Pin Programmable				Switching Regulator (5 A)				
	TEA1511	SGS-Thomson	50		MAX267	Maxim	105		CS1070	Cherry Semi	145	
Secondary Protectors (for protection of switch line units)					MAX268	Maxim			Switching Regulator (1.25 A high efficiency)	LT1072		
	LH1150	AT&T			Switched Capacitor Filter, Microprocessor Programmable	MAX260				Switchmode Driver for DC Motors		L292
	Security Detector, Data Receiver/Transmitter					MAX261				Switchmode Pulse Width Modulation Control Circuit		MC34060
	CS212	Cherry Semi				MAX262						Motorola (2963, 2991)
Sensor/Controller, Air Temperature				Switched Capacitor Filter, Low Pass, Butterworth, 4th Order				Switching Regulator (1.25 A high efficiency)				
	MS120	AnalogSys	55		TLC04	TI	110		LT1072	LinearTech	150	
	Sensor Transmitter, 4–20 mA				TLC14	TI				Motorola (2963)		
	AD693	AD			Switched Capacitor Filter, Pin Programmable	MAX263				Motorola (2964)		
	Serial Analog Delay, Tapped (bucket brigade with 32 taps)	EG&G-Reticon				MAX264				Synchro and Resolver to BCD Tracking Converter, 5-Decade, Pin-Programmable		SDC14700
	Servo Amplifier, for Motor Control	Plessey				MAX265				Synchro/Resolver, reference Oscillator		REF15001
Servo Controller				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	EL2017	◊ Elantec	60		MAX266	Maxim	115				155	
	Servo Controller, Proportional Control											
	XR2264	◊ Exar										
	XR2265	◊ Exar										
	Servo Controller, Radio Controlled Cars, 2 Channel	Exar										
Shunt Regulator				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	IR9431	Sharp	65		MAX265	Maxim	120				160	
	Shunt Regulator (adjustable precision)											
	HA17431	Hitachi										
Sample and Hold (hybrid)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	AH20016	Analogic	70		MAX266	Maxim	125				165	
SCR/TRIAC Control (for push-button control)												
	UAA4007	SGS-Thomson										
	UAA4008	SGS-Thomson										
SCR/TRIAC Control (Long Cycle)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	TEA1510	SGS-Thomson	75		MAX265	Maxim	130				170	
SCR/TRIAC Control (phase control)												
	UAA145	Telefunken										
	UAA146	Telefunken										
	U208	Telefunken										
SCR/TRIAC Control (zero voltage control)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	TEA1511	SGS-Thomson	80		MAX266	Maxim	135				175	
Secondary Protectors (for protection of switch line units)												
	LH1150	AT&T										
	Security Detector, Data Receiver/Transmitter											
	CS212	Cherry Semi										
Sensor/Controller, Air Temperature				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	MS120	AnalogSys	85		MAX265	Maxim	140				180	
	Sensor Transmitter, 4–20 mA											
	AD693	AD										
	Serial Analog Delay, Tapped (bucket brigade with 32 taps)	EG&G-Reticon										
	Servo Amplifier, for Motor Control	Plessey										
Servo Controller				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	EL2017	◊ Elantec	90		MAX266	Maxim	145				185	
	Servo Controller, Proportional Control											
	XR2264	◊ Exar										
	XR2265	◊ Exar										
	Servo Controller, Radio Controlled Cars, 2 Channel	Exar										
Shunt Regulator				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	IR9431	Sharp	95		MAX265	Maxim	150				190	
	Shunt Regulator (adjustable precision)											
	HA17431	Hitachi										
Sample and Hold (hybrid)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	AH20016	Analogic	100		MAX266	Maxim	155				195	
SCR/TRIAC Control (for push-button control)												
	UAA4007	SGS-Thomson										
	UAA4008	SGS-Thomson										
SCR/TRIAC Control (Long Cycle)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	TEA1510	SGS-Thomson	105		MAX265	Maxim	160				200	
SCR/TRIAC Control (phase control)												
	UAA145	Telefunken										
	UAA146	Telefunken										
	U208	Telefunken										
SCR/TRIAC Control (zero voltage control)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	TEA1511	SGS-Thomson	110		MAX266	Maxim	165				205	
Secondary Protectors (for protection of switch line units)												
	LH1150	AT&T										
	Security Detector, Data Receiver/Transmitter											
	CS212	Cherry Semi										
Sensor/Controller, Air Temperature				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	MS120	AnalogSys	115		MAX265	Maxim	170				210	
	Sensor Transmitter, 4–20 mA											
	AD693	AD										
	Serial Analog Delay, Tapped (bucket brigade with 32 taps)	EG&G-Reticon										
	Servo Amplifier, for Motor Control	Plessey										
Servo Controller				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	EL2017	◊ Elantec	120		MAX266	Maxim	175				215	
	Servo Controller, Proportional Control											
	XR2264	◊ Exar										
	XR2265	◊ Exar										
	Servo Controller, Radio Controlled Cars, 2 Channel	Exar										
Shunt Regulator				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	IR9431	Sharp	125		MAX265	Maxim	180				220	
	Shunt Regulator (adjustable precision)											
	HA17431	Hitachi										
Sample and Hold (hybrid)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	AH20016	Analogic	130		MAX266	Maxim	185				225	
SCR/TRIAC Control (for push-button control)												
	UAA4007	SGS-Thomson										
	UAA4008	SGS-Thomson										
SCR/TRIAC Control (Long Cycle)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	TEA1510	SGS-Thomson	135		MAX265	Maxim	190				230	
SCR/TRIAC Control (phase control)												
	UAA145	Telefunken										
	UAA146	Telefunken										
	U208	Telefunken										
SCR/TRIAC Control (zero voltage control)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	TEA1511	SGS-Thomson	140		MAX266	Maxim	195				235	
Secondary Protectors (for protection of switch line units)												
	LH1150	AT&T										
	Security Detector, Data Receiver/Transmitter											
	CS212	Cherry Semi										
Sensor/Controller, Air Temperature				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	MS120	AnalogSys	145		MAX265	Maxim	200				240	
	Sensor Transmitter, 4–20 mA											
	AD693	AD										
	Serial Analog Delay, Tapped (bucket brigade with 32 taps)	EG&G-Reticon										
	Servo Amplifier, for Motor Control	Plessey										
Servo Controller				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	EL2017	◊ Elantec	150		MAX266	Maxim	205				245	
	Servo Controller, Proportional Control											
	XR2264	◊ Exar										
	XR2265	◊ Exar										
	Servo Controller, Radio Controlled Cars, 2 Channel	Exar										
Shunt Regulator				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	IR9431	Sharp	155		MAX265	Maxim	210				250	
	Shunt Regulator (adjustable precision)											
	HA17431	Hitachi										
Sample and Hold (hybrid)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	AH20016	Analogic	160		MAX266	Maxim	215				255	
SCR/TRIAC Control (for push-button control)												
	UAA4007	SGS-Thomson										
	UAA4008	SGS-Thomson										
SCR/TRIAC Control (Long Cycle)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	TEA1510	SGS-Thomson	165		MAX265	Maxim	220				260	
SCR/TRIAC Control (phase control)												
	UAA145	Telefunken										
	UAA146	Telefunken										
	U208	Telefunken										
SCR/TRIAC Control (zero voltage control)				Switched Capacitor Filter, Pin Programmable (resistor selectable Q)				ILC-DDC				
	TEA1511	SGS-Thomson	170		MAX266	Maxim	225				265	
Secondary Protectors (for protection of switch line units)												
	LH1150	AT&T							</			

Function	Device	Source	Line	Function	Device	Source	Line	Function	Device	Source	Line
Synchro to Digital and Resolver to Digital Converter, 1 and 36 Speed	SDC361 SDC362	ILC-DDC ILC-DDC		Threshold Switch (2/3 supply voltage) TCA345A	Siemens			Triac Controller TEA1511	SGS-Thomson		100
Synchro to Digital Converter (16-bits) SDC502	ILC-DDC			Timer/Divider, Programmable TC5043	Toshiba (3341)			Trigonometric Function Generator (sine, cosine, tan, etc. and inverse functions) AD639A AD639B AD639S	AD AD ↑ AD	(2433) (2433) (2433)	
Synchro to Digital Converter, 10- to 14-Bit Programmable Resolution SDC14560 SDC14561 SDC14562 SDC14563	ILC-DDC ILC-DDC ILC-DDC ILC-DDC			Tone Decoder (traffic signal control and detector) LA2200	Sanyo			Video Amplifier, Wideband MB3501	Fujitsu		
Synchro to Digital Converter (10-bits) SDC630	ILC-DDC			Track and Hold AD389 HTS0010 CLC940AI CLC940AM THA05203 THA05210 TH8530	AD (2423) AD (2423) Comlinear ↑ Comlinear ILC-DDC ILC-DDC ILC-DDC		60	Video Buffer, 40 MHz MAX452	Maxim		105
Synchro to Digital Converter (12-bits) SDC632	ILC-DDC			MN0300A MN050 MN373 MN376 MN377 MN379 4866	MicroNet MicroNet MicroNet MicroNet MicroNet MicroNet TeledyneP		65	Video Buffer, 40 MHz (With 2-Channel Multiplexer) MAX453	Maxim		
Synchro to Digital Converter (14-bits) SDC634	ILC-DDC		10	Track and Hold (4-channel simultaneous) CS31412	Crystal			Video Buffer, 40 MHz (With 4-Channel Multiplexer) MAX454	Maxim		
Temperature and Air Flow Sensor UC1730 UC2730 UC3730	↑ Unitrode Unitrode Unitrode			Track and Hold (13-bit with controlled hold time) DGL13	ILC-DDC			Video Buffer, 40 MHz (With 8-Channel Multiplexer) MAX455	Maxim		
Temperature Controlled Differential Pair μA726M	↑ National			Track-Hold Amplifier 4853 4855 4858	TeledyneP TeledyneP TeledyneP			Video Delay, CCD CCD321A	National		
Temperature, Set-Point Controller AD596 AD597	AD (2434) AD (2434)		15	Traffic Information Control System (ARI-DK type) LA2211	Sanyo			Video, IF and RF Amplifiers SE592	TI		110
Temperature Transducers AD590I AD590J AD590K AD590L AD590M AD592 AD590I	♦ ↑ AD (2434, 2461) ♦ ↑ AD (2434, 2461) ♦ ↑ AD (2434, 2461) ♦ ↑ AD (2434, 2461) ♦ AD (2434, 2461) ↑ AD (2434) ↑ GE/Intersil (2678)		20	Transient Protection Circuit (up to ± 125 V) MC3397T	Motorola			Video Level Comparator VLC931	ThirdDomain		
AD590J AD590K AD590L AD590M	↑ GE/Intersil (2678) ↑ GE/Intersil (2678) ↑ GE/Intersil (2678) ↑ GE/Intersil (2678)		25	Transient Suppressor L3121 L3122	SGS-Thomson SGS-Thomson		75	Video Switch (5 MHz bandwidth) LM1044	National		
LM134 LM234 MMBTS102 MMBTS103 MMBTS105 LM134 LM135 LM234 LM334 LM335 LM34 LM34C LM35 LM35C LM3911 REF02 REF02A REF02C REF02D REF02E REF02H REF05A REF05B TDB0135 TDC0134	↑ LinearTech LinearTech Motorola Motorola Motorola ↑ National ↑ National National National National ↑ National National National National National ♦ PMI ♦ PMI ♦ PMI ♦ PMI ♦ PMI ♦ PMI PMI ↑ PMI ↑ SGS-Thomson ↑ SGS-Thomson		30	Transient Voltage Suppressor LS5018 LS5060 LS5120	SGS-Thomson SGS-Thomson SGS-Thomson		80	Voice Coil Driver HA13447	Hitachi		
Thermal Converter (matched transistors, diffused resistors) 4131	Burr-Brown			Transient Voltage Suppressor, Dual Asymmetrical, 180 V TISP218A TISP318A	TI TI			Voice Synthesizer UM5000	UMC		
Thermocouple Cold-Junction Compensator LT1025	LinearTech			Transient Voltage Suppressor, Dual Asymmetrical, 290 V TISP229A	TI			Voiceband Transmission Filter (for 14-bit DAC) AD7341	AD (2433, 2453)		115
Threshold Switch (oscillator, switch with hysteresis) TCA105	Siemens		55	Transient Voltage Suppressor, Dual Asymmetrical, 82V TISP108A	TI			Voltage Comparator, Quad GL339	GoldStar (2714)		
				Transient Voltage Suppressor, 270 V, 1.3W TPA270	SGS-Thomson			Voltage Controlled Oscillator (operation to 70 MHz) LB1121AC	AT&T		
				Transient Voltage Suppressor, 270 V, 20W TPC270	SGS-Thomson			Voltage Controller (with bandgap reference) LB1047AS	AT&T		
				Transient Voltage Suppressor, 270 V, 5W TPB270	SGS-Thomson			Voltage Converter, + 5 V to ± 5 V VI7660C VI7660M ICL7660	Datel (2600) Datel (2600) GE/Intersil (2676)		120
				Transient Voltage Suppressor, 62 V, 1.3W TPA62	SGS-Thomson			LTC1044C LTC1044M ICL7660C ICL7660M SI7660B SI7660C	LinearTech ↑ LinearTech ♦ Maxim ♦ Maxim Siliconix Siliconix		125
				Transient Voltage Suppressor, 62 V, 20W TPC62	SGS-Thomson			Voltage Converter, converts + 4.5 to + 20V to -4.5 to -20V ICL7662C	GE/Intersil (2676)		
				Transient Voltage Suppressor, 62 V, 5W TPB62	SGS-Thomson			ICL7662M	GE/Intersil (2676)		
				Transversal Filter, Quad Chirped (for discrete Fourier transform and power spectral density applications) RT5601A	EG&G-Reticon (2611)			Voltage Converter, Inverting, -5V or Programmable MAX635	Maxim		130
				RT5602A	EG&G-Reticon (2611)			Voltage Converter, Inverting, -12V or Programmable MAX636	Maxim		
				Triac Angle Firing Control Circuit TDA1185	Motorola (2969)			Voltage Converter, Inverting, -15V or Programmable MAX637	Maxim		
								Voltage Converter (positive to negative) MAX660	Maxim		
								Voltage Converter, Step-Down, 5V or Programmable MAX638C MAX638M	Maxim ↑ Maxim		135
								Voltage Converter, Step-Up, + 5V or Programmable MAX631 MAX641C MAX641M	Maxim Maxim ↑ Maxim		

♦ Available in Surface Mount Package

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[illegible]

♦ Available in Surface Mount Package

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LINEAR—Other Devices (Cont'd)

Function	Device	Source	Line
Zero Voltage and Zero Crossing Triggers (triac and SCR control) (Cont'd)			
	U263	Telefunken	5
	TA7606	Toshiba	
Dual Over/Under-Voltage Detector			
	ICL7665	◊ Maxim	
	ICL7665A	◊ Maxim	
	ICL7665B	◊ Maxim	
Dual Smart Switch			5
	UC1728	Unitrode	
Three-Phase PWM Waveform Generator			
	MA818	Marconi	

† Military Temperature Range (–55° to 125°C) ‡ High Radiation Resistance *Typical Value °Macrocell ◊ Available in Surface Mount Package
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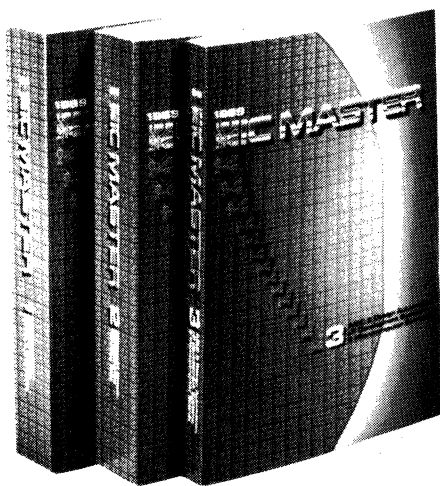
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INTRODUCTION TO MEMORY

The Memory Section provides initial selection information and data on E²PROMs, RAMs, and ROMs as well as other memory devices. In these particular sections, the devices are characterized by organization (words and bits/word) and by access times. In order to assure that the access times are comparable, whenever possible the times are shown in nanoseconds over the full rated temperature range for the devices (i.e., 0° to 70°C for commercial units and -55°C to 125°C for military units). The full temperature nanosecond value is marked "nsF". When this value isn't specified, the guaranteed nanosecond value at room temperature is listed followed by "nsR". "Typical" values are invariably much faster than the guaranteed ones so that such listings place these memories higher on the list than they otherwise would appear.

Category	
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RAMs	
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ROMs	1479
Shift Registers	
Dynamic	1482
Static	1482

MEMORY—Character Generators

Format	Number of Output Lines	Input Logic levels	Supply Voltage, V	Device	Source	Line
5x7	1	TTL	5	DM76S64 DM86S64	† National National	5
	5	TTL	5	RO3-2513	Microchip	
	35	TTL	5	MSL9650	OKI	
7x9	1	TTL	5	DM76S64 DM86S64	† National National	10
7x11	1	TTL	5	CRT8002	SMC	
14 Segments	14	TTL	5	MSL9664 MSL9665	OKI OKI	
16 Segments	16	TTL	5	MSL9662 MSL9663	OKI OKI	10
18x16 Japanese	16	TTL	5	MSM28101A MSM28201A	OKI OKI	

† Military Temperature Range (–55° to 125°C) ‡ High Radiation Resistance *Typical Value °Macrocell ◊ Available in Surface Mount Package
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MEMORY—Code Converters

Code Conversion		Bits	Bits	Process	Supply	Device	Source	Line
From	To	In	Out		Voltage, V			
Binary-BCD		6	6	Bipolar	5	SN54185A	† TI	
BCD-Binary		6	6	Bipolar	5	SN54184	† TI	

MEMORY—FIFOs, LIFOs

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line	Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line		
First-in First-out							(Cont'd)								
16	4	8.0 *	3-15	CD40105B † GE/RCA (2638) CD40105BE GE/RCA (2638)			64	5	10	5	67C402-10 MMI 67C4023-10 MMI				
		10.0	5	74F403 National N9403 Signetics		5			10.0	5	CY7C402-10C Cypress (2587) CY7C404-10C Cypress (2587) C57402A † MMI C67402 MMI 57402A † MMI 67402 † MMI		70		
		12.0	5	SN54LS222 † TI SN54LS224 † TI SN74LS222A TI SN74LS224A TI		10			10.5	5	MK45264-70 SGS-Thomson MK45265-70 SGS-Thomson		75		
		20.0	5	SN74ALS229A TI (3300) SN74LS227 TI SN74LS228 TI		15			13.3	5	MK45264-55 SGS-Thomson MK45265-55 SGS-Thomson				
5	10.0	5	5	SN74S225 TI		20			15	5	67C402-15 MMI 67C4023-15 MMI 67C4033-10 MMI 67C4033-15 MMI		80		
9	—	5	5	74HCT7030 Signetics (3057) 74HC7030 Signetics (3057)		25			15.0	5	CY7C402-15C Cypress (2587) CY7C404-15C Cypress (2587) C67402A MMI 67402A † MMI		85		
24	4	2.5	5-16	MS618 † RTC		30			16.7	5	C67402B MMI 67402B † MMI				
32	8	0.5	-12,5	AM2812C AMD MJ2812 Plessey		35			25	5	IDT72402 IDT IDT72404 IDT		90		
		1.0	-12,5	AM2812ADC AMD		40			25.0	5	CY7C404-25C Cypress (2587) CY7C404-25M † Cypress (2587)				
	9	0.5	-12,5	AM2813C AMD MJ2813 Plessey		45			35	5	IDT72413 IDT 67413A MMI		95		
64	4	0.7	-12,5	AM3341C AMD AM2841C AMD AM2841M † AMD MJ2841 Plessey		50			35.0	5	67412A MMI				
		1.2	-12,5	AM2841A AMD		55			8	15	5	CY7C408-15C Cypress (2587) CY7C408-15M † Cypress (2587)			
		5		CY3341C Cypress (2587)		60			35	5	CY7C408C Cypress (2587) CY7C408M † Cypress (2587) DM75X431 † National DM85X431 National		100		
	2	5		CY3341-2M † Cypress (2587) CY3341M Cypress (2587)		65			8/9	9	Serializing FIFO	67417 MMI CY7C409-15C Cypress (2587) CY7C409-15M † Cypress (2587)			
	2.0	5		CY3341-2C Cypress (2587)					9	15	5	TDC1030 † TRWLSI CY7C409-25C Cypress (2587) CY7C409-25M † Cypress (2587)		105	
	5.0	5		CY7C401-5C Cypress (2587) 67L401 MMI					35	5	CY7C409-35C Cypress (2587) CY7C409-35M † Cypress (2587)				
	7.0	5		C57401 † MMI 57401 † MMI					64K	RAM Controller		674219 MMI		110	
	10	5		67C401-10 MMI 67C4013-10 MMI					132/128			WD1510-00 Western WD1510-01 Western			
	10.0	5		CY7C401-10C Cypress (2587) CY7C401-10M † Cypress (2587) CY7C402-10M † Cypress (2587) CY7C403-10C Cypress (2587) CY7C403-10M † Cypress (2587) CY7C404-10M † Cypress (2587) C57401A † MMI C67401 MMI 57401A † MMI 67401 † MMI 74F413 National		50			512	8	22.2	5	67C401-45 AMD DS2009-120 † Dallas DS2009-35 † Dallas DS2009-50 † Dallas DS2009-65 † Dallas DS2009-80 † Dallas IDT7200L-25 ‡ IDT IDT7200L-30B ‡ IDT IDT7200L-35 ‡ IDT IDT7200L-40B ‡ IDT IDT7200L-50 ‡ IDT IDT7200L-50B ‡ IDT IDT7200L-65 ‡ IDT IDT7200L-65B ‡ IDT		115
	15	5		67C401-15 MMI 67C4013-15 MMI		55								120	
	15.0	5		CY7C401-15C Cypress (2587) CY7C401-15M † Cypress (2587) CY7C402-15M † Cypress (2587) CY7C403-15C Cypress (2587) CY7C403-15M † Cypress (2587) CY7C404-15M † Cypress (2587) C67401A MMI 67401A † MMI		60									
	16.7	5		C67401B MMI 67401B † MMI											
	25	5		IDT72401 IDT IDT72403 IDT											
	25.0	5		CY7C403-25C Cypress (2587) CY7C403-25M † Cypress (2587)		65								125	
	35.0	5		67411A MMI											
5	5.0	5	5	67L402 MMI C57402 † MMI 57402 † MMI											
	7.0	5													
(Continued)							(Continued)								

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—FIFOs, LIFOs (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line	Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
First-in First-out (Cont'd)							(Cont'd)						
512	9		5	IDT7200S-25	(Cont'd)		512	9	15	5	IDT7201LA-50		
				◊ IDT							◊ IDT		
				IDT7200S-30B							IDT7201LA-50B		
				◊ IDT							◊ IDT		
				IDT7200S-35							IDT7201SA-50		
				◊ IDT							◊ IDT		
				IDT7200S-40B							IDT7201SA-50B		
				◊ IDT							◊ IDT		
				IDT7200S-50		5			15.3	5	MS7201-50	Mosel	
				◊ IDT					15.4	5	LH5496-65	Sharp (3055)	
				IDT7200S-50B							SRT4501-65	SpaceResearch	
				◊ IDT							UC4501-65	◊ Unicorn	
				IDT7200S-65					20	5	67C4501-50	AMD	
				◊ IDT							CY7C420-40C	Cypress	
				IDT7200S-65B							CY7C420-40M		
				◊ IDT							† Cypress		
				IDT7201LA-30B		10					CY7C421-40C	◊ Cypress	
				◊ IDT							CY7C421-40M	◊ Cypress	
				IDT7201SA-30B							† Cypress		
				◊ IDT							LH5496-50	Sharp (3055)	
				MK4501-10	◊ SGS-Thomson				25	5	CY7C420-30C	Cypress	
				MK4501-65	◊ SGS-Thomson						CY7C420-30M	† Cypress	
				MK4501-80	◊ SGS-Thomson						CY7C421-30C	◊ Cypress	
				UM4501	UMC						CY7C421-30M	◊ Cypress	
4.2		5		MK4501-20	◊ SGS-Thomson	15					IDT7201LA-40B	◊ IDT	
5.7		5		MKB4501-82	† SGS-Thomson						IDT7201SA-40B	◊ IDT	
				MK4501-15	◊ SGS-Thomson						◊ IDT		
7		5		IDT7201LA-120							IDT7201SA-40B	◊ IDT	
				◊ IDT							◊ IDT		
				IDT7201LA-120B									
				◊ IDT									
				IDT7201SA-120		20			27	5	IDT7201LA-35		
				◊ IDT							◊ IDT		
				IDT7201SA-120B							IDT7201SA-35		
				◊ IDT							◊ IDT		
7.1		5		MS7201-120	Mosel				28.5	5	67C4501-35	AMD	
				MKB4501-81	† SGS-Thomson				28.6	5	LH5496-35	Sharp (3055)	
				MK4501-12	◊ SGS-Thomson				40	5	67C4501-25	AMD	
8.3		5		LH5496-120	Sharp (3055)	25			50	5	LH5496-20	Sharp (3055)	
				SRT4501-120	SpaceResearch								
				UC4501-120	◊ Unicorn								
10		5		IDT7201LA-80			1024	5	20	5	MKB4505M-50		
				◊ IDT							† SGS-Thomson		
				IDT7201LA-80B							MK4505M-50	SGS-Thomson	
				◊ IDT					30	5	MKB4505M-33		
				IDT7201SA-80							† SGS-Thomson		
				◊ IDT							MK4505M-33	SGS-Thomson	
				IDT7201SA-80B		30			40	5	MKB4505M-25		
				◊ IDT							† SGS-Thomson		
				MS7201-80	Mosel						MK4505M-25	SGS-Thomson	
12		5		IDT7201LA-65					9	5	IDT7202LA-25		
				◊ IDT							◊ IDT		
				IDT7201LA-65B							IDT7202LA-30B	◊ IDT	
				◊ IDT							◊ IDT		
				IDT7201SA-65							IDT7202SA-25	◊ IDT	
				◊ IDT							◊ IDT		
				IDT7201SA-65B		35					IDT7202SA-30B	◊ IDT	
				◊ IDT							◊ IDT		
12.5		5		67C4501-80	AMD					5	DS2010-12	◊ Dallas	
				CY7C420-65C	Cypress						DS2010-15	◊ Dallas	
				CY7C420-65M					7	5	IDT7202LA-120		
				† Cypress							◊ IDT		
				CY7C421-65C							IDT7202LA-120B	◊ IDT	
				◊ Cypress							◊ IDT		
				CY7C421-65M		40					IDT7202SA-120	◊ IDT	
				◊ IDT							◊ IDT		
				MS7201-65	Mosel				8.3	5	LH5497-120	Sharp (3055)	
				LH5496-80	Sharp (3055)						UC4502-120	◊ Unicorn	
				SRT4501-80	SpaceResearch								
				UC4501-80	◊ Unicorn	45							
13		5		MA7001	† Marconi								
15		5		67C4501-65	AMD								

(Continued)

(Continued)

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—FIFOs, LIFOs (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line	Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
First-in First-out (Cont'd)							(Cont'd)						
1024	9	10	5	IDT7202LA-80 ◊ IDT IDT7202LA-80B ◊ IDT IDT7202SA-80 ◊ IDT IDT7202SA-80B ◊ IDT	(Cont'd)		2048	9	5	5	DS2011-12 ◊ Dallas DS2011-15 ◊ Dallas		
		12	5	IDT7202LA-65 ◊ IDT IDT7202LA-65B ◊ IDT IDT7202SA-65 ◊ IDT IDT7202SA-65B ◊ IDT	5		6	5	5	IDT7M203S-140 IDT IDT7M203S-140B † IDT	50		
		12.5	5	CY7C425-65C ◊ Cypress CY7C425-65M ◊ Cypress DS2010-80 ◊ Dallas LH5497-80 Sharp (3055) UC4502-80 ◊ Unicorn	10		7	5	5	IDT7203L-120 ◊ IDT (2852) IDT7203L-120B ◊† IDT (2852) IDT7203S-120 ◊ IDT (2852) IDT7203S-120B ◊† IDT (2852)			
		15	5	IDT7202LA-50 ◊ IDT IDT7202LA-50B ◊ IDT IDT7202SA-50 ◊ IDT IDT7202SA-50B ◊ IDT	15		8	5	5	IDT7M203S-100 IDT IDT7M203S-100B † IDT	55		
		15.4	5	DS2010-65 ◊ Dallas LH5497-65 Sharp (3055) UC4502-65 ◊ Unicorn	20		8.3	5	5	LH5498-120 Sharp (3055) UC4503-120 ◊ Unicorn			
		20	5	CY7C425-40C ◊ Cypress CY7C425-40M ◊† Cypress DS2010-50 ◊ Dallas LH5497-50 Sharp (3055) UC4502-50 ◊ Unicorn	25		10	5	5	IDT7203L-80 ◊ IDT (2852) IDT7203L-80B ◊† IDT (2852) IDT7203S-80 ◊ IDT (2852) IDT7203S-80B ◊† IDT (2852)	60		
		25	5	CY7C425-30C ◊ Cypress CY7C425-30M ◊† Cypress IDT7202LA-40B ◊† IDT IDT7202SA-40B ◊† IDT	30		12	5	5	IDT7M203S-65 IDT IDT7M203S-65B † IDT IDT7203L-65 ◊ IDT (2852) IDT7203L-65B ◊† IDT (2852) IDT7203S-65 ◊ IDT (2852) IDT7203S-65B ◊† IDT (2852)	65		
		27	5	IDT7202LA-35 ◊ IDT IDT7202SA-35 ◊ IDT	35		12.5	5	5	67C4503-80 AMD CY7C428-65M † Cypress (2587) DS2011-80 ◊ Dallas LH5498-80 Sharp (3055) UC4503-80 ◊ Unicorn	70		
		28.5	5	DS2010-35 ◊ Dallas			15	5	5	67C4503-65 AMD IDT7M203S-50 IDT IDT7M203S-50B † IDT IDT7203L-50 ◊ IDT (2852) IDT7203L-50B ◊† IDT (2852) IDT7203S-50 ◊ IDT (2852) IDT7203S-50B ◊† IDT (2852) VT2KF9 VLSI Tech	75		
		28.6	5	LH5497-35 Sharp (3055)			15.4	5	5	DS2011-65 ◊ Dallas LH5498-65 Sharp (3055) UC4503-65 ◊ Unicorn	85		
		42	5	SMF4009 STC			18	5	5	IDT7M203S-55 IDT IDT7M203S-55B † IDT	85		
		50	5	LH5497-20 Sharp (3055) VT7202-20 VLSI Tech (3357)	35		20	5	5	67C4503-50 AMD CY7C428-40C Cypress (2587) CY7C428-40M † Cypress (2587) CY7C429-40M ◊† Cypress (2587) DS2011-50 ◊ Dallas LH5498-50 Sharp (3055) UC4503-50 ◊ Unicorn	90		
2048	9	5	5	IDT72103-120 ◊† IDT IDT72103-50 ◊† IDT IDT72103-65 ◊† IDT IDT72103-80 ◊† IDT MK4503-10 SGS-Thomson MK4503-12 SGS-Thomson MK4503-15 SGS-Thomson MK4503-20 SGS-Thomson MK4503-65 SGS-Thomson MK4503-80 SGS-Thomson	(Continued)		25	5	5	CY7C428-30C Cypress (2587) CY7C428-30M † Cypress (2587) IDT7M203S-40 IDT	95		
		28.6	5	DS2010-35 ◊ Dallas			28.5	5	5	67C4503-35 AMD DS2011-35 ◊ Dallas DPF2X9 Dense-Pac (2602)	100		
		40/20 S/P	5	LH5498-35 Sharp (3055) IDT72103 IDT IDT72103B † IDT			28.6	5	5	LH5498-35 Sharp (3055) IDT72103 IDT IDT72103B † IDT	105		
		50	5	LH5498-20 Sharp (3055) VT7203-20 VLSI Tech (3358)			50	5	5	LH5498-20 Sharp (3055) VT7203-20 VLSI Tech (3358)			
		18	28.5	5	DPF2X18 Dense-Pac (2608)		18	28.5	5	5	DPF2X18 Dense-Pac (2608)		
		36	28.5	5	DPF2X36 Dense-Pac (2608)		36	28.5	5	5	DPF2X36 Dense-Pac (2608)		

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—FIFOs, LIFOs (Cont'd)

Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line	Words	Bits/ Word	Data Rate MHz (max)	Supply Voltage, V	Device	Source	Line
First-in First-out (Cont'd)							Last-in First-out						
4096	9		5	IDT72104-120			131072	9	28.5	5	DPF128X9	Dense-Pac	
				‡ IDT			4K words						
				IDT72104-50			RAM Controller				8X60	Signetics (3242)	
				‡ IDT			81	4	1.0	5	SR5018	SMC	
				IDT72104-65			132/128	9	1.0	5	WD1510-02	Western	60
				‡ IDT			133	4	1.0	5	SR5017	SMC	
				IDT72104-80									
				‡ IDT									
7		5		IDT7204L-120 † IDT	(2852)	5							
				IDT7204L-120B									
				† IDT	(2852)								
				IDT7204S-120 † IDT	(2852)								
				IDT7204S-120B									
				† IDT	(2852)								
8		5		IDT7M204S-100									
				IDT									
				IDT7M204S-100B		10							
				† IDT									
8.3		5		UC4504-120									
				‡ Unicorn									
10		5		IDT7204L-80 † IDT	(2852)								
				IDT7204L-80B † IDT	(2852)								
				IDT7204S-80 † IDT	(2852)								
				IDT7204S-80B † IDT	(2852)	15							
12		5		IDT7M204S-65 IDT									
				IDT7M204S-65B									
				† IDT									
				IDT7204L-65 † IDT	(2852)								
				IDT7204L-65B † IDT	(2852)	20							
				IDT7204S-65 † IDT	(2852)								
				IDT7204S-65B † IDT	(2852)								
12.5		5		DS2012-80 † Dallas									
				UC4504-80 ‡ Unicorn									
15		5		IDT7M204S-50 IDT									
				IDT7M204S-50B									
				† IDT		25							
				IDT7204L-50 † IDT	(2852)								
				IDT7204L-50B † IDT	(2852)								
				IDT7204S-50 † IDT	(2852)								
				IDT7204S-50B † IDT	(2852)								
15.4		5		DS2012-65 † Dallas		30							
				UC4504-65 ‡ Unicorn									
18		5		IDT7M204S-55 IDT									
				IDT7M204S-55B									
				† IDT									
20		5		DS2012-50 † Dallas		35							
				UC4504-50 ‡ Unicorn									
25		5		IDT7M204S-40 IDT									
28.5		5		DPF4X9	Dense-Pac (2609)								
40/20 S/P		5		IDT72104 IDT									
				IDT72104B † IDT									
18	28.5	5		DPF4X18	Dense-Pac (2609)	40							
36	28.5	5		DPF4X36	Dense-Pac (2609)								
8192	9	12.5	5	IDT7M205-80B IDT	(2864)								
		13	5	IDT7M205-75 IDT	(2864)								
		28.5	5	DPF8X9	Dense-Pac (2609)								
	18	28.5	5	DPF8X18	Dense-Pac (2609)	45							
	26	28.5	5	DPF8X36	Dense-Pac (2609)								
16384	9	12.5	5	IDT7M206-80B IDT	(2864)								
		13	5	IDT7M206-75 IDT	(2864)								
		28.5	5	DPF16X9	Dense-Pac (2609)								
	18	28.5	5	DPF16X18	Dense-Pac (2609)	50							
	36	28.5	5	DPF16X36	Dense-Pac								
32768	9	28.5	5	DPF32X9	Dense-Pac (2609)								
	18	28.5	5	DPF32X18	Dense-Pac (2609)								
	36	28.5	5	DPF32X36	Dense-Pac								
65536	18	28.5	5	DPF64X18	Dense-Pac (2609)	55							
	36	28.5	5	DPF64X36	Dense-Pac								

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—E² PROMs

Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line	Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line	
16x16	—	E ²	Serial	8	5	NMC9306 SC22001 SC22002	◊ National Sierra Sierra		128x8	15 ms 20 ms 180 nsF	TTL TTL E ² , CMOS	Serial Serial TS	8 8 18	5 5 5	SDA2516 SDA2506 SC22101-1	Siemens Siemens Sierra	(Cont'd)	
—	—	Module	Serial	38	5	COB662256B	Microchip		—	—	—	—	—	—	—	—		
—	—	NVRAM	Serial	8	5	X2444	Xicor (3408, 3445)	5	—	—	—	—	—	—	—	—		
200 nsF	E ²	Serial	8	5	NMC9307 M9306	National SGS-Thomson			200 nsF	NVRAM	TS	24	5	X2001-20	Xicor (3406, 3443)			
400 nsF	E ²	Serial	8	5	ER59256	Microchip			300 nsF	CMOS	TS	18	5	SC22201	Sierra			
1000 nsF	NVRAM	Serial	8	5	X2444M	† Xicor (3408, 3445)			—	E ² , CMOS	TS	18	5	SC22101	Sierra			
20x16	1 μS 20000 nsF	E ²	TS	14	5,20	LH26003	Sharp	10	—	—	—	—	—	—	—	—		
—	—	EA	Serial	14	5,–30	M58658	Mitsubishi		—	—	—	—	—	—	—	—		
31x16	20000 nsF	EA	Serial	14	5,–30	M58659	Mitsubishi		400 nsF	E ²	Serial	8	5	ER5911	Microchip			
32x8	150 nsF 180 nsF	CMOS CMOS	TS	18	5	SC22100 SC22100-1	◊† Sierra Sierra		3000 nsF	E ²	TS	8	5	PCD8582	Microchip			
32x16	—	EA	Serial	18	28,12	U3070	Telefunken	15	128x8x1	—	NV Tag	Serial	5	5	DS1201	Dallas		
—	1000 nsF	EA	TS	28	–28,5	ER2051	Microchip		128x16	20000 nsF	CMOS EA	Serial Serial	8 14	5 5,–30	M6M80021 M58630	Mitsubishi Mitsubishi	60	
2000 nsF	EA	TS	28	–28,5	ER2051HR	† Microchip		256x1	200 nsF	E ² , CMOS	OC	8	5	NMC9313B	National			
50x14	1000 nsF	EA	—	—	–30,5	ER1451	Microchip		256x4	20 nsF	NOVRAM	TS	—	5	MBM2212-20	Fujitsu		
20000 nsF	EA	Serial	14	5,–30	M58653	Mitsubishi		25 nsF	NOVRAM	TS	—	5	MBM2212-25	Fujitsu				
64x4	300 nsF	NVRAM	TS	18	5	X2210	Xicor (3405, 3441)	20	300 nsF	NVRAM	TS	18	5	X2212	Xicor (3405, 3442)			
—	—	—	—	—	—	X2210/10	Xicor (3405, 3441)		—	—	—	—	—	—	X2212/10	Xicor (3405, 3442)		
—	—	—	—	—	—	X2210/5	Xicor (3405, 3441)		—	—	—	—	—	—	X2212/5	Xicor (3405, 3442)		
—	—	—	—	—	—	X2210M	† Xicor (3405, 3441)		—	—	—	—	—	—	X2212M	† Xicor (3405, 3442)		
—	—	—	—	—	—	X2210M/10	† Xicor (3405, 3441)		—	—	—	—	—	—	X2212M/10	† Xicor (3405, 3442)		
—	—	—	—	—	—	X2210M/5	† Xicor (3405, 3441)	25	—	—	—	—	—	—	X2212M/5	† Xicor (3405, 3442)		
64x8	4000 nsF	EA	TS	22	–29,5	ER2055	Microchip		256x8	—	CMOS, E ²	Serial	8	5	24C02	Microchip (2905)		
64x16	—	CMOS, E ²	Serial	8	5	ER59C11A	Microchip		15 ms	TTL	Serial	8	5	SDA2526	Siemens			
—	—	E ²	Serial	8	5	SC22011	Sierra		100 nsF	CMOS	TS	—	5	EE256X8	National			
—	—	—	—	—	—	SC22012	Sierra		180 nsF	E ²	TS	18	5	SC22102-1	Sierra			
200 nsF	E ²	Serial	8	5	93C46X	◊ ICT (2876)	30	200 nsF	NVRAM	TS	28	5	X2001-25	Xicor (3406, 3443)				
250 nsF	E ²	TS	8	5	NMC9345	National		300 nsF	E ²	TS	18	5	SC22102	Sierra				
400 nsF	CMOS E ²	Serial	8	5	XL93C46	◊ EXEL (2622)		10000 nsF	E ²	Serial	8	5	X2402	Xicor (3409, 3446)				
—	E ²	Serial	8	–0.3 to 6V	HY93C46M	† Hyundai (2778)		256x16	—	Serial	Serial	8	2.6–6	93C66X	◊ ICT			
—	E ²	Serial	8	5	HY93C46	Hyundai (2778)		512x8	—	CMOS, E ²	Serial	8	5	X24C04	Xicor (3409, 3448)			
—	E ²	Serial	8	5	93C46	ICT (2876)	35	—	—	CMOS, E ²	Serial	8	5	24C04	Microchip (2906)			
450 nsF	E ²	TS	16	5	NMC9346	◊ National		—	—	E ²	Serial	8	5	X2404	Xicor (3409, 3447)			
4000 nsF	E ²	Serial	8	5	ER5911	Microchip		120 nsF	CMOS, E ²	TS	24	5	AT28C04-12	◊ Atmel				
20000 nsF	CMOS	Serial	8	5	M6M80011	Mitsubishi		150 nsF	CMOS, E ²	TS	24	5	AT28C04-15	Atmel				
—	EA	Serial	16	5,–30	M58655	Mitsubishi		—	—	—	—	—	28C04-15	◊ Microchip				
82x1	100000 nsF	EA	TS	18	–30,5	ER0082	Microchip	40	—	—	CMOS, E ²	TS	24	5	28C04A-15	◊ Microchip	85	
100x14	3400 nsF	EA	Serial	14	–35	ER1400	Microchip		180 nsF	E ²	TS	18	5	SC22104-1	Sierra			
20000 nsF	EA	Serial	14	–35	M5G1400	Mitsubishi		—	—	E ² , CMOS	TS	18	5	NMC98C40-1	National			
—	—	—	—	—	—	M58657	Mitsubishi		200 nsF	CMOS, E ²	TS	24	5	AT28C04-20	Atmel			
100x50	3400 nsF	EA	Serial	14	30,5	ER1451	Microchip		—	—	—	—	—	28C04-20	◊† Microchip			
128x8	—	CMOS, E ²	Serial	8	5	ER59C11	Microchip	45	—	—	—	—	—	μPD28C04-20	NEC			
—	—	—	—	—	—	24C01	Microchip (2904)		—	—	—	—	—	—	—			

(Continued)

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—E² PROMs (Cont'd)

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
200 nsF	CMOS, E ²					(Cont'd)	
	TS	24	5		28C04A-20	Microchip	
	NVRAM	TS	28	5	X2004-20	Xicor (3407, 3444)	
250 nsF	Module	TS	38	5	COB65404EE	Microchip	
	CMOS, E ²	TS	24	5	AT28C04-25	Atmel	
					28C04-25	Microchip	
					μPD28C04-25	NEC	
	CMOS, E ²						
	TS	24	5		28C04A-25	Microchip	
	E ²	TS		5	2804A-250	SEEQ	
	E ²	TS	24	5	XL2804A-250	EXEL	
					X2804A-25	Xicor (3410, 3450)	
	NVRAM	TS	28	5	X2004-25	Xicor (3407, 3444)	
					X2004M-25	† Xicor (3407, 3444)	
300 nsF	E ²	Serial	8	5	X2404M	† Xicor (3409, 3447)	
		TS	18	5	SC22104	Sierra	
			24	5	XL2804A-300	EXEL	
					X2804A	Xicor (3410, 3450)	
					X2804AM	† Xicor (3410, 3450)	
	E ² , CMOS						
	TS	18	5		NMC98C40	National	
	NVRAM	Parallel	24	5	HNMV3104A	Hughes	
					2804A-300	SEEQ	
		TS	28	5	X2004	Xicor (3407, 3444)	
					X2004M	† Xicor (3407, 3444)	
350 nsF	E ²	TS	24	5	XL2804A-350	EXEL	
					X2804A-35	Xicor (3410, 3450)	
					X2804AM-35	† Xicor (3410, 3450)	
450 nsF	E ²	TS	24	5	XL2804A-450	EXEL	
					X2804A-45	Xicor (3410, 3450)	
					X2804AM-45	† Xicor (3410, 3450)	
1024x1	200 nsF	CMOS	TS	8	5	MSM16811RS OKI	
					MSM16911RS OKI		
	E ² , CMOS						
	OC	8	5		NMC9314B	National	
300 nsF	NVRAM	TS	18	5	X2201A	Xicor (3405)	
1000 nsF	Floating Gate						
	Push-Pull	8	5		SC22056	† Sierra	
1024x4	900 nsF	EA	TS	22	-30,-12	5	
					ER3400	Microchip	
1024x8	250 nsF	NVRAM Module	TS	28	5	DPN18	Dense-Pac (2605)
	650 nsF	E ²	TS	24	5	HNVM3108A	† Hughes
2048x4	1600 nsF	EA	TS	24	-24,-14,5		
					ER2810	Microchip	
					ER2810HR	† Microchip	
2048x8	CMOS, E ²	Serial	8	5	X24C16	Xicor (3409, 3449)	
25 nsF	E ² , CMOS	TS	24	5	AT28HC191-35	Atmel	
					AT28HC291-35	Atmel	
						(Continued)	

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
25 nsF	E ² , CMOS	TS	24	5		(Cont'd)	
					36C16-35	† SEEQ	
					38C16-35	† SEEQ	
45 nsF	CMOS, E ²	TS	24	5	AT28HC16-45		
					† Atmel		
	E ²	TS	24	5	M36C16-45	† SEEQ	
					M38C16-45	† SEEQ	
					36C16-45	† SEEQ	
					38C16-45	† SEEQ	
	E ² , CMOS						
	TS	24	5		AT28HC191-45	Atmel	
					AT28HC291-45	Atmel	
55 nsF	CMOS, E ²	TS	24	5	AT28HC16-55		
					† Atmel		
					AT28HC16L-55	† Atmel	
	E ²	TS	24	5	XL46C15-55	EXEL (2621)	
					M36C16-55	† SEEQ	
					M38C16-55	† SEEQ	
	E ² , CMOS						
	TS	24	5		AT28HC191-55	Atmel	
					AT28HC291-55	Atmel	
60 nsF	E ²	TS	24	5	XL46C15-60	EXEL (2621)	
70 nsF	CMOS, Erasable	TS	24	5	AT28HC16-70		
					† Atmel		
					AT28HC16L-70	† Atmel	
	E ²	TS	24	5	XL46C15-70	EXEL (2621)	
	E ² , CMOS						
	TS	24	5		AT28HC191-70	Atmel	
					AT28HC291-70	Atmel	
85 nsF	E ²	TS	24	5	XL46C15-85	† EXEL (2621)	
90 nsF	CMOS, Erasable	TS	24	5	AT28HC16-90		
					† Atmel		
					AT28HC16L-90	† Atmel	
	E ² , CMOS						
	RS	24	5		AT28HC291-90	Atmel	
	TS	24	5		AT28HC191-90	Atmel	
120 nsF	CMOS E ²	TS	28	5	AT28C17-12	† Atmel	
	CMOS, E ²	TS	24	5	AT28C16-12	† Atmel	
150 ns*	E ²	TS	24	5	X2816B	Xicor (3411, 3451)	
150 nsF	CMOS	TS	24	5	MSM28C16-15RS	OKI	
	CMOS, E ²	TS	24	5	AT28C16-15	Atmel	
					AT28C17-15	Atmel	
	CMOS, E ²	TS	28	5	28C17A-15	Microchip	
	E ²	TS	24	5	28C16-15	Microchip	
					28C16A-15	Microchip	
	NVRAM (Bat.)	TS	24	5	DS1220-150	Dallas	
200 nsF	CMOS	TS	24	5	MSM28C16-20RS	OKI	
	CMOS, E ²	TS	24	5	AT28C16-20	Atmel	
					AT28C17-20	Atmel	
					28C16-20	† Microchip	
					28C16A-20	Microchip	
	E ²	TS	24	5	NMC9816A-20	National	
					52B13-200	SEEQ	
					52B13H-200	SEEQ	
					AM2817A-2	AMD	
					AM2817A-20	AMD	
						(Continued)	

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

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Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line
8192x8	90 nsF	E ² , CMOS	TS	28	5	AT28HC64-90 XL28C64-90 † EXEL	(Cont'd)	
	100 nsF	CMOS, E ²	TS	28	5	28CP64B-10	Microchip	
		E ²	TS	24	5	29V864	Raytheon	
	120 nsF	CMOS, E ²	TS	28	5	28CP64B-12	Microchip	5
		E ²	TS	28	5	X2864B-12 Microchip X2864BM-12 † Xicor	(3412, 3452)	
		E ² , CMOS	TS	28	5	AT28HC64-120 XL28C64-120 † EXEL	Atmel	
	150 ns*	CMOS, E ²	TS	28	5	X28C64 Xicor	(3414, 3455)	10
	150 nsF	CMOS	TS	28	5	MSM28C64-15RS OKI KM28C64A-15 Samsung KM28C65A-15 Samsung	(3038) (3038)	
		CMOS, E ²	TS	28	5	AT28C64-15 AT28PC64-15	Atmel	15
						28C64-15 † Atmel 28C64-15 † Microchip M5M28C64-15 Mitsubishi		
		CMOS, E ²	TS	28	5	28CP64A-15	Microchip	20
						28CP64B-15 † Microchip 28C64A-15 † Microchip		
		E ²	TS	28	5	X2864B-15 Microchip X2864BM-15 † Xicor	(3412, 3452) (3412, 3452)	
		NVRAM (Bat.)	TS	28	5	DS1225-150 NVR8	Dallas LMS	
	180 nsF	E ²	TS	28	5	X2864B-18 † Xicor X2864BM-18 † Xicor	(3412, 3452) (3412, 3452)	25
	200 nsF	CMOS	TS	28	5	NMC98C64-20 μPD28C64-20 NEC MSM28C64-20RS OKI KM28C64A-20 Samsung KM28C65A-20 Samsung X28C64M † Xicor	National (3038) (3038) (3414, 3455)	30
		CMOS E ²	TS	28	5	28C64-200	SEEQ	
		CMOS, E ²	TS	28	5	AT28C64-20 AT28PC64-20	Atmel	35
						HN58C65-20 Hitachi 28C64-20 † Microchip 28C64A-20 † Microchip M5M28C64-20 Mitsubishi		
		CMOS, E ²	TS	28	5	28CP64A-20	Microchip	40
		E ²	TS	28	5	KM2864A Samsung KM2865A Samsung 52B33H-200 † SEEQ X2864AM-25 † Xicor	(3412, 3452)	

(Continued)

Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line
8192x8	200 nsF						(Cont'd)	
		Module	TS	38	5	C0B65464EE-20	Microchip	45
		NMOS	TS	28	5	AM2864A-20 AMD AM2864AE-200 AMD AM2864BE-200 AMD 52B33-200 ◊ SEEQ		
		NVRAM (Bat.)						
		TS		24	5	DS1225-200	Dallas	50
	250 nsF	Cartridge						
		CMOS	TS	30	5	DS1217A-64	Dallas	
			TS	28	5	NMC98C64-25 National KM28C64A-25 Samsung (3038) KM28C65A-25 Samsung (3038)		
		CMOS E ²	TS	28	5	M28C64-250 † SEEQ		55
		CMOS, E ²	TS	28	5	AT28C64-25 Atmel AT28PC64-25 ◊† Atmel 28C64-25 ◊† Microchip 28C64A-25 ◊ Microchip μPD28C64-25 NEC		60
		CMOS, E ²	TS	28	5	28CP64A-25		
		E ²	TS	24	5	◊† Microchip X2864A-25 ◊ Xicor (3412, 3452)		
				28	5	XL2864A-250 EXEL (2621) XL2865A-250 EXEL (2621) M2864H-250 † SEEQ 52B33H-250 ◊ SEEQ		65
		E ² , CMOS	TS	28	5			
		NMOS	TS	28	5	HN58C65-25 Hitachi AM2864A-25 AMD AM2864AE-250 AMD AM2864B-25 AMD AM2864BE-250 AMD KM2864A-25 Samsung KM2864AH-25 Samsung KM2865A-25 Samsung KM2865AH-25 Samsung M2864-250 † SEEQ 2864-250 ◊ SEEQ 2864-350 ◊ SEEQ 2864H-250 ◊ SEEQ 52B33-250 ◊ SEEQ 55B33-250 SEEQ 55B33H-250 SEEQ		70
	300 nsF	CMOS, E ²	TS	28	5	AT28PC64-30		
		E ²	TS	24	5	◊† Atmel M52B33-300 SEEQ X2864AM ◊† Xicor (3412, 3452)		
				28	5	XL2864A-300 EXEL (2621) XL2865A-300 EXEL (2621) 28C64-250 SEEQ 52B33-3 ◊ SEEQ 52B33-300 ◊ SEEQ 52B33H-3 ◊ SEEQ 52B33H-300 ◊ SEEQ X2864A ◊ Xicor (3412, 3452)		85
		NMOS	TS	24	5	XLM2864A-300 † EXEL XLM2865A-300 † EXEL		90
				28	5	AM2864A-30 AMD AM2864AE-300 AMD AM2864B-30 AMD AM2864BE-300 AMD KM2864A-30 Samsung KM2864AH-30 Samsung KM2865A-30 Samsung		95
							(Continued)	100

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—E² PROMs (Cont'd)

Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
8192x8	300 nsF	NMOS	TS	28	5	(Cont'd)			8192x32	55 nsF	Module	TS	66	5	DPE832V-55 † Dense-Pac (2608)		50	
						KM2865AH-30	Samsung			90 nsF	Module	TS	66	5	DPE832V-90 † Dense-Pac (2608)			
						M52B33H-300	SEEQ			120 nsF	Module	TS	66	5	DPE832V-120 † Dense-Pac (2608)			
						2864-300	◊ SEEQ			150 nsF	Module	TS	66	5	DPE832V-150 † Dense-Pac (2608)			
						2864H-300	◊ SEEQ			200 nsF	Module	TS	66	5	DPE832V-200 † Dense-Pac (2608)			
	350 nsF	CMOS	TS	28	5	MBM28C64-35	Fujitsu	5	8196x8	300 nsF	NMOS	TS	28	5	M2864H-300 † SEEQ		55	
						MBM28C65-35	Fujitsu			350 nsF	NMOS	TS	28	5	52B33-350 ◊ SEEQ			
		CMOS, E ²				NMC98C64-35	National		8291x8	250 nsF	CMOS	TS	28	5	MBM28C64-25 Fujitsu			
		TS		28	5	AT28PC64-35									MBM28C65-25 Fujitsu			
		E ²	TS	24	5	◊ Atmel		10	16384x8	55 nsF	Module	TS	66	5	DPE816V-55 † Dense-Pac		60	
						X2864A-35	◊ Xicor (3412, 3452)			70 nsF	CMOS Module	TS	28	5	DPE40128-70 ◊ † Dense-Pac (2606)			
						X2864AM-35	◊ † Xicor (3412, 3452)				E ²	TS	28	5	DPE41129-70 ◊ † Dense-Pac (2606)			
				28	5	XL2864A-350	EXEL (2621)				Module	TS	66	5	DPE41129 Dense-Pac (2606)			
						XL2865A-350	EXEL (2621)				Module, VERSAPAC	TS	66	5	DPE816V-70 † Dense-Pac			
						X2864AT-35	◊ Xicor (3412, 3452)			90 nsF	CMOS Module	TS	28	5	DPE816V Dense-Pac			
		NMOS	TS	24	5	XLM2864A-350		15							DPE40128-90 ◊ † Dense-Pac (2606)		65	
						† EXEL					Module	TS	66	5	DPE41129-90 ◊ † Dense-Pac (2606)			
				28	5	XLM2865A-350				120 nsF	CMOS Module	TS	28	5	DPE816V-90 † Dense-Pac			
						AM2864A-35	AMD	20							DPE40128-120			
						AM2864AE-350	AMD								◊ † Dense-Pac (2606)			
						AM2864B-35	AMD								DPE41129-120			
						AM2864BE-350	AMD								◊ † Dense-Pac (2606)			
						KM2864A-35	Samsung				Module	TS	66	5	DPE816V-120			
						KM2864AH-35	Samsung			150 nsF	CMOS Module	TS	28	5	† Dense-Pac			
						KM2865A-35	Samsung								DPE40128-150		70	
						KM2865AH-35	Samsung								◊ † Dense-Pac (2606)			
	450 nsF	E ²	TS	24	5	X2864AM-45	◊ † Xicor (3412, 3452)	25							DPE41129-150			
						XL2864A-450	EXEL (2621)				Module	TS	28	5	◊ † Dense-Pac (2606)			
				28	5	XL2865A-450	EXEL (2621)			250 nsF	Cartridge	TS	30	5	DPE40128 Dense-Pac (2606)			
						NMH2864	† National								DS1217A-128	Dallas		
						NMH2864C	National											
						X2864A-45	◊ Xicor (3412, 3452)	30	16384x16	55 nsF	Module	TS	66	5	DPE832V-55 † Dense-Pac (2608)		75	
						X2864AT-45	◊ Xicor (3412, 3452)			60 nsF	Module	TS	40	5	DPE8M656 Dense-Pac (2606)			
		NMOS	TS	24	5	XLM2864A-450				70 nsF	CMOS Module	TS	40	5	DPE8M656-70 ◊ † Dense-Pac (2606)			
						† EXEL					Module, VERSAPAC	TS	66	5	DPE832V Dense-Pac (2608)			
						XLM2865A-450				90 nsF	CMOS Module	TS	40	5	DPE8M656-90 ◊ † Dense-Pac (2606)			
8192x16	55 nsF	Module	TS	40	5	DPE8M628	Dense-Pac (2606)				Module	TS	66	5	DPE832V-90 † Dense-Pac (2608)			
				66	5	DPE816V-55	† Dense-Pac			120 nsF	CMOS Module	TS	40	5	DPE8M656-120		80	
	70 nsF	CMOS Module				DPE8M628-70	◊ † Dense-Pac (2606)	35							◊ † Dense-Pac (2606)			
		TS		40	5	DP28M628	Dense-Pac (2609)				Module	TS	66	5	DPE832V-120 † Dense-Pac (2608)			
		Module	TS	40	5	DPE816V-70	† Dense-Pac			170 nsF	Module	TS	40	5	DP28M656 Dense-Pac (2609)			
				66	5													
	90 nsF	CMOS Module				DPE8M628-90	◊ † Dense-Pac (2606)			24576x8	70 nsF	Module	TS	28	5	DPE40192 Dense-Pac (2606)		85
		TS		40	5	DPE816V-90	† Dense-Pac									DPE41193 Dense-Pac (2606)		
		Module	TS	66	5						90 nsF	CMOS Module	TS	28	5	DPE40192-90 ◊ † Dense-Pac (2606)		
	120 nsF	CMOS Module				DPE8M628-120	◊ † Dense-Pac (2606)	40								DPE41193-90 ◊ † Dense-Pac (2606)		
		TS		40	5	DPE816V-120	† Dense-Pac											
		Module	TS	66	%						120 nsF	CMOS Module	TS	28	5	DPE40192-120		
	150 nsF	Module	TS	66	5	DPE816V-150	† Dense-Pac									◊ † Dense-Pac (2606)		
						DPE816V-200	† Dense-Pac									DPE41193-120		
	200 nsF	Module	TS	66	5											◊ † Dense-Pac (2606)		
8192x24	55 nsF	Module	TS	66	5	DPE824V-55	† Dense-Pac	45		150 nsF	CMOS Module	TS	28	5	DPE40192-150		90	
	70 nsF	Module, VERSAPAC				DPE824V	Dense-Pac									◊ † Dense-Pac (2606)		
		TS		66	5	DPE824V-90	† Dense-Pac									DPE41193-150		
	90 nsF	Module	TS	66	5	DPE824V-120	† Dense-Pac									◊ † Dense-Pac (2606)		
	120 nsF	Module	TS	66	5													
						DPE824V-200	† Dense-Pac			250 nsF	Cartridge	TS	30	5	DS1217A-192	Dallas		
	200 nsF	Module	TS	66	5													

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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VIEWPOINT

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‡ High Radiation Resistance

° Macrocell

♦ Available in Surface Mount Package

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MEMORY—E² PROMs (Cont'd)

Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line
(Cont'd)								
262144x8	120 nsF	Module	TS	60	5	DPE6433-120		5
				64	5	DPE42568-120	† Dense-Pac	
	150 nsF	Module	TS	60	5	DPE6433-150	† Dense-Pac	
				64	5	DPE42568	Dense-Pac	
	170 nsF	Module	TS	32	5	DPZ48C2048	Dense-Pac (2609)	
	250 nsF	Cartridge	TS	30	5	DS1217M-2	Dallas	
262144x16	90 nsF	Module	TS	66	5	DPE12832-90	† Dense-Pac	10
						DPE45129	Dense-Pac (2607)	
	100 nsF	E ² Module	TS	56	5	DPE45129-100	† Dense-Pac (2607)	
				48	5			
	120 nsF	Module	TS	66	5	DPE12832-120	† Dense-Pac	
						DPE45129-150	† Dense-Pac (2607)	
	150 nsF	Module	TS	48	5	DPE12832-150	† Dense-Pac	
				66	5			
524288x8	90 nsF	Module	TS	66	5	DPE12832-90	† Dense-Pac	15
						DPE45129	Dense-Pac (2607)	
	100 nsF	E ² Module	TS	56	5	DPE45128-100	† Dense-Pac (2607)	
				48	5			
	120 nsF	Module	TS	48	5	DPE45128-120	† Dense-Pac (2607)	
				66	5	DPE12832-120	† Dense-Pac	
	150 nsF	Module	TS	56	5	DPE45128	Dense-Pac (2607)	
				66	5	DPE12832-150	† Dense-Pac	
524288x16	100 nsF	Module	TS	56	5	DPE10248-100	† Dense-Pac	20
						DPE10248-150	† Dense-Pac	
	150 nsF	Module	TS	56	5	DPE10248-150	† Dense-Pac	
						DPE10248-200	† Dense-Pac	
	200 nsF	Module	TS	56	5			
1048576x8	100 nsF	Module	TS	56	5	DPE10248-100	† Dense-Pac	30
						DPE10248-150	† Dense-Pac	
	150 nsF	Module	TS	56	5	DPE10248-150	† Dense-Pac	
						DPE10248-200	† Dense-Pac	
	200 nsF	Module	TS	56	5			
2097152x8	170 nsF	Module	TS	32	5	DPZ20488	Dense-Pac (2609)	25

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—PROMs

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
35 nsF	TTL	OC TS	16 16	5 5	DM85S06 DM85S07	National National	
10 nsF	TTL	OC TS	16, 20 16, 20	5 5	N82US23 N82US123	Signetics Signetics	
15 nsF	TTL	TS	16	5	63S081A	MMI	5
20 nsF	TTL	TS	16	5	MB7112Y	Fujitsu	
25 nsF	ECL	OE	16	-5.2	MCM10139	Motorola (2948)	
	TTL	OC	16	5	MB7111H 63S080 DM74S188A	Fujitsu MMI National	10
			16, 20 5		N82S23A	Signetics	
		TS	16	5	MB7112H 63S081 DM74S288A	Fujitsu MMI National	15
			16, 20 5		N82S123A	Signetics	
35 nsF	TTL	OC	16	5	MB7111E DM54S188A DM74S188	Fujitsu National National	
		TS	16	5	MB7112E MB7112E-W 53S081 DM54S288A DM74S288	Fujitsu Fujitsu MMI National National	20
40 nsF	TTL	OC TS	16 16	5 5	AM27S18C AM27S19C	AMD AMD	25
45 nsF	TTL	OC TS	16 16	5 5	DM54S188 DM54S288	National National	
50 nsF	TTL	OC	16	5	AM27LS18C AM27S18M MB7111L N82S23	AMD AMD Fujitsu Signetics	30
		TS	16	5	AM27LS19C AM27S19M MB7112L	AMD AMD Fujitsu	
					N82S123	Signetics	35
65 nsF	TTL	OC TS	16 16	5 5	S82S23 AM27LS19M S82S123	Signetics AMD Signetics	
64-Bit	—	—	—	—	RP5H01	Ricoh	
64x16	200 nsF	CMOS	TS	8	BR93C46 BR93C46F	ROHM ROHM	40
256x4	10 nsF	ECL	OE	16	MCM10149-10 100149A 10149A	Motorola (2948) Signetics (3074) Signetics (3075, 3239)	
				5			45
15 nsF	ECL	OE	16	-5.2	MCM10149A F100Z416	Motorola (2948) National	
20 nsR	ECL	OE	16	-5.2	100149 10149	Signetics (3074) Signetics (3075, 3239)	
25 nsF	ECL	OE	16	-5.2	MCM10149 MCM10149-25	Motorola (2948) Motorola (2948)	50
27 nsF	TTL	TS	16, 20	5	N82S129A	Signetics	
30 nsF	TTL	OC TS	16 16	5 5	MB7113H MB7114H 63S141A	Fujitsu Fujitsu MMI	55
40 nsF	TTL	OC TS	16 16	5 5	MB7113E MB7114E MB7114E-W 53S141A	Fujitsu Fujitsu Fujitsu MMI	
						(Continued)	

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
45 nsF	TTL	OC TS	16 16	5 5	AM27S20C 63S140	AMD MMI	(Cont'd) 60
					AM27S21C 63S141	AMD MMI	
50 nsF	TTL	OC TS	16 16	5 5	MB7113L DM74S387 N82S126	Fujitsu National Signetics	65
					MB7114L DM74S287 N82S129	Fujitsu National Signetics	
55 nsF	TTL	OC TS	16 16	5 5	53S140 53S141	MMI MMI	70
60 nsF	TTL	OC TS	16 16	5 5	AM27S20M DM54S387	AMD National	
					AM27S21M DM54S287	AMD National	75
70 nsF	TTL	OC TS	16 16	5 5	S82S126 S82S129	Signetics Signetics	
30 nsF	TTL	OC	16	5	N82S126A	Signetics	
256x8	28 nsF	TTL	TS	20	63S281A	MMI	
35 nsF	TTL	OC TS	20 20	5 5	MB7117H MB7118H	Fujitsu Fujitsu	80
40 nsF	TTL	TS	20	5	53S281A	MMI	
45 nsF	TTL	OC TS	20 20	5 5	MB7117E 63S280	Fujitsu MMI	
					MB7118E 63S281 N82S135	Fujitsu MMI Signetics	85
			24	5	63S285	MMI	
50 nsF	TTL	OC TS	20 20	5 5	53S280 53S281	MMI MMI	90
60 nsF	TTL	TS	20	5	DM74LS471	National	
70 nsF	TTL	TS	20	5	DM54LS471	National	
100 nsF	TTL	TS	20	5	N82LS135	Signetics	
2300 nsF	Erasable	TS	24	-9.5	MM8702A-4	National	
512x4	30 nsF	TTL	TS	16, 20	N82S131A	Signetics	95
33 nsF	TTL	OC	16, 20	5	N82S130A	Signetics	
35 nsF	TTL	OC TS	16 16	5 5	MB7115H MB7116H 63S241A	Fujitsu Fujitsu MMI	
45 nsF	TTL	OC TS	16 16	5 5	MB7115E 63S240	Fujitsu MMI	100
					MB7116E MB7116E-W 53S241A 63S241	Fujitsu Fujitsu MMI MMI	105
50 nsF	TTL	OC TS	16 16	5 5	N82S130 AM27S13C N82S131	Signetics AMD Signetics	
55 nsF	TTL	OC TS	16 16	5 5	53S240 DM74S570 DM74S570A	MMI National National	110
					53S241 DM74S571 DM74S571A DM74S571B	MMI National National National	115
65 nsF	TTL	OC TS	16 16	5 5	DM54S570 DM54S570A	National National	
					DM54S571 DM54S571A DM54S571B	National National National	120
70 nsF	TTL	OC TS	16 16	5 5	S82S130 S82S131	Signetics Signetics	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

* Typical Value

* Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

[illegible]nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—PROMs (Cont'd)

Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
1024x4	80 nsF	TTL	TS	18	5	S82S137	† Signetics	(Cont'd)	1024x8	55 nsF	TTL	TS	24	5	N82HS189	Signetics (3233)	(Cont'd)
	550 nsF	CMOS Erasable	TS	24	5	IM6653-1	GE/Intersil			60 nsF	TTL	OC	24	5	N82S181A	◊ Signetics	
	600 nsF	CMOS Erasable	TS	24	5	IM6653M	† GE/Intersil								AM27S180C	AMD	65
1024x8	—	TTL	TS	24	5	AM27PS181	AMD	5							AM27S281C	AMD	70
						AM27PS281	AMD			70 nsF	TTL	TS	24	5	29631A	† Raytheon	
						AM27S35AC	AMD								29631A	Raytheon	
						AM27S35AM	† AMD	10							29633A	◊† Raytheon	
						AM27S35C	AMD								29633A	◊ Raytheon	
						AM27S35M	† AMD								N82S183	Signetics	
						AM27S37A	AMD								DM87S181	National	75
	15 nsF	TTL	Reg	24	5	63RS881A	◊ MMI			75 nsF	TTL	OC	24	5	29633A	◊† Raytheon	
	20 nsF	TTL	Reg	24	5	53RS881A	◊† MMI								29633A	◊ Raytheon	
						63RS881	◊† MMI								N82S181	◊ Signetics	
			TS	24	5	MB7232RA-20									DM77S180	† National	
						◊ Fujitsu									DM77S280	† National	
						MB7232RS-20									DM77S181	† National	
						◊ Fujitsu									DM77S281	† National	
	25 nsF	CMOS Reg.						15		80 nsF	TTL	OC	24	5	AM27S180M	† AMD	80
			TS	24	5	CY7C235-25C	Cypress (2585)								AM27S181M	† AMD	
			Reg	24	5	53RS881	◊† MMI								AM27S281M	† AMD	
			TS	24	5	MB7232RA-25									S82S181A	† Signetics	
						◊ Fujitsu				90 nsF	TTL	TS	24	5	S82S181	† Signetics	85
						MB7232RS-25									S82S183	† Signetics	
						◊ Fujitsu									S82S2708	† Signetics	
	30 nsF	CMOS	TS	24	5	CY7C235-30M	† Cypress (2585)	20		95 nsF	TTL	TS	24	5	29633C	◊ Raytheon	
						CY7C281-30C	◊ Cypress (2585)			120 nsF	TTL	TS	24	5	N82LS181	Signetics	
						CY7C282-30C	Cypress (2585)			175 nsF	TTL	TS	24	5	S82LS181	† Signetics	
			Reg	24	5	CY7C235-30C	Cypress (2585)			450 nsF	CMOS Erasable	TS	24	5	IM6658	GE/Intersil	90
			TTL	24	5	63S881A	◊ MMI								IM6658M	† GE/Intersil	
	35 nsF	CMOS Reg.													NMC27C58	National	
			TS	24	5	CY7C235-35M	◊† Cypress (2585)	25	2048x4	20 nsF	TTL	DOC	24	5	63DA841	◊ MMI	
			Reg	24	5	DM87SR183B	National			25 nsF	Reg	TS	24	5	AM27S75AC	AMD	95
			TTL	24	5	AM27S37	AMD			30 nsF	Reg	TS	24	5	AM27S75AM	† AMD	
						93Z450A	◊ National								AM27S75C	AMD	
			TS	24	5	MB7132Y	◊ Fujitsu			35 nsF	Reg	TS	24	5	AM27S75M	† AMD	
						93Z451A	◊ National	30							AM27S184AC	AMD	
						N82S191C	◊ Signetics (3238)								63S841A	◊ MMI	
															DM87S185B	National	100
										45 nsF	TTL	TS	18	5	MB7128H	◊ Fujitsu	
															DM87S185A	National	
															N82S185B	Signetics	
	40 nsF	Reg	TS	24	5	CY7C235-40C	Cypress (2585)			50 nsF	TTL	TS	18	5	AM27S185C	AMD	105
						CY7C235-40M	† Cypress (2585)								53S841A	◊† MMI	
						DM77SR181	† National	35							63S841	◊ MMI	
						DM87SR181	National								DM77S185B	† National	
						DM87SR183	National								N82S185A	Signetics	
			TTL	OC	24	93Z450C	◊ National			55 nsF	TTL	OC	18	5	DM87S184	National	110
						93Z451C	◊ National								AM27S185M	† AMD	
	45 nsF	CMOS	TS	24	5	CY7C281-45C	◊ Cypress (2585)	40							MB7128E	◊ Fujitsu	
						CY7C281-45M	◊† Cypress (2585)								MB7128E-W		
						CY7C282-45C	Cypress (2585)								◊† Fujitsu		
						CY7C282-45M	† Cypress (2585)								53S841	◊† MMI	
			Reg	24	5	DM77SR183	† National	45							DM87S185	National	
			TTL	OC	24	93Z341AM	National			60 nsF	TTL	TS	18	5	AM27LS185C	AMD	115
						93Z450	◊ National								AM27PS185C	AMD	
															DM77S185A	† National	
			TS	24	5	MB7132H	◊ Fujitsu	50							29651A	Raytheon	
						53S881A	◊† MMI								29653A	◊ Raytheon	
						63S881	◊ MMI										
						93Z451	◊ National										
						N82HS187A	Signetics (3232)										
						N82HS189A	Signetics (3233)										
						N82S181B	◊ Signetics										
	55 nsF	TTL	OC	24	5	DM87S180	National	55		65 nsF	TTL	TS	18	5	AM27LS185M		120
						DM87S280	National								† AMD		
						93Z450M	◊† National								AM27PS185M		
						93Z451M	◊† National								† AMD		
			TS	24	5	MB7132E	◊ Fujitsu	60		70 nsF	TTL	OC	18	5	DM77S184	† National	125
						MB7132E-W	◊ Fujitsu								DM77S185	† National	
						53S881	◊† MMI								29651C	Raytheon	
						DM87S281	National			75 nsF	TTL	TS	18	5	29653C	Raytheon	
						N82HS187	Signetics (3232)			80 nsF	TTL	TS	18	5	S82S185A	Signetics	
															S82S191A	† Signetics	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
2048x4								(Cont'd)
90 nsF	TTL	TS	18	5	29651M	† Raytheon		
95 nsF	TTL	TS	18	5	29653M	† Raytheon		
100 nsF	TTL	TS	18	5	N82S185	Signetics		
115 nsF	TTL	TS	18	5	S82S185	† Signetics		
2048x8	—	Emulator (RAM w/Bat.)			GR2716	LMS		
15 nsF	CMOS	TS	24	5	CY7C245A-15C	Cypress (2585)		
					CY7C245A-15WC	Cypress (2585)		
	TTL	Reg	24	5	63RA1681A	◊ MMI		
					63RS1681A	◊ MMI		
18 nsF	CMOS Reg.	TS	24	5	CY7C245A-18C	◊ Cypress (2585)		
					CY7C245A-18WC	◊ Cypress (2585)		
20 nsF	TTL	Reg	24	5	53RA1681A	◊ † MMI		
					53RS1681A	◊ † MMI		
					63RA1681	◊ MMI		
					63RS1681	◊ MMI		
		TS	24	5	MB7238RA-20	Fujitsu		
					MB7238RS-20	Fujitsu		
25 nsF	Bipolar	TTL	24	5	MB71A38-25	Fujitsu		
	CMOS	TS	24	5	AM27C191-25C	AMD		
					AM27C291-25C	AMD		
					CY7C291A-25C	Cypress (2585)		
					CY7C292A-25C	Cypress (2585)		
					CY7C293A-25C	Cypress (2585)		
	CMOS Erasable	TS	24	5	CY7C245A-25WM	◊ † Cypress (2585)		
					CY7C291A-25WC	Cypress (2585)		
					CY7C293A-25WC	Cypress (2585)		
					WS57C45-25	Waferscale		
	CMOS Reg.	TS	24	5	CY7C245-25C	◊ Cypress (2585)		
	CMOS Reg.	TS	24	5	CY7C245A-25C	◊ Cypress (2585)		
					CY7C245A-25M	◊ † Cypress (2585)		
					CY7C245A-25WC	◊ Cypress (2585)		
	CMOS, Erasable	TS	24	5	CY7C245-25WC	◊ Cypress (2585)		
	Reg	TS	24	5	DM87SR191	National		
					DM87SR193	National		
	TTL	Reg	24	5	53RA1681	◊ † MMI		
					53RS1681	◊ † MMI		
		TS	24	5	MB7238RA-25	Fujitsu		
					MB7238RA-25W	† Fujitsu		
					MB7238RS-25	Fujitsu		
					MB7238RS-25W	† Fujitsu		
					N82HS191	Signetics		
30 nsF	CMOS Reg.	TS	24	5	CY7C291A-30M	◊ † Cypress (2585)		
					CY7C291A-30WM	◊ † Cypress (2585)		
					CY7C292A-30M	† Cypress (2585)		
					CY7C293A-30M	† Cypress (2585)		
					CY7C293A-30WM	† Cypress (2585)		
35 nsF	Bipolar	TTL	24	5	MB71A38-35	Fujitsu		
	CMOS	TS	24	5	AM27C191-35C	AMD		
					AM27C191-35M	† AMD		
					AM27C291-35C	AMD		
					AM27C291-35M	† AMD		
					CY7C291-35C	◊ Cypress (2585)		
					CY7C291-35M	◊ † Cypress (2585)		
					CY7C291AL-35C	Cypress (2585)		
					CY7C291L-35C	Cypress (2585)		
					CY7C291L-35WC	Cypress (2585)		
					CY7C292-35C	Cypress (2585)		
						(Continued)		

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
2048x8	35 nsF	CMOS	TS	24	5			(Cont'd)
						CY7C292AL-35C	Cypress (2585)	
						CY7C292L-35C	Cypress (2585)	

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—PROMs (Cont'd)

Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line	Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line
2048x8	45 nsF	CMOS	TS	24	5		(Cont'd) CY7C245L-45C Cypress (2585) CY7C245L-45WC Cypress (2585)		2048x8	50 nsF	CMOS Reg.	TS	24	5		(Cont'd) CY7C293A-50WC Cypress (2585) CY7C293A-50WM Cypress (2585)	
		CMOS Erasable	TS	24	5		27HC191-45 $\uparrow$ Microchip (2909) 27HC291-45 $\uparrow$ Microchip (2909) TMS27C292 TI (3328) TMS27C292-45 TI (3328) WS57C191B-45M $\uparrow$ Waferscale (3390) WS57C291-45 Waferscale (3390) WS57C291B-45M $\uparrow$ Waferscale (3390)	5			TTL	OC	24	5		AM27S190C AMD AM27PS191C AMD AM27PS291C AMD AM27S191 AMD AM27S291 AMD 53S1681A $\uparrow$ MMI 63S1681 MMI 29681A $\uparrow$ Raytheon 29681A Raytheon 29683A $\uparrow$ Raytheon 29683A $\diamond$ Raytheon	55
		CMOS OTP	TS	24	5		WS57C191-45 $\uparrow$ Waferscale (3390) WS57C191B-45 Waferscale (3390) WS57C291B-45 Waferscale (3390)	10		55 nsF	CMOS	TS	24	5		LH57191J-55 Sharp	65
		CMOS, E ²	TS	24	5		AT27HC291L-45 $\uparrow$ Atmel AT28HC191-45 $\uparrow$ Atmel AT28HC191L-45 $\uparrow$ Atmel AT28HC291-45 $\uparrow$ Atmel AT28HC291L-45 $\uparrow$ Atmel	15			CMOS Erasable	TS	24	5		27HC191-55 $\uparrow$ Microchip (2909) 27HC291-55 $\uparrow$ Microchip (2909) M36C16-55 $\uparrow$ SEEQ WS57C191-50 Waferscale (3390) WS57C191-55M Waferscale (3390) WS57C291-55 Waferscale (3390) WS57C291-55M $\uparrow$ Waferscale (3390)	60
		Reg	TS	24	5		AM27S45 AMD AM27S47 AMD CY7C245-45C $\diamond$ Cypress (2585) CY7C245-45M $\uparrow$ Cypress (2585)	20			CMOS OTP	TS	24	5		WS57C191-55 $\diamond$ Waferscale (3390) WS57C191B-55 Waferscale (3390) WS57C291B-55 Waferscale (3390)	70
		Reg, Erasable	TS	24	5		CY7C245-45WC $\diamond$ Cypress (2585) CY7C245-45WM $\uparrow$ Cypress (2585)	25			CMOS, E ²	TS	24	5		AT27HC191L-55 $\uparrow$ Atmel AT28HC191-55 $\uparrow$ Atmel AT28HC291-55 $\uparrow$ Atmel AT28HC291L-55 $\uparrow$ Atmel	75
		TTL	OC	24	5		93Z510C $\diamond$ National SFC71190B SGS-Thomson	30			TTL	OC	24	5		93Z510M $\uparrow$ National MB7138E $\diamond$ Fujitsu MB7138E-W $\uparrow$ Fujitsu 93Z511M $\uparrow$ National	80
		TS	24	5			MB7138H $\diamond$ Fujitsu 93Z511C National SFC71191B SGS-Thomson	35		60 nsF	TTL	TS	24	5		SFC71191A $\uparrow$ SGS-Thomson AM27S190M $\uparrow$ AMD AM27PS191M $\uparrow$ AMD AM27S291M $\uparrow$ AMD 53S1681 $\uparrow$ MMI	85
50 nsF	CMOS	TS	24	5			CY7C291-50C $\diamond$ Cypress (2585) CY7C291-50M $\uparrow$ Cypress (2585) CY7C291AL-50C Cypress (2585) CY7C291L-50C Cypress (2585) CY7C292-50C Cypress (2585) CY7C292-50M $\uparrow$ Cypress (2585) CY7C292AL-50C Cypress (2585) CY7C292L-50C Cypress (2585) CY7C293AL-50C Cypress (2585)	40		70 nsF	CMOS	TS	24	5		LH57191-70 Sharp LH57191J-70 Sharp	90
		CMOS Erasable	TS	24	5		CY7C291-50WC $\diamond$ Cypress (2585) CY7C291-50WM $\uparrow$ Cypress (2585) CY7C291AL-50WC Cypress (2585) CY7C293AL-50WC Cypress (2585) TMS27C292-5 TI (3328) TMS27C292-50 TI (3328)	45			CMOS, E ²	TS	24	5		AT28HC191-70 $\uparrow$ Atmel AT28HC291-70 $\uparrow$ Atmel	95
		CMOS Reg.	TS	24	5		CY7C291A-50C $\diamond$ Cypress (2585) CY7C291A-50M $\uparrow$ Cypress (2585) CY7C291A-50WC $\diamond$ Cypress (2585) CY7C291A-50WM $\uparrow$ Cypress (2585) CY7C292A-50C Cypress (2585) CY7C292A-50M $\uparrow$ Cypress (2585) CY7C293A-50C Cypress (2585) CY7C293A-50M $\uparrow$ Cypress (2585)	50		80 nsF	BIP	TS	24	5		HS76161RH $\ddagger$ Harris DM77S190 $\uparrow$ National SFC71190A $\uparrow$ SGS-Thomson	100
							(Continued)				TTL	OC	24	5		29681 Raytheon 29681A Raytheon 29683A $\uparrow$ Raytheon 29683A $\diamond$ Raytheon	
										85 nsF	TTL	TS	24	5		29681 Raytheon 29683 $\diamond$ Raytheon	
										90 nsF	CMOS	TS	24	5		HM6617B-9 Harris (2752) HM6617B/83 $\uparrow$ Harris (2752)	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

* Typical Value

° Macrocell

◊ Available in Surface Mount Package

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MEMORY—PROMs (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
2048x8									(Cont'd)									
	100 nsF	TTL	TS	24	5	S82S191	† Signetics	5	4096x8	45 nsF	CMOS Erasable		24	5			(Cont'd)	
	120 nsF	CMOS	TS	24	5	HM6617-9	Harris (2752)					TS				WS57C43B-45		Waferscale (3390)
						HM6617/883	† Harris (2752)									WS57C43B-45M		† Waferscale (3390)
	140 nsF	CMOS	TS	24	5	HS6617RH	± Harris (2734)											
	200 nsF	TTL	TS	24	5	AM2716B-200	AMD											
	250 nsF	TTL	TS	24	5	AM2716B-250	AMD	10				TTL	TS	24	5	53S3281	† MMI	
	300 nsF	TTL	TS	24	5	AM2716B-300	AMD									N82HS321	Signetics (3234)	
	350 nsF	Erasable	TS	24	5	2716-1	Intel			50 nsF	TTL	TS	24	5	AM27S43	AMD		
						ET2716-1	SGS-Thomson								53S3281A	† MMI		
						M2716-1	SGS-Thomson								63S3281	◊ MMI		
	NMOS Erasable, Refurbished							15		55 nsF	CMOS Erasable		24	5			70	
		TS		24	± 5,12	2716T-350	Krueger (2877)				TS				27CX321-45	ICT (2875)		
					5	2716-350	Krueger (2877)								M36C32-55	† SEEQ		
	390 nsF	Erasable	TS	24	5	2716-2	Intel								WS57C43B-55	Waferscale (3390)		
	450 nsF	CMOS Erasable													WS57C43B-55M	† Waferscale (3390)		
		Erasable	TS	24	5	ETC2716	SGS-Thomson	20									75	
						M2716	Intel											
						2716	Intel											
						NMC27C16-45	National											
						ET2716	SGS-Thomson											
						M2716	SGS-Thomson	25									80	
	NMOS Erasable, Refurbished																	
		TS		24	± 5,12	2716T-450	Krueger (2877)											
					5	2716-450	Krueger (2877)											
		TTL	TS	24	5	AM2716B-450	AMD											
	490 nsF	Erasable	TS	24	5	2716-5	Intel	30									85	
	650 nsF	Erasable	TS	24	5	2716-6	Intel											
4096x4																		
	20 nsF	TTL	DOC	24	5	63DA1643	◊ MMI											
						63D1641	◊ MMI											
	25 nsF	Reg	TS	24	5	AM27S85AC	AMD	35									90	
		TTL	TS	20	5	N82HS195B	Signetics											
	30 nsF	Reg	TS	24	5	AM27S85AM	† AMD											
						AM27S85C	AMD											
	35 nsF	Reg	TS	24	5	AM27S85M	† AMD											
		TTL	TS	20	5	AM27S41A	AMD	40									95	
						MB7152Y	Fujitsu											
						63S1641A	◊ MMI											
						N82HS195A	Signetics											
	45 nsF	TTL	TS	20	5	MB7134H	◊ Fujitsu											
						N82HS195	Signetics	45									100	
						MB7152H	Fujitsu											
	50 nsF	TTL	TS	20	5	AM27S41	AMD											
						53S1641A	† MMI											
						63S1641	◊ MMI											
						DM77S195B	† National	50									105	
						S82HS195	† Signetics											
	55 nsF	TTL	TS	20	5	MB7134E	◊ Fujitsu											
						MB7134E-W	† Fujitsu											
						MB7152E	Fujitsu											
	60 nsF	TTL	TS	20	5	DM77S195A	† National	55									110	
	65 nsF	TTL	TS	20	5	AM27S41M	† AMD											
						53S1641	† MMI											
4096x8																		
	—	Emulator (RAM w/Bat.)				GR2732	LMS											
	30 nsF	TTL	TS	24	5	N82HS321B	Signetics (3234)	60									(Continued)	
	35 nsF	BiCMOS	TTL	24	5	MB71C42-35	Fujitsu											
		CMOS Erasable																
		TS		24	5	27CX321-35	ICT (2875)											
						27CX322-35	ICT (2875)											
						WS57C43B-35	Waferscale (3390)											
		TTL	TS	24	5	63S3281A	◊ MMI	60									(Continued)	
						N82HS321A	Signetics (3234)											
	40 nsF	TTL	TS	24	5	AM27S43A	AMD											
	45 nsF	BiCMOS	TTL	24	5	MB71C42-45	Fujitsu											
		CMOS Erasable																
		TS		24	5	27CX321-40	ICT (2875)	60									(Continued)	
						27CX322-40	ICT (2875)											
						27CX322-45	ICT (2875)											

† Military Temperature Range (–55° to 125°C)

OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range

TS—Three-State

nsR—Nanoseconds at Room Temperature

OE—Open Emitter

MEMORY—PROMS (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
(Cont'd)									(Cont'd)								
4096x8	200 nsF	CMOS Erasable TS	24	5		NMC27C32B-200	National TI (3328)		8192x8	35 nsF	BiCMOS CMOS	TTL TS	24	5	MB71C44-35	Fujitsu Cypress (2585)	55
						TMS27C32-2	TI (3328)								CY7C263-35C	Cypress (2585)	
						TMS27C32-20	TI (3328)								CY7C264-35C	Cypress (2585)	
		Erasable TS	24	5		2732A-20	Intel	5			CMOS Erasable TS	24	5		27CX641-40	ICT (2875)	
						M2732A-2	SGS-Thomson						28	5	27CX642-40	ICT (2875)	
						TMS2732A-20	TI (3328)								WS57C49B-35	Waferscale (3390)	
		NMOS TS	24	5		2732A-2	Intel				CMOS, Erasable TS	24	5		CY7C261-35WC	Cypress (2585)	60
		TTL TS	24	5		AM2732B-200	AMD								CY7C263-35WC	Cypress (2585)	
250 nsF	CMOS	TS	24	5		TMS27PC32	TI (3332)	10							CY7C264-35WC	Cypress (2585)	
						TMS27PC32-25	TI (3332)				TTL OC	24	5		93Z665C	National	
		CMOS Erasable TS	24	5		TMS27C32	TI (3328)				TS	24	5		N82HS641B	Signetics (3236)	
						TMS27C32-25	TI (3328)										
		CMOS, Erasable TS	24	5		RD27C32-25	Ricoh			40 nsF	CMOS Erasable TS	24	5		CY7C261-40C	Cypress (2585)	65
		Erasable TS	24	5		2732A-25	Intel								CY7C261-40WC	Cypress (2585)	
						M2732A	SGS-Thomson	15							CY7C263-40C	Cypress (2585)	
						TMS2732A-25	TI (3328)								CY7C263-40WC	Cypress (2585)	
						M2732A-25 †	Intel								CY7C264-40WC	Cypress (2585)	
		NMOS TS	24	5		2732A	Intel								CY7C268-40WC	Cypress (2585)	70
		NMOS Erasable, Refurbished TS	24	5		2732-250	Krueger (2877)								CY7C269-40WC	Cypress (2585)	
						2732A-250	Krueger (2877)	20			CMOS Reg. TS	28	5		CY7C265-40C	Cypress (2585)	
						AM2732B-250	AMD				CMOS, Erasable TS	28	5		AT27HC641-40	† Atmel	
		TTL TS	24	5		RD27C32-30	Ricoh								AT27HC642-40	† Atmel	
300 nsF	CMOS Erasable TS	24	5			2732A-3	Intel								CY7C268-40C	Cypress (2585)	75
	Erasable TS	24	5			2732A-30	Intel			45 nsF	BiCMOS TTL	24	5		93Z667C-40	National	
						M2732A-3	SGS-Thomson	25			CMOS TS	24	5		MB71C44-45	Fujitsu	
															CY7C261-45C	Cypress (2585)	
		NMOS Erasable, Refurbished TS	24	5		2732-300	Krueger (2877)								CY7C261-45M	† Cypress (2585)	
						2732A-300	Krueger (2877)								CY7C263-45C	Cypress (2585)	
						AM2732B-300	AMD								CY7C263-45M	† Cypress (2585)	
350 nsF	CMOS Erasable TS	24	5			NMC27C32B-350	National	30							CY7C264-45C	Cypress (2585)	
						RD27C32-35	Ricoh								CY7C264-45M	† Cypress (2585)	
		Erasable TS	24	5		NMC27C32-35	National								TMS27PC49-4	TI (3332)	
		NMOS Erasable, Refurbished TS	24	5		2532-350	Krueger (2877)								TMS27PC49-45	TI (3332)	
						2732-350	Krueger (2877)								CY7C266-45C	Cypress (2585)	
						2732A-350	Krueger (2877)								CY7C266-45WC	Cypress (2585)	
450 nsF	Erasable TS	24	5			HN462532	Hitachi	35			CMOS Erasable TS	24	5		AT27HC641-45	Atmel	
						2732A-4	Intel								27CX641-45	ICT (2875)	
						NMC27C32-45	National								27CX642-45	ICT (2875)	
						M2732A-4	SGS-Thomson								27HC641-45	† Microchip (2908)	
						TMS2732A-45	TI (3328)								TMS27C49-4	TI (3328)	
						M2732A-45 †	Intel	40							TMS27C49-45	TI (3328)	
						2732A-45	Intel								WS57C49B-45	Waferscale (3390)	
		NMOS TS	24	5		RO94132	Microchip								27HC64-45	† Microchip (2907)	95
		NMOS Erasable, Refurbished TS	24	5		2532-450	Krueger (2877)								WS57C49B-45M	† Waferscale (3390)	
						2732-450	Krueger (2877)										
						2732A-450	Krueger (2877)	45			CMOS Reg. TS	28	5		CY7C265-40WC	Cypress (2585)	
						AM2732B-450	AMD				CMOS, Erasable TS	24	5		AT27HC641L-45	† Atmel	
4096x16	55 nsF	CMOS Erasable TS	40	5		WS57C65-55	Waferscale (3390)								AT27HC642L-45	† Atmel	
															CY7C261-45WC	Cypress (2585)	100
	70 nsF	CMOS Erasable TS	40	5		WS57C65-70	Waferscale (3390)								CY7C261-45WM	† Cypress (2585)	
						WS57C65-70M	† Waferscale (3390)								CY7C263-45WC	Cypress (2585)	
															CY7C263-45WM	† Cypress (2585)	
8192x8	—	Emulator (RAM w/Bat.)				GR2764	LMS	50							CY7C264-45WC	Cypress (2585)	
	25 nsF	TTL TS	24	5		AM27S49SA-25	AMD								CY7C264-45WM	† Cypress (2585)	
	30 nsF	TTL TS	24	5		AM27S49SA-30	† AMD										
(Continued)									(Continued)								

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
8192x8	45 nsF	CMOS, Erasable TS		28	5	AT27HC642-45 ◊† Atmel	(Cont'd)		8192x8	55 nsF	CMOS, Erasable TS		24	5	CY7C263-55WM † Cypress CY7C264-55WC ◊ Cypress CY7C264-55WM ◊† Cypress	(2585) (2585) (2585)	55	
		TTL	OC	24	5	93Z564 ◊ National 93Z665M † National 93Z667M † National							28	5	AT27HC64L-55 ◊† Atmel AT27HC642-55 ◊† Atmel			
		TS		24	5	MB7144Y ◊ Fujitsu 93Z565 National 93Z667C-45 National N82HS641A Signetics	(3236)	5			TTL	OC	24	5	93Z564AM ◊† National 93Z564C ◊ National 93Z565AM † National 93Z565C National		60	
49 nsF	CMOS, Reg TS			28	5	CY7C269-40C ◊ Cypress	(2585)				TS		24	5	AM27S49AM † AMD AM27S49C AMD MB7144H ◊ Fujitsu 93Z667M-55 † National 39VP864 Raytheon N82HS641 Signetics	(3236)	65	
50 nsF	CMOS Erasable TS			28	5	CY7C268-50WC ◊ Cypress CY7C268-50WM ◊† Cypress CY7C269-50WC ◊ Cypress CY7C269-50WM ◊† Cypress	(2585) (2585) (2585) (2585)	10			TTL/CMOS TS		24, 28	5	27HC641-55 ◊ Signetics			
	CMOS Reg. TS			28	5	CY7C265-50C Cypress CY7C265-50M ◊† Cypress CY7C265-50WC Cypress CY7C265-50WM ◊† Cypress	(2585) (2585) (2585) (2585)	15		60 nsF	CMOS Erasable TS		28	5	CY7C268-60WC ◊ Cypress CY7C268-60WM ◊† Cypress CY7C269-60WC ◊ Cypress CY7C269-60WM ◊† Cypress	(2585) (2585) (2585) (2585)	70	
	CMOS, Reg TS			28	5	CY7C269-50C ◊ Cypress CY7C269-50M ◊† Cypress	(2585) (2585)				CMOS Reg. TS		28	5	CY7C265-60C Cypress CY7C265-60M ◊† Cypress CY7C265-60WC Cypress CY7C265-60WM Cypress	(2585) (2585) (2585) (2585)	75	
	Reg	TS		28	5	CY7C268-50C ◊ Cypress CY7C268-50M ◊† Cypress	(2585) (2585)	20			Reg	TS	28	5	CY7C268-60C ◊ Cypress CY7C268-60M ◊† Cypress CY7C269-60C ◊ Cypress CY7C269-60M ◊† Cypress	(2585) (2585) (2585) (2585)	80	
	TTL	TS		24	5	93Z667C-50 National 93Z667M-50 † National				65 nsF	TTL	OC	24	5	93Z564M ◊† National 93Z565M † National			
55 nsF	CMOS	TS		24	5	CY7C261-55C ◊ Cypress CY7C261-55M ◊† Cypress CY7C263-55C Cypress CY7C263-55M † Cypress CY7C264-55C ◊ Cypress CY7C264-55M ◊† Cypress TMS27PC49-5 TI TMS27PC49-55 TI	(2585) (2585) (2585) (2585) (2585) (2585) (3332) (3332)	25			TS		24	5	AM27S49M † AMD MB7144E ◊ Fujitsu MB7144E-W ◊† Fujitsu		85	
				28	5	CY7C266-55C Cypress CY7C266-55M † Cypress CY7C266-55WC Cypress CY7C266-55WM † Cypress	(2585) (2585) (2585) (2585)	30			70 nsF	CMOS	TTL	28	5	LH5749-70 Sharp LH5762-70 Sharp		
	CMOS Erasable TS			24	5	AT27HC641-55 Atmel 27CX641-55 ICT 27CX642-55 ICT 27HC641-55 ◊ Microchip TMS27C49-5 TI TMS27C49-55 TI WS57C49B-55 Waferscale WS57C49B-55M ◊† Waferscale	(2875) (2875) (2908) (3328) (3328) (3390) (3390)	35			CMOS Erasable TS		24	5	AT27HC64-70 Atmel AT27HC641-70 Atmel 27HC641-70 ◊† Microchip WS57C49B-70 Waferscale WS57C49B-70M ◊† Waferscale	(2907) (3390) (3390) (3390)	90	
				28	5	AT27HC64-55 Atmel 27HC64-55 ◊ Microchip WS57C49-90M ◊ Waferscale WS57C64F-55 Waferscale	(2907) (3390) (3390) (3390)	40					28	5	27HC64-70 ◊ Microchip WS57C64F-70 Waferscale WS57C64F-70M † Waferscale	(2907) (3390) (3390)	95	
		TTL		24	5	LH5749J-55 Sharp		45			TTL		24	5	LH5749J-70 Sharp LH5762J-70 Sharp LH5763J-70 Sharp			
	CMOS, Erasable TS			24	5	AT27HC641L-55 ◊† Atmel AT27HC642L-55 ◊† Atmel CY7C261-55WC ◊ Cypress CY7C261-55WM ◊† Cypress CY7C263-55WC Cypress CY7C263-55WM (Continued)	(2585) (2585) (2585) (2585)	50			CMOS, Erasable TS		24	5	AT27HC641L-70 ◊† Atmel AT27HC642L-70 ◊† Atmel AT27HC64L-70 ◊† Atmel AT27HC642-70 ◊† Atmel (Continued)		100	

† Military Temperature Range (-55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY

MEMORY

♦ Available in Surface Mount Package

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MEMORY—PROMs (Cont'd)

Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line	Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line
(Cont'd)									8192x16	45 nsF	CMOS Erasable TS	44	5		MAP168-45	Waferscale (3392)	50
						MBM2764-25 ♦ Fujitsu 2764-25 ♦ SEEQ 8200502YA † SEEQ M2764A SGS-Thomson TMS2764-25 TI (3328)		5		55 nsF	CMOS Erasable TS	44	5		MAP168-55	Waferscale (3392)	
					5, 12.5	2764A Intel 2764A-25 Intel				70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV8X16V	Dense-Pac (2607)	
										150 nsF	Module, Erasable TS	40	5		DPV8X16	Dense-Pac (2607)	
		ERASABLE							8192x24	70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV8X24V	Dense-Pac (2607)	
		TS 28 5				DM2764-25 † SEEQ		10		150 nsF	Module, Erasable TS	48	5		DPV8X24	Dense-Pac (2607)	55
		NMOS Erasable TS 28 5				M5L2764 Mitsubishi											
		NMOS Erasable, Refurbished TS 28 5				2764-250 Krueger (2877)			8192x32	70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV8X32V	Dense-Pac (2607)	
		NMOS, Refurbished TS 28 5				2764A-250 Krueger (2877)				150 nsF	Module, Erasable TS	56	5		DPV8X32	Dense-Pac (2607)	
		TTL TS 28 5				AM2764-25M † AMD											
300 nsF		CMOS TS 28 5				MBM27C64-30X ♦ Fujitsu			16384x4	200 nsF	CMOS Erasable, Refurbished TS 28 5				27C128-200	Krueger	
		CMOS Erasable TS 28 5				MBM27C64-30W ♦ Fujitsu		15			NMOS Erasable, Refurbished TS 28 5				27128A-200	Krueger (2877)	
						MNC27C64-300 National				250 nsF	CMOS Erasable, Refurbished TS 28 5				27C128-250	Krueger	60
						RD27C64-30 Ricoh					NMOS Erasable, Refurbished TS 28 5				27128A-250	Krueger (2877)	
					5, 12.5	27C64A30 Signetics		20		300 nsF	NMOS Erasable, Refurbished TS 28 5				27128A-300	Krueger (2877)	
						27C64-3 ♦ Intel				450 nsF	NMOS Erasable, Refurbished TS 28 5				27128A-450	Krueger (2877)	
						27C64-30 ♦ Intel			16384x8	—	Emulator (RAM w/Bat.)				GR27128 LMS		
						87C64-3 ♦ Intel				35 nsF	BiCMOS TTL 28 5				MB71C46-35 Fujitsu		65
						87C64-30 ♦ Intel					TTL TS 28 5				AM27S51A-35C AMD		
						87C64-30 ♦ Intel									AM27S51A-35M † AMD		
		CMOS Erasable, Refurbished TS 28 5				27C64-300 Krueger				40 nsF	CMOS Erasable TS 28 5				WS57C51B-40	Waferscale (3390)	
		CMOS, Erasable TS 28 5				TS27C64-30 SGS-Thomson		25		45 ns*	TTL TS 24 5				N82HS1281 Signetics		
		Erasable TS 28 5				AM2764A-3 AMD				45 nsF	BiCMOS TTL 28 5				MB71C46-45 Fujitsu		70
						AM2764A-30 AMD					CMOS TS 28 5				CY7C251-45C ♦ Cypress (2585)		
						MBM2764-30 ♦ Fujitsu									CY7C254-45C Cypress (2585)		
						MBM2764-30X ♦ Fujitsu											
						2764-30 ♦ SEEQ		30									
					5, 12.5	M2764A-3 SGS-Thomson											
						2764A-3 Intel											
						2764A-30 Intel											
		NMOS Erasable, Refurbished TS 28 5				2764-300 Krueger (2877)											
		NMOS, Refurbished TS 28 5				2764A-300 Krueger (2877)											
350 nsF		Erasable TS 28 5				DM2764-35 † SEEQ		35									
450 nsF		Erasable TS 28 5				AM2764A-4 AMD											
						AM2764A-45M † AMD											
						MSM2764A OKI											
						2764-45 ♦ SEEQ		40									
						8200507YA † SEEQ											
						M2764A-4 SGS-Thomson											
						TMS2764-45 TI (3328)											
					5, 12.5	2764A-4 Intel											
						2764A-45 Intel											
		Erasable TS 28 5				DM2764-45 † SEEQ		45									
		NMOS Erasable, Refurbished TS 28 5				2764-450 Krueger (2877)											
		NMOS, Refurbished TS 28 5				2564-450 Krueger (2877)											
						2764A-450 Krueger (2877)											
		TTL TS 28 5				AM2764-45M † AMD											
																	(Continued)

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—PROMs (Cont'd)

Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line	Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
16384x8	55 nsF	CMOS Erasable TS	28	5		(Cont'd)		5	16384x8	170 nsF	CMOS Erasable TS	28	5		(Cont'd)		45																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
						WS57C51B-55M	† Wafer scale (3390)								AT27C513-17	Atmel																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
						WS57C51B-70M	† Wafer scale (3390)								27C128-17	Microchip (2912)		50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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	40	5		WS57C257-55	Wafer scale (3390)	VT27C128-17	VLSI Tech	MBM27C128-20		Fujitsu	TMX27PC128-2	Ricoh	TMS27PC128-2	TI (3332)	TMS27PC128-20	TI (3332)	VT27C128-20	† VLSI Tech	LH57128-20	Sharp	55																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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						AM27S51-55M	† AMD																	60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◇ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Access	Supply	Access	Supply
Time	Voltage,	Time	Voltage,
Max)		Max)	
Organi-	Out-	Organi-	Out-
zation	put	zation	put
(Max)	Pins	(Max)	Pins
Type	V	Type	V
Device	Source	Device	Source
Line		Line	
16384x8	250 nsF	16384x16	70 nsF
Erasable	TS 28 5	CMOS Erasable	TS 40 5
	32 5		
			WS57C257-70 Waferscale (3390)
			WS57C257-70M † Waferscale (3390)
			Module, Erasable, VERSAPAC
			TS 66 5
			DPV16X16V Dense-Pac

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY

MEMORY

‡ High Radiation Resistance

^o Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—PROMs (Cont'd)

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
200 nsF	CMOS Erasable TS	28	5		SPM27C256C-20 S-MOS 5962-86063XA ↑ SEEQ SMJ27C256-20 ↑ TI (3286) TMS27C256-2 TI (3329) TMS27C256-20 TI (3329) TC57256A-20 Toshiba VM27C256-20 ↑ VLSI Tech VT27C256 ↑ VLSI Tech VT27C256-20 VLSI Tech WS27C256F-20M ◊† WaferScale (3390)		5
				5, 12.5	MBM27C256A-20 ◊ Fujitsu (2628) MBM27C256A-20W ◊† Fujitsu (2628) 27C256-2 ◊ Intel 27C256-20 ◊ Intel		10
			32	5	LM27C256-20 ◊† SEEQ 5962-86063YC ◊† SEEQ		15
	CMOS Erasable, Refurbished TS	28	5		27C256-200 Krueger		
	CMOS Erasable TS	28	5		DM27C256-20 ↑ SEEQ DQ27C256-20 SEEQ		
	CMOS, Erasable TS	28	5		DPV27C256-200 ◊† Dense-Pac (2602) TS27C256-20 SGS-Thomson		20
	Erasable TS	28	5		AM27256-2 AMD AM27256-20 AMD AM27256-20M ↑ AMD 27256-2 ◊ Intel 27256L-2 ◊ Intel 27256L-20 ◊ Intel M27256-2 SGS-Thomson		25
			5, 12.5		27256-20 ◊ Intel		30
	Module TS	38	5		COB654C256E Microchip		
	NMOS Erasable TS	28	5		27256-20 ◊ Microchip M5L27256-2 Mitsubishi		
	NMOS Erasable, Refurbished TS	28	5		27256-200 Krueger (2877)		
	NMOS OTP TS	28	5		TMM24256B-20 ◊ Toshiba		
	TTL/CMOS TS	28, 32	5		27C256-20 ↑ Signetics		35
250 nsF	CMOS	TS	28	5	AM27C256-250 AMD HN27C256FP-25 Hitachi TMS27PC256 TI (3332) TMS27PC256-25 TI (3332)		
			5, 12		27F256-250P2C2 Intel		40
	CMOS Erasable TS	28	5		AT27C256-25 Atmel AT27C515-25 Atmel HN27C256-25 Hitachi D68C257-250V10 Intel D87C257-250V10 Intel 27C256-25 ◊ Microchip (2913)		45
(Continued)							

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
250 nsF	CMOS Erasable TS	28	5		M5M27C256 Mitsubishi NMC27C256-E250 ◊ National NMC27C256-M250 ◊† National NMC27C256-25 ◊ National RD27C256-25 Ricoh SPM27C64C-15 S-MOS 5962-86063XA ↑ SEEQ TS27C256-25 SGS-Thomson TMS27C256 TI (3329) TMS27C256-25 TI (3329) VM27C256-25 ↑ VLSI Tech VT27C256-25 VLSI Tech WS27C256F-25M ◊† WaferScale (3390)		50
			5, 12.5		MBM27C256A-25 ◊ Fujitsu (2628) MBM27C256A-25W ◊† Fujitsu (2628) 27C256 ◊ Intel 27C256-25 ◊ Intel		60
			32	5	LM27C256-25 ◊† SEEQ 5962-86063YC ◊† SEEQ		65
	CMOS Erasable, Refurbished TS	28	5		27C256-250 Krueger		
	CMOS Erasable TS	28	5		DM27C256-25 ↑ SEEQ DQ27C256-25 SEEQ		
	CMOS, Erasable TS	28	5		DPV27C256-250 ◊† Dense-Pac (2602) AM27256 AMD AM27256-25 AMD AM27256-25M ↑ AMD HN27256-25 Hitachi 27256 ◊ Intel M27256 SGS-Thomson		70
			5, 12.5		27256-25 ◊ Intel 27256-5 ◊ Intel		75
	NMOS Erasable TS	28	5		27256-25 ↑ Microchip M5L27256 Mitsubishi		
	NMOS Erasable, Refurbished TS	28	5		27256-250 Krueger (2877)		80
	TTL/CMOS TS	28, 32	5		27C256-25 ↑ Signetics		
300 nsF	CMOS Erasable TS	28	5		AM27C256-300 AMD HN27C256-30 Hitachi NMC27C256-30 ◊ National RD27C256-30 Ricoh 5962-86063XA ↑ SEEQ TS27C256-30 SGS-Thomson SMJ27C256-30 ↑ TI (3286) VT27C256-30 VLSI Tech		85
			5, 12.5		27C256-3 ◊ Intel 27C256-30 ◊ Intel		90
(Continued)							

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—PROMS (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
32768x8	300 nsF	CMOS Erasable TS		32	5	LM27C256-30 ‡ SEEQ 5962-86063YC ‡ SEEQ	(Cont'd)		65536x8	120 nsF	CMOS Erasable TS	28	5		‡ PD27C512-12 NEC WS27C512L-12 ‡ Waferscale (3390)	(Cont'd)	40
		CMOS Erasable, Refurbished TS	28	5		27C256-300	Krueger				NMOS Erasable TS	28	5		MSM27512-12	OKI	
		CMOS Erasable TS	28	5		DM27C256-30 ‡ SEEQ				125 nsF	CMOS Erasable TS	28	5		27C512-12 ‡ Microchip (2914)		
		CMOS, Erasable TS	28	5		DPV27C256-300 ‡ Dense-Pac (2602)		5		150 nsF	CMOS TS	28	5		M5M27C512A-15 Mitsubishi		45
		Erasable TS	24	5		M27256-3 SGS-Thomson					CMOS Erasable TS	28	5		AT27C512-15 Atmel		
			28	5		AM27256-3 AMD									27C512-15 ‡ Microchip (2914)		
						HN27256-30 Hitachi									‡ PD27C512-15 NEC		
				5, 12.5		27256-3 ‡ Intel 27256-30 ‡ Intel		10							MSM27512-15	OKI	
		NMOS Erasable, Refurbished TS	28	5		27256-300	Krueger (2877)			170 nsF	CMOS Erasable TS	28	5		AT27C512-17 Atmel		
															27C512-17 ‡ Microchip (2914)		
											Erasable TS	28	5, 12.5		27512-170V05 Intel		50
															27512-170V10 Intel		
	350 nsF	CMOS Erasable TS	28	5		NMC27C256-M350 ‡ National VM27C256-35 ‡ VLSI Tech									M5L27512-17 Mitsubishi		
		CMOS, Erasable TS	28	5		DPV27C256-350 ‡ Dense-Pac (2602)		15							TMM27512A-17 Toshiba		
		NMOS TS	28	5		R09256CS Microchip				200 nsF	CMOS TS	28	5		MBM27C512-20 ‡ Fujitsu		55
															TMS27PC512-2 TI	(3333)	
															TMS27PC512-20 TI	(3333)	
	450 nsF	CMOS TS	28	5		VT27C256-45 VLSI Tech					CMOS Erasable TS	28	5		AM27C512-200 AMD		
		CMOS Erasable TS	28	5		NMC27C256-45 ‡ National									AT27C512-20 Atmel		
		Erasable TS	28	5		AM27256-4 AMD									27C512-20 ‡ Microchip (2914)		60
32768x16	70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV32X16V Dense-Pac (2607)		20							‡ PD27C512-20 NEC		
	150 nsF	Module, Erasable TS	40	5		DPV32X16 Dense-Pac (2607)									SMI27C512-20 ‡ TI	(3286)	
	250 nsF	Module TS	38	5		COB657C256A2E Microchip									TMS27C512-2 TI	(3329)	65
32768x32	55 nsF	Erasable TS	66	5		DPV3232V-55 ‡ Dense-Pac (2608)									CMOS Erasable, Refurbished TS	28	5
	70 nsF	Erasable TS	66	5		DPV3232V-70 ‡ Dense-Pac (2608)									CMOS, Erasable TS	28	5
		Module, Erasable, VERSAPAC TS	66	5		DPV32X32V Dense-Pac (2607)		25							Erasable TS	28	5
																5, 12.5	
	90 nsF	Erasable TS	66	5		DPV3232V-90 ‡ Dense-Pac (2608)											
	120 nsF	Erasable TS	66	5		DPV3232V-120 ‡ Dense-Pac (2608)											
	150 nsF	Erasable TS	66	5		DPV3232V-150 ‡ Dense-Pac (2608)											
		Module, Erasable TS	56	5		DPV32X32 Dense-Pac (2607)											
36288x1	400 nsF	CMOS Erasable CMOS															
			8	5		XC1736 ‡ Xilinx		30									
65536	250 nsF	CMOS TS	40	5		TMX27PC210-250 TI	(3333)										
65536x8	20 nsF	Erasable TS	28	5		TMS27C512-2 Ricoh											
	90 nsF	CMOS Erasable TS	28	5		WS27C512L-90 ‡ Waferscale (3390)											
	100 nsF	CMOS TS	28	5		M5M27C512A-10 Mitsubishi											
		CMOS Erasable TS	28	5		WS27C512L-10 ‡ Waferscale (3390)		35									
	120 nsF	CMOS TS	28	5		M5M27C512A-12 Mitsubishi											
		CMOS Erasable TS	28	5		AT27C512-12 Atmel											
						DPV27C512 ‡ Dense-Pac (2602)	(Continued)										
							(Continued)										

MEMORY—PROMs (Cont'd)

Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line	Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line
65536x8	250 nsF	CMOS Erasable TS	28	5	5	(Cont'd)			65536x16	120 nsF	CMOS TS	40	5	5	AT27C1024-120 † Atmel M5M27C102-12 Mitsubishi MBM27C1028 ◊ Fujitsu NMC27C1024-120 National	(Cont'd)	50
						μPD27C512-25 NEC											
						SMJ27C512-25 † TI (3286)											
						TMS27C512 TI (3329)											
						TMS27C512-25 TI (3329)											
	CMOS Erasable, Refurbished TS	28	5	5	5	VT27C512 † VLSI Tech		5		Erasable TS	66	5	5	5	DPV3232V-120 † Dense-Pac (2608)	50	50
						27C512-250 Krueger											
						DPV27C512-250											
						◊ † Dense-Pac (2602)											
						AM27512 AMD											
	CMOS, Erasable TS	28	5	5	5	AM27512-25 AMD		10		CMOS Erasable TS	40	5	5	5	MSM271024-12 OKI	55	55
						27512 Intel											
						TMS27C512 Ricoh											
						M27512 SGS-Thomson											
						5, 12.5											
	NMOS Erasable TS	28	5	5	5	27512-25 Intel		15		CMOS Erasable TS	40	5	5	5	MBM27C1024-15 Fujitsu M5M27C102-15 Mitsubishi NMC27C1024-150 National μPD27C1024-15 NEC	60	60
						M5L27512 Mitsubishi											
						TMM27512A-25 Toshiba											
						27512-250 Krueger (2877)											
						TMM24512A-25 ◊ Toshiba											
	NMOS OTP TS	28	5	5	5					Erasable TS	66	5	5	5	DPV3232V-150 † Dense-Pac (2608)	65	65
300 nsF	CMOS TS	28	5	5	5	TMS27PC512-3 TI (3333)		20		170 nsF Erasable TS	40	5	5	5	27210-170V05 Intel 27210-170V10 Intel	70	70
						TMS27PC512-30 TI (3333)											
						VT27C512-30 † VLSI Tech											
						NMC27C512-300 National											
						SMJ27C512-30 † TI (3286)											
	CMOS, Erasable TS	28	5	5	5	TMS27C512-3 TI (3329)				CMOS Erasable TS	40	5	5	5	TMX27PC210-20 TI (3333) TMX27PC210-200 TI (3333)	75	75
						TMS27C512-30 TI (3329)											
						DPV27C512-300											
						◊ † Dense-Pac (2602)											
						AM27512-3 AMD											
	Erasable TS	28	5	5	5	AM27512-30 AMD		30									
						AM27512-30M											
						† AMD											
						TMS27C512-3 Ricoh											
						M27512-3 SGS-Thomson											
450 nsF	5, 12.5					27512-3 Intel		35		250 nsF CMOS TS	40	5	5	5	TMX27PC210-25 TI (3333) MBM27C1028-25 ◊ Fujitsu AT27C1024-250 † Atmel MBM27C1024-25 Fujitsu	80	80
						27512-30 Intel											
						HN27512-25 Hitachi											
						VT27C512-35 VLSI Tech											
						NMC27C512-350 National											
	CMOS, Erasable TS	28	5	5	5	DPV27C512-350		40									
						◊ † Dense-Pac (2602)											
						TMS27C512-4 Ricoh											
						AM27512-45 AMD											
						AM27512-45M											
65536x16	55 nsF	Erasable TS	66	5	5	† AMD		45		CMOS Erasable TS	40	5	5	5	AM27C1024-250 AMD M5M27C102-25 Mitsubishi μPD27C1024-25 NEC SMJ27C210-25 † TI TMS27C210-25 TI (3330) TMS27C210-200 TI (3330) TC571024-20 Toshiba	(Continued)	85
						M27512-4 SGS-Thomson											
	70 nsF	Module, Erasable, VERSAPAC TS	66	5	5	DPV64X16V Dense-Pac											
						AT27C1024-90											
						† Atmel											
						NMC27C102-90 National											
						DPV3232V-90 † Dense-Pac (2608)											
	90 nsF	CMOS TS	40	5	5												

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—PROMs (Cont'd)

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
250 nsF	CMOS Erasable TS	40	5		TMS27C210-250 TI TC571024-25 Toshiba	(Cont'd) (3330)	
	Erasable TS	40	5		27210-250 Intel 27210-250V05 Intel		5
	TTL	40	5		AM27C1024 AMD		
300 nsF	CMOS	TS	40	5	TMX27PC210-30 TI TMX27PC210-300 TI	(3333) (3333)	
	CMOS Erasable TS	40	5		AM27C1024-300 AMD TMS27C210-30 TI TMS27C210-300 TI	(3330) (3330)	10
	Erasable TS	40	5		27210-300V05 Intel 27210-300V10 Intel		
70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV64X24V	Dense-Pac (2607)	
150 nsF	Module, Erasable TS	48	5		DPV64X24	Dense-Pac (2607)	
70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV64X32V	Dense-Pac (2607)	15
120 nsF	Erasable TS	66	5		DPV6432V-120	† Dense-Pac	
150 nsF	Erasable TS	66	5		DPV6432V-150	† Dense-Pac	
	Module, Erasable TS	56	5		DPV64X32	Dense-Pac (2607)	
200 nsF	Erasable TS	66	5		DPV6432V-200	† Dense-Pac	
250 nsF	Erasable TS	66	5		DPV6432V-250	† Dense-Pac	20
	Module, Erasable TS	68	5		DPV6432	Dense-Pac	
55 nsF	Erasable TS	66	5		DPV3232V-55	† Dense-Pac (2608)	
70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV3232V	Dense-Pac (2608)	
90 nsF	Erasable TS	66	5		DPV3232V-90	† Dense-Pac (2608)	
100 nsF	CMOS Erasable TS	32	5		WS27C010L-10	† WaferScale (3390)	25
120 nsF	CMOS	TS	28	5	AT27C010-120	† Atmel	
		32	5		M5M27C100-12	Mitsubishi	
					M5M27C101-12	Mitsubishi	
	CMOS Erasable TS	32	5		DPV27C1024A	† Dense-Pac (2602)	30
					μPD27C1000A-12	NEC	
					μPD27C1001A-12	NEC	
					WS27C010L-12	WaferScale (3390)	
					WS27C010L-12M	† WaferScale (3390)	
	Erasable TS	66	5		DPV3232V-120	† Dense-Pac (2608)	
	NMOS Erasable TS	32	5		MSM271000-12	OKI	35
150 nsF	CMOS	TS	28	5	AT27C010-150	† Atmel	
	CMOS Erasable TS	32	5		MBM27C1001-15 Fujitsu M5M27C100-15 M5M27C101-15	(2629) Mitsubishi Mitsubishi	
						(Continued)	

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
150 nsF	CMOS Erasable TS	32	5		μPD27C1000A-15 NEC μPD27C1001A-15 NEC WS27C010L-15 WaferScale (3390) WS27C010L-15M † WaferScale (3390)	(Cont'd)	40
	Erasable TS	66	5		DPV3232V-150	† Dense-Pac (2608)	45
					DPV6432V-150	† Dense-Pac	
	NMOS Erasable TS	32	5		MSM271000-15	OKI	
170 nsF	CMOS	TS	32	5	AM27C010-170	AMD	
	CMOS Erasable TS	28	5		TMS27C010-170 TI WS27C010L-17M	(3330) † WaferScale (3390)	
200 nsF	CMOS	TS	28	5	AT27C010-200	† Atmel	50
					MBM27C1028-20	† Fujitsu	
		32	5		AM27C010-200	AMD	
					MBM27C1000-20	Fujitsu	
					MBM27C1001-20	Fujitsu	55
					TMX27PC010-20	TI	(3333)
	CMOS Erasable TS	32	5		HN27C101-20 Hitachi HN27C301-20 Hitachi M5M27C100-20 Mitsubishi M5M27C101-2 Mitsubishi μPD27C1000A-20 NEC μPD27C1001A-20 NEC SMJ27C010-20 † TI TMS27C010-20 TI TMS27C010-200 TI TC571000-200 Toshiba WS27C010L-20M	(3330) (3330) † WaferScale (3390)	60
	CMOS, Erasable TS	32	5		DPV27C101-200	† Dense-Pac (2602)	65
	Erasable TS	32	5		27010-200V05	Intel	
250 nsF	CMOS	TS	28	5	AT27C010-250	† Atmel	70
					MBM27C1028-25	† Fujitsu	
		32	5		AM27C010-250	AMD	
					MBM27C1000-25	Fujitsu	
					MBM27C1001-25	Fujitsu	75
					TMX27PC010-25	TI	(3333)
					TMX27PC010-250	TI	(3333)
	CMOS Erasable TS	32	5		HN27C101-25 Hitachi HN27C301-25 Hitachi M5M27C100 Mitsubishi M5M27C101 Mitsubishi SMJ27C010-25 † TI TMS27C010-25 TI	(3330) (3330)	80
						(Continued)	

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
131072x8	250 nsF	CMOS Erasable TS	32	5		(Cont'd) TMS27C010-250 TI WS27C010L-25M o† Waferscale (3390)	(3330)		135168x8	200 nsF	CMOS Erasable TS	32	5		TC571000-20 Toshiba TC571001-20 Toshiba	(Cont'd)		
		CMOS, Erasable TS	32	5		DPV27C101-250 o† Dense-Pac (2602)			262144x1	120 nsF	CMOS Erasable TS	16	5		SMJ4256-12 † TI			
		Module TS	38	5		COB654512X2E Microchip			262144x8	70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV256X8V Dense-Pac M5M27C200-10 Mitsubishi		40	
	300 nsF	CMOS TS	32	5		AM27C010-300 AMD TMX27PC010-30 TI (3333)		5		100 nsF	CMOS TS	32	5		M5M27C201-10 Mitsubishi			
		CMOS Erasable TS	32	5		TMS27C010-30 TI TMS27C010-300 TI (3330) (3330)				120 nsF	CMOS TS	32	5		M5M27C200-12 Mitsubishi M5M27C201-12 Mitsubishi			
		CMOS, Erasable TS	32	5		DPV27C101-300 o† Dense-Pac (2602)					Erasable TS	66	5		DPV6432V-120 † Dense-Pac			
	350 nsF	CMOS, Erasable TS	32	5		DPV27C101-350 o† Dense-Pac (2602)		10		150 nsF	CMOS TS	32	5		M5M27C200-15 Mitsubishi M5M27C201-15 Mitsubishi		45	
	90 nsF	CMOS TS	28	5		AT27C010-90 † Atmel					CMOS Erasable TS	32	5		μPD27C2001-15 NEC DPV6432V-150 † Dense-Pac			
131072x16	70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV12816V Dense-Pac M5M27C202-10 Mitsubishi					Erasable TS	66	5		DPV6432V-200 † Dense-Pac			
	100 nsF	CMOS TS	40	5		M5M27C202-12 Mitsubishi		15		170 nsF	CMOS Erasable TS	32	5		μPD27C2001-17 NEC			
	120 nsF	CMOS TS	40	5		DPV6432V-120 † Dense-Pac				200 nsF	CMOS Erasable TS	32	5		μPD27C2001-20 NEC DPV6432V-200 † Dense-Pac		50	
		Erasable TS	66	5		M5M27C202-15 Mitsubishi					Erasable TS	66	5		DPV6432V-250 † Dense-Pac			
	150 nsF	CMOS TS	40	5		DPV128X16B Dense-Pac (2607) DPV128X16 Dense-Pac (2607) DPV128X16-150 o† Dense-Pac (2607)		20		250 nsF	Erasable TS	66	5		DPV6432V-250 † Dense-Pac			
		Module, Erasable TS	48	5		DPV6432V-200 † Dense-Pac					Module, Erasable TS	56	5		DPV6432V Dense-Pac			
			56	5		DPV128X16-200 o† Dense-Pac (2607)			262144x16	120 nsF	Erasable TS	66	5		DPV128X16-250 † Dense-Pac			
	200 nsF	Erasable TS	66	5		DPV6432V-250 † Dense-Pac				150 nsF	Erasable TS	66	5		DPV128X16-250 o† Dense-Pac (2607)			
		Module, Erasable TS	56	5		DPV6432V-250 † Dense-Pac				200 nsF	Erasable TS	66	5		DPV128X16-250 o† Dense-Pac (2607)			
			64	5		DPV6432V-250 † Dense-Pac				250 nsF	Erasable TS	66	5		DPV128X16-250 o† Dense-Pac (2607)			
	250 nsF	Erasable TS	66	5		DPV6432V-250 † Dense-Pac					Module, Erasable TS	56	5		DPV6432V Dense-Pac			
		Module, Erasable TS	56	5		DPV6432V-250 † Dense-Pac			262144x32	150 nsF	Module, Erasable TS	64	5		DPV256X32 Dense-Pac (2607)			
	300 nsF	Module, Erasable TS	56	5		DPV128X16-300 o† Dense-Pac (2607)		25		524288x8	70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV512X8V Dense-Pac (2607) DPV12832V-150 † Dense-Pac (2608) DPV12832V-200 † Dense-Pac (2608) DPV12832V-250 † Dense-Pac (2608)		60
131072x24	70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV12824V Dense-Pac				120 nsF	Erasable TS	66	5		DPV512X8 Dense-Pac (2607)			
	150 nsF	Module, Erasable TS	56	5		DPV128X24B Dense-Pac (2607)				150 nsF	Erasable TS	66	5		DPV12832V-200 † Dense-Pac (2608) DPV12832V-250 † Dense-Pac (2608)			
131072x32	70 nsF	Module, Erasable, VERSAPAC TS	66	5		DPV12832V Dense-Pac (2608) DPV12832V-120 † Dense-Pac (2608) DPV12832V-150 † Dense-Pac (2608)												

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

VIEWPOINT

VIEWPOINT

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
Dynamic (Cont'd)								65536x4 (Cont'd)								
65536x4								150 nsF								
80 nsF	CMOS	TS	24	5	HY53C464-80 Hyundai (2778) HY53C464L-80 Hyundai (2778)			2-Port	TS	18	5	μPD41464-15	◊ NEC			
	NMOS	TS	18	5	MT4067-8 ◊ MicronTech			2-Port Module	TS	24	5	μPD41264-15	NEC			
100 nsF	CMOS	TS	18	5	V53C464-10 Vitelic V53C466-10 Vitelic		5	200 nsF	CMOS	TS	18	5	V51C259HL-20	Vitellic		
			24	5	HY53C464-10 Hyundai (2778) HY53C464L-10 Hyundai (2778)			CMOS Erasable	TS	18	5	SMJ4464-20 † TI (3286)			60	
	CMOS, 2-Port	TS	24	5	MT42C4064-10 MicronTech			Module	TS	22	5	PEP4064EC4-200 Peps (3000)				
	Module	TS	22	5	4464-100 ◊ Krueger (2877)		10	120 nsF	2-Port Module	—	31	5	HM50464-20 Hitachi			
	NMOS	TS	18	5	MT4067-10 ◊ MicronTech M5M4464-10 Mitsubishi μPD41464-10			150 nsF	2-Port Module	—	31	5	HM50465-20 Hitachi		65	
					◊ NEC MSM41464-10 OKI LH2464-10 Sharp LH2465-10 Sharp TMS4464-10 ◊ TI (3326)		15	65536x4, VRAM (Random/Sequential)								
120 nsF	CMOS	TS	18	5	LH2464-12 Sharp LH2465-12 Sharp V51C259HL-12 Vitelic V53C464-12 Vitelic V53C466-12 Vitelic		20	120 nsF	NMOS Multiport	TS	24	5	TMS4461-12 TI (3326)			
			24	5	HY53C464-12 Hyundai (2778) HY53C464L-12 Hyundai (2778) M5M44C264-12			150 nsF	NMOS Multiport	TS	24	5	TMS4461-15 TI (3326)			
					Mitsubishi V51C264A Vitelic		25	65536x5								
	CMOS Erasable	TS	18	5	SMJ4464-12 † TI (3286)			120 nsF	Module	TS	24	5	PEP4064EC5-120 Peps (3000)			
	CMOS 2-Port	TS	24	5	μPD41264-12 NEC			150 nsF	Module	TS	24	5	PEP4064EC5-150 Peps (3000)			
	CMOS, 2-Port	TS	24	5	MT42C4064-12 MicronTech			200 nsF	Module	TS	24	5	PEP4064EC5-200 Peps (3000)		70	
	Module	TS	22	5	PEP4064EC4-120 Peps (3000)		30	65536x8								
	NMOS	TS	16	5	KM4164-12 Samsung (3036)			100 nsF	Module	TS	30	5	DPD4848 Dense-Pac (2605)			
			18	5	HM50464-12 Hitachi HM50464-15 Hitachi HM50465-12 Hitachi MT4067-12 ◊ MicronTech M5M4464-12 † Mitsubishi μPD41464-12		35	120 nsF	Module	TS	30	5	MT8068-10 ◊ MicronTech			
					◊ NEC MSM41464-12 OKI TMS4464-12 ◊ TI (3326)			150 nsF	Module	TS	30	5	MT8068-12 ◊ MicronTech			
								200 nsF	Module	TS	30	5	PEP4064EL8-120 Peps (3000)		75	
	NMOS, Refurbished	TS	18	5	4464-120 ◊ Krueger (2877)		40	200 nsF	Module	TS	30	5	MT8068-15 ◊ MicronTech			
150 nsF	CMOS	TS	18	5	LH2464-15 Sharp LH2465-15 Sharp V51C259HL-15 Vitelic							PEP4064EL8-150 Peps (3000)				
			24	5	M5M44C264-15			65536x9								
					Mitsubishi V51C264 Vitelic		45	100 nsF	Module	TS	30	5	DPD4849 Dense-Pac (2605)			
	CMOS Erasable	TS	18	5	SMJ4464-15 † TI (3286)			120 nsF	Module	TS	30	5	MT9068-10 ◊ MicronTech			
	CMOS, 2-Port	TS	24	5	MT42C4064-15 MicronTech			150 nsF	Module	TS	30	5	MT9068-12 ◊ MicronTech			
	Module	TS	22	5	PEP4064EC4-150 Peps (3000)		50					PEP4064EL9-120	◊ Peps (3000)			
	NMOS	TS	16	5	KM4164-15 Samsung (3036)			200 nsF	Module	TS	30	5	MT9068-15 ◊ MicronTech			
			18	5	HM50465-15 Hitachi MT4067-15 ◊ MicronTech M5M4464-15 † Mitsubishi TMS4464-15 ◊ TI (3326)							PEP4064EL9-150	◊ Peps (3000)			
	NMOS Multiport	TS	24	5	SMJ4461-15 † TI		55					PEP4064EL9-200	◊ Peps (3000)			
	NMOS, Refurbished	TS	18	5	4464-150 Krueger (2877)			131072x1								
					(Continued)			150 nsF	NMOS	TS	16	5	KM4128-15 Samsung		85	
								131072x8 (video)								
								100 nsF	CMOS	Serial	40	5	M5M482128 ◊ Mitsubishi			
								262144x1								
								60 nsF	CMOS	TS	16	5	AA2800-60 ◊ † NMB (2996)			
								70 nsF	CMOS	TS	16	5	HY53C256-70 Hyundai (2778)			
												HY53C256L-70 Hyundai (2778)				
												AA2800-70 ◊ † NMB (2996)		90		
												V53C256-70 Vitelic				
												V53C256L-70 Vitelic				
												V53C258-70 ◊ Vitelic				
								80 nsF	CMOS	TS	16	5	HY53C256-80 Hyundai (2778)			
												HY53C256L-80 Hyundai (2778)				
												AA2800-80 ◊ † NMB (2996)		95		
												TMS4256-8 TI				
												V53C256-80 Vitelic				
												V53C256L-80 Vitelic				
												V53C258-80 Vitelic		100		
												M5M4464A-8 ◊ Mitsubishi				
												MT1259-8 ◊ MicronTech				
												M5MM4464A-8	◊ Mitsubishi			
												(Continued)				

† Military Temperature Range (–55° to 125°C)

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range

nsR—Nanoseconds at Room Temperature

OC—Open Collector

TS—Three-State

OE—Open Emitter

MEMORY—RAMs (Cont'd)

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Dynamic (Cont'd)								262144x1 (Cont'd)							
262144x1	85 nsF	NMOS	TS	16	5	M5M4256A-85 ◊ Mitsubishi M5M4257A-85 ◊ Mitsubishi			120 nsF	NMOS	TS	16	5	MN41256-12 Panasonic KM41256-12 Samsung (3036) KM41257-12 Samsung (3036) MKB45F56-81 † SGS-Thomson	55
100 nsF	CMOS	TS	16	5	HM51256L-10 Hitachi HM51268-10 Hitachi HY53C256-10 Hyundai (2778) HY53C256L-10 Hyundai (2778) V51C256L-10 Vitelic V53C256-10 Vitelic V53C256L-10 Vitelic V53C258-10 Vitelic		5	TTL	TS	16	5	HYB41256-12 Siemens		60	
Module	TS	22	5	DPD4256 Dense-Pac			10	150 nsF	CMOS	TS	16	5	HM51256L-15 Hitachi HM51258-15 Hitachi LH21256-15 Sharp LH21257-15 Sharp LH21258-15 Sharp V51C256L-15 Vitelic		65
MMOS	TS	18	5	M5M4464A-10 ◊ Mitsubishi GM71256-10 GoldStar (2696) MT1259-10 ◊ MicronTech MT1259-12 ◊ MicronTech M5M4256-10 Mitsubishi M5M4256A-10 ◊ Mitsubishi M5M4257A-10 ◊ Mitsubishi MCM6256B-10 ◊ Motorola MCM6257B-10 ◊ Motorola μPD41256-10 ◊ NEC MSM41256A-10 ◊ OKI MSM41257A-10 OKI		15	NMOS	TS	16	5	GM71256-15 GoldStar (2696) HM50256-15 Hitachi HM50257-15 Hitachi MT1259-15 ◊ MicronTech M5M4256-15 Mitsubishi μPD41256-15 ◊ NEC μPD41257-15 ◊ NEC MSM41256A-15 ◊ OKI MSM41257A-15 OKI MN41256-15 Panasonic KM41256-15 Samsung (3036) KM41257-15 Samsung (3036) MKB45F56-82 † SGS-Thomson SMJ4256-15 † TI	70			
NMOS	TS	16	5	M5M4464A-10 ◊ Mitsubishi GM71256-10 GoldStar (2696) MT1259-10 ◊ MicronTech MT1259-12 ◊ MicronTech M5M4256-10 Mitsubishi M5M4256A-10 ◊ Mitsubishi M5M4257A-10 ◊ Mitsubishi MCM6256B-10 ◊ Motorola MCM6257B-10 ◊ Motorola μPD41256-10 ◊ NEC MSM41256A-10 ◊ OKI MSM41257A-10 OKI KM41256-10 Samsung (3036) KM41257-10 Samsung (3036) MKB45F56-80 † SGS-Thomson LH21256-10 Sharp LH21257-10 Sharp LH21258-10 Sharp		20	TTL	TS	16	5	HYB41256-15 Siemens		75		
120 nsF	CMOS	TS	16	5	HM51256L-12 Hitachi HM51258-12 Hitachi HY53C256-12 Hyundai (2778) HY53C256L-12 Hyundai (2778) LH21256-12 Sharp LH21257-12 Sharp LH21258-12 Sharp V51C256L-12 Vitelic V53C256-12 Vitelic V53C256L-12 Vitelic V53C258-12 Vitelic		25	200 nsF	CMOS	TS	16	5	LH21256-20 Sharp LH21257-20 Sharp LH21258-20 Sharp V51C256L-20 Vitelic		80
MMOS	TS	18	5	M5M4464A-12 ◊ Mitsubishi HM50256-12 Hitachi HM50257-12 Hitachi M5M257A-12 ◊ Mitsubishi M5M4256-12 Mitsubishi M5M4256A-12 ◊ Mitsubishi M5M4257A-12 ◊ Mitsubishi MCM6256B-12 ◊ Motorola MCM6257B-12 ◊ Motorola μPD41256-12 ◊ NEC μPD41257-12 ◊ NEC MSM41256A-12 ◊ OKI MSM41257A-12 OKI		30	NMOS	TS	16	5	HM50256-20 Hitachi HM50257-20 Hitachi μPD41256-20 ◊ NEC μPD41257-20 ◊ NEC SMJ4256-20 † TI		85		
NMOS	TS	16	5	GM71256-12 GoldStar (2696) HM50256-12 Hitachi HM50257-12 Hitachi M5M257A-12 ◊ Mitsubishi M5M4256-12 Mitsubishi M5M4256A-12 ◊ Mitsubishi M5M4257A-12 ◊ Mitsubishi MCM6256B-12 ◊ Motorola MCM6257B-12 ◊ Motorola μPD41256-12 ◊ NEC μPD41257-12 ◊ NEC MSM41256A-12 ◊ OKI MSM41257A-12 OKI		35	TTL	TS	16	5	HYB41256-20 Siemens		90		
							40	262144x1, Nibble Mode							
							45	100 nsF	NMOS	TS	16	5	TMS4257-10 ◊ TI		
							50	120 nsF	NMOS	TS	16	5	TMS4257-12 ◊ TI		
								150 nsF	NMOS	TS	16	5	TMS4257-15 ◊ TI		
								262144x1, Page Mode							
								100 nsF	NMOS	TS	16	5	TMS4256-10 ◊ TI		
								120 nsF	NMOS	TS	16	5	TMS4256-12 ◊ TI		
								150 nsF	NMOS	TS	16	5	TMS4256-15 ◊ TI		
								262144x1 VRAM							
								120 nsF	CMOS	TS		5	SMJ44C251-12 † TI		
								262144x4							
								60 nsF	CMOS	TS	20	5	AA1M204-60 ◊ ‡ NMB (2996) PEP4256EC4-60 Peps		
								Module	TS	22	5				
								70 nsF	CMOS	TS	20	5	AA1M204-70 ◊ ‡ NMB (2996) PEP4256EC4-70 Peps		100
								Module	TS	22	5				
								80 nsF	CMOS	TS	20	5	HY51C4256-80 Hyundai HY51C4256L-80 Hyundai MT4C4256-8 ◊ MicronTech M5M44256A-8 ◊ Mitsubishi M5M44258A-8 ◊ Mitsubishi		105
(Continued)								(Continued)							

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY-RAMs (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Dynamic (Cont'd)									262144x8 (Cont'd)								
262144x4, Page Mode									120 nsF								
	100 nsF	CMOS	TS	20	5	TMS44C256-10	TI (3327)		NMOS Module								
	120 nsF	CMOS	TS	20	5	TMS44C256-12	TI (3327)				TS	30	5		TM4256GU8-12	TI (3331)	45
	150 nsF	CMOS	TS	20	5	TMS44C256-15	TI (3327)		TTL Module								
262144x4, SCD											Nibble Mode	30	5		MD25608N-12	MicroElec	
	100 nsF	CMOS	TS	20	5	TMS44C257-10	TI (3327)				Page Mode	30	5		MD25608-12	MicroElec	
	120 nsF	CMOS	TS	20	5	TMS44C257-12	TI (3327)	5	150 nsF	Module	TS	30	5		MT8259-15 ♦ MicronTech		
	150 nsF	CMOS	TS	20	5	TMS44C257-15	TI (3327)								MC41256A8-15 NEC		
262144x4 Video															PEP4256EL8-150		50
	40 nsF	Module	TS	52	5	DP02564	Dense-Pac (2606)								Peps		
	100 nsF	CMOS	Serial	28	5	M5M442256 ♦	Mitsubishi								TM4256FL8-15	TI (3331)	
262144x4, VRAM									NMOS TS 30 5								
	100 nsF	CMOS	TS	28	5	TMS44C256-10	TI (3327)								KMM48256-15	Samsung	
	120 nsF	CMOS	TS	28	5	TMS44C256-12	TI (3327)	10							TM4256GU8-15	TI (3331)	
	150 nsF	CMOS	TS		5	SMJ44C251-15					Nibble Mode	30	5		MD25608N-15	MicroElec	
				28	5	† TI					Page Mode	30	5		MD25608-15	MicroElec	55
						TMS44C256-15	TI (3327)		262144x9								
262144x5									60 nsF	Module	TS	30	5		DPD42569LP	Dense-Pac	
	60 nsF	Module	TS	24	5	PEP4256EC5-60	Peps								PEP4256EL9-60	Peps	
	70 nsF	Module	TS	24	5	PEP4256EC5-70	Peps		70 nsF	Module	TS	30	5		PEP4256EL9-70	Peps	
	80 nsF	Module	TS	24	5	MT5259-8	MicronTech	15	80 nsF	Module	TS	30	5		MT9259-8 ♦ MicronTech		
						PEP4256EC5-80	Peps								PEP4256EL9-80	Peps	60
	100 nsF	Module	TS	24	5	MT5259-10	MicronTech		100 nsF	Module	TS	30	5		DPD42569	Dense-Pac	
						PEP4256EC5-100	Peps								MT9259-10 ♦ MicronTech		
				26	5	DPD45256	Dense-Pac (2605)								PEP4256EL9-100	Peps	
	120 nsF	Module	TS	24	5	MT5259-12 ♦ MicronTech		20							TM4256EL9-10	TI (3331)	
						PEP4256EC5-120	Peps		120 nsF	Module	TS	30	5		TM4256EL9-12	TI (3331)	65
	150 nsF	Module	TS	24	5	MT5259-15 ♦ MicronTech									MT9259-12 ♦ MicronTech		
						PEP4256EC5-150	Peps								MC41256A9-12 NEC		
262144x8															PEP4256EL9-120	Peps	
	60 nsF	Module	TS	30	5	DPD42568LP	Dense-Pac								TM4256EL9-15	TI (3331)	70
						PEP4256EL8-60	Peps	25							KMM49256-12	Samsung	
	70 nsF	Module	TS	30	5	PEP4256EL8-70	Peps								TM4256GU9-12	TI (3331)	
	80 nsF	Module	TS	30	5	DPD42568LL	Dense-Pac								MD25609N-12	MicroElec	
						DPD42569LL	Dense-Pac		150 nsF	Module	TS	30	5		MD25609-12	MicroElec	
						MT8259-8 ♦ MicronTech		30							MT9259-15 ♦ MicronTech		
						PEP4256EL8-80	Peps								MC41256A9-15 NEC		
	100 nsF	Module	TS	30	5	DPD42568	Dense-Pac								PEP4256EL9-150	Peps	
						MT8259-10 ♦ MicronTech									TM4256EL9-15	TI (3331)	75
						PEP4256EL8-100	Peps								KMM49256-15	Samsung	
						TM4256FL8-10	TI (3331)	35							TM4256GU9-15	TI (3331)	80
						TM4256GU8-10	TI (3331)								MD25609N-15	MicroElec	
		NMOS	TS	30	5	MSC2304-10	OKI								MD25609-15	MicroElec	
		NMOS Module	TS	30	5	MT8259	MicronTech		393216x8 Video								
	120 nsF	Module	TS	30	5	MT8259-12 ♦ MicronTech		40	40 nsF	Module	TS	56	5		DP03848	Dense-Pac (2606)	
						MC41256A8-12 NEC									DPD5124	Dense-Pac (2605)	
						PEP4256EL8-120	Peps		100 nsF	Module	TS	24	5		DPD5124	Dense-Pac (2605)	
						TM4256FL8-12	TI (3331)		524288x4								
															DPD5124	Dense-Pac (2606)	85
									40 nsF	Module	TS	76	5		DPD5124	Dense-Pac (2606)	
									524288x8								
									80 nsF	Module	TS	30	5		MT88512-8 ♦ MicronTech		
									100 nsF	Module	TS	30	5		MT88512-10 ♦ MicronTech		
																	(Continued)

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line				
Dynamic (Cont'd)									1048576x1 (Cont'd)												
524288x8	120 nsF	Module	TS	30	5	MT88512-12	◊ MicronTech	5	80 nsF	CMOS	TS	18	5		M5M41000A-8	◊ Mitsubishi	55				
	150 nsF	Module	TS	30	5	MT88512-15	◊ MicronTech								M5M41001-8	◊ Mitsubishi					
524288x9	80 nsF	CMOS, Module	TS	30	5	MT89512-8	◊ MicronTech								M5M41002-8	◊ Mitsubishi					
	100 nsF	CMOS, Module	TS	30	5	MT89512-10	◊ MicronTech	5	85 nsF	CMOS	TS	18	5		AA1M200-80	◊ NMB (2996)	55				
	120 nsF	CMOS, Module	TS	30	5	MT89512-12	◊ MicronTech								GM71C1000-85	GoldStar (2696)					
	150 nsF	CMOS, Module	TS	30	5	MT89512-15	◊ MicronTech								MCM511000-85	◊ Motorola					
524288x40	80 nsF	Module	TS	60	5	DPD51240	Dense-Pac (2606)	10	100 nsF	CMOS	TS	18	5		MCM511001-85	◊ Motorola	60				
1048576x1	80 nsF	CMOS	TS	18	5	μPD421000-80	NEC								TTL	18		5	TC511000-85	Toshiba	
						μPD421001-80	NEC												TC511001-85	Toshiba	
	100 nsF	CMOS	TS	18	5	μPD421002-80	NEC	15							TC511002-85	Toshiba	65				
						HM511000-10	Hitachi								GM71C1000-10	GoldStar (2696)					
						HM511001-10	Hitachi								HY51C1000-10	Hyundai (2778)					
						HM511002-10	Hitachi	20							HY51C1000L-10	Hyundai (2778)	70				
						M5M4C1000-10	◊ Mitsubishi								HY51C1002-10	Hyundai (2778)					
						M5M4C1001-10	◊ Mitsubishi								HY51C1002L-10	Hyundai (2778)					
						M5M4C1002-10	◊ Mitsubishi	25							MT4C1024-10	◊ MicronTech	75				
						μPD421000-10	NEC								M5M41000-10	◊ Mitsubishi					
						μPD421001-10	NEC								M5M41001-10	◊ Mitsubishi					
						μPD421002-10	NEC	30							M5M41002-10	◊ Mitsubishi	80				
						TC511000-10	Toshiba								MCM511000-10	◊ Motorola					
						TC511001-10	Toshiba								MCM511001-10	◊ Motorola					
						TC511002-10	Toshiba	35							MCM511002-10	◊ Motorola	85				
															μPD42601	◊ NEC					
															AA1M100-10	◊ NMB (2996)					
								40							MSM511000-10	◊ OKI	90				
															MSM511001-10	◊ OKI					
															MSM511002-10	◊ OKI					
								45							KM41C1000-10	Samsung (3036)	95				
															HYB511000-10	◊ Siemens					
															HYB511002-10	◊ Siemens					
								50							V51C100-10	Vitellic	100				
															TTL	18		5	MB81C1003-10	Fujitsu	
															Module	TS		22	5	TM4256FC1-10	TI (3331)
	150 nsF	CMOS	TS	18	5	HM511000-15	Hitachi	40	120 nsF	CMOS	TS	18	5		MB81C1000-10	Fujitsu	85				
						HM511001-15	Hitachi								Module	OC		18	5	MB81C1001-10	Fujitsu
						HM511002-15	Hitachi														
						M5M4C1001-15	◊ Mitsubishi	45							GM71C1000-12	GoldStar (2696)	90				
						M5M4C1002-15	◊ Mitsubishi								HY51C1000-12	Hyundai (2778)					
															HY51C1000L-12	Hyundai (2778)					
								50							HY51C1002-12	Hyundai (2778)	95				
															HY51C1002L-12	Hyundai (2778)					
															MT4C1024-12	◊ MicronTech					
								55							M5M41000A-12	◊ Mitsubishi	100				
															M5M41001-12	◊ Mitsubishi					
															M5M41002-12	◊ Mitsubishi					
								60							MCM511000-12	◊ Motorola	105				
															MCM511001-12	◊ Motorola					
															MCM511002-12	◊ Motorola					
								65							AA1M100-12	◊ NMB (2996)	110				
								70									115				
								75									120				
								80									125				
								85									130				
								90									135				
								95									140				
								100									145				
								105									150				
								110									155				
								115									160				
								120									165				
								125									170				
								130									175				
								135									180				
								140									185				
								145									190				
								150									195				
								155									200				
								160									205				
								165									210				
								170									215				
								175									220				
								180									225				
								185									230				
								190									235				
								195									240				
								200									245				
								205									250				
								210									255				
								215									260				
								220									265				
								225									270				
								230									275				
								235									280				
								240									285				
								245									290				
								250									295				
								2													

MEMORY—RAMs (Cont'd)

Organ- ization	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organ- ization	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
Dynamic (Cont'd)									1048576x4 (Cont'd)									
1048576x1	120 nsF	CMOS	TS	18	5	(Cont'd)			5	1048576x4	120 nsF	Nibble Mode	TTL	20	5	(Cont'd)		
						MSM511000-12	◊ OKI	MB814401-12								◊ Fujitsu		
						MSM511001-12	◊ OKI	MB814402-12								◊ Fujitsu		
						MSM511002-12	OKI	TM024HAC4-15								TI (3331)		
						KM41C1000-12	Samsung (3036)											
						HYB511000-12	◊ Siemens	PEP1MX5-80								Peps (3000)		
						HYB511002-12	◊ Siemens	PEP1MX5-100								Peps (3000)		
						SMJ4C1024-12	† TI	PEP1MX5-120								Peps (3000)		
						SMJ4C1027-12	† TI											
						V51C100-12	Vitellic											
150 nsF	CMOS	TS	18	5	5	KMM411024-12	Samsung	10	1048576x5	80 nsF	Module	TS	30	5	PEP1MX5-80	Peps (3000)	45	
						HY51C1000-15	Hyundai (2778)	PEP1MX5-100							Peps (3000)			
						HY51C1002-15	Hyundai (2778)	PEP1MX5-120							Peps (3000)			
						HY51C1002L-15	Hyundai (2778)											
						MT4C1024-15	◊ MicronTech											
						SMJ4C1024-15	† TI											
						V51C100-15	Vitellic											
1048576x1, Nibble Mode	100 nsF	CMOS	TS	18	5	TMS4C1025-10	TI (3327)	15	1048576x8	80 nsF	CMOS	TS	30	5	MC421000A8-80	NEC	50	
						TMS4C1025-12	TI (3327)								MC421000B8-80	NEC		
						TMS4C1025-15	TI (3327)								MC421000C8-80	NEC		
1048576x1, Page Mode	100 nsF	CMOS	TS	18	5	TMS4C1024-10	TI (3327)	20	1048576x8	80 nsF	CMOS	TS	30	5	MC421000C8-10	NEC	55	
						TMS4C1024-12	TI (3327)	MSC2313-10							OKI			
						TMS4C1024-15	TI (3327)											
1048576x1, SCD	100 nsF	CMOS	TS	18	5	TMS4C1027-10	TI (3327)	25	1048576x8	80 nsF	CMOS	TS	30	5	MT8C8024-10	◊ MicronTech	60	
						TMS4C1027-12	TI (3327)								MH1M08A-100	◊ Mitsubishi		
						TMS4C1027-15	TI (3327)								MH1M08A1-10	◊ Mitsubishi		
															MH1M08A2-10	◊ Mitsubishi		
															MH1M09A-10	◊ Mitsubishi		
															PEP1MX8-100	Peps (3000)		
															MC421000A8-12	NEC		
															MC421000B8-12	NEC		
															MC421000C8-12	NEC		
															MSC2313-12	OKI		
1048576x2	100 nsF	CMOS	TTL	18	5	MB81C1002-10	Fujitsu	30	1048576x8	80 nsF	CMOS	TS	30	5	KMM481000-12	Samsung	70	
1048576x4	80 nsF	Fast Page	TTL	20	5	MB814400-8	◊ Fujitsu	35	1048576x8	80 nsF	CMOS	TS	30	5	MH1M08-12	Mitsubishi	(Continued)	
						PEP1MX4Z-80	Peps (3000)								MH1M08A-12	Mitsubishi		
															TM024GAD8-12	TI (3331)		
															MT8C8024-12	◊ MicronTech		
															MH1M08A1-12	◊ Mitsubishi		
															MH1M08A2-12	◊ Mitsubishi		
															PEP1MX8-120	Peps (3000)		
															TM024HAC4-12	TI (3331)		
															PEP1MX4Z-120	Peps (3000)		

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
Dynamic (Cont'd)																
1048576x8	150 nsF	CMOS	TS	18	5	SMJ4C1027-15	(Cont'd)	1048576x16	80 nsF	Module	TS	64	5	PEP1MX16-80	Peps (3000)	
		CMOS Module	TS	30	5	MH1M08-15 Mitsubishi			100 nsF	Module	TS	64	5	PEP1MX16-100	Peps (3000)	
						TM024GAD8-15 TI (3331)			120 nsF	Module	TS	64	5	PEP1MX16-120	Peps (3000)	
		CMOS, Module	TS	30	5	MT8C8024-15		1049576x4	80 nsF	Module	TS	24	5	PEP1MX4-80	Peps (3000)	45
		NMOS	TS	22	5	KMM411024-15 Samsung			100 nsF	Module	TS	24	5	PEP1MX4-100	Peps (3000)	
1048576x9	80 nsF	CMOS	TS	30	5	MC421000A9-80 NEC		2097152x8	80 nsF	Module	TS	64	5	PEP2MX8-80	Peps (3000)	
						MC421000B9-80 NEC			100 nsF	Module	TS	64	5	PEP2MX8-100	Peps (3000)	
						MC421000C9-80 NEC			120 nsF	Module	TS	64	5	PEP2MX8-120	Peps (3000)	
		CMOS, Module	TS	30	5	MT8C9024-8		4194204x1	80 nsF	Module	TS	30	5	DPD414M	Dense-Pac	
		Module	TS	30	5	DPD1M9 Dense-Pac (2606)		4194204x8	80 nsF	Module	TS	60	5	DPD4M8 Dense-Pac (2606)		50
						MH1M09A1-8		4194304x1	80 nsF	Fast Page	TTL	18	5	MB814100-8	Fujitsu	
						MH1M09A2-8				Module	TS	23	5	PEP4MX12-80	Peps (3000)	
						PEP1MX9-80 Peps (3000)					26	5	PEP4MX1-80	Peps (3000)		
100 nsF	CMOS	TS	30	5	MC421000A9-10 NEC					Nibble Mode	TTL	18	5	MB814101-8	Fujitsu	
						MC421000B9-10 NEC				Static Column	TTL	18	5	MB814102-8	Fujitsu	55
						MC421000C9-10 NEC		100 nsF	CMOS	TS	18	5	M5M44100	Mitsubishi		
						MSC2312-10 OKI				Fast Page	TTL	18	5	MB814100-10	Fujitsu	
		CMOS Module	TS	30	5	TM024EAD9-10 TI (3331)				Module	TS	23	5	PEP4MX12-100	Peps (3000)	
		CMOS, Module	TS	30	5	MT8C9024-10					26	5	PEP4MX1-100	Peps (3000)		
		Module	TS	30	5	MH1M09A1-10				Nibble Mode	TS	5	M5M441001	Mitsubishi	60	
						MH1M09A2-10					TTL	18	5	MB814101-10	Fujitsu	
						PEP1MX9-100 Peps (3000)										
120 nsF	CMOS	TS	30	5	MC421000A9-12 NEC					Static Column	TTL	18	5	MB814102-10	Fujitsu	
						MC421000B9-12 NEC				Static-Column	TS	5	M5M441002	Mitsubishi		
						MC421000C9-12 NEC										
						MSC2312-12 OKI										
						KMM491000-12 Samsung		120 nsF	Fast Page	TTL	18	5	MB814100-12	Fujitsu	65	
		CMOS Module	TS	30	5	MH1M09-12 Mitsubishi				Module	TS	23	5	PEP4MX12-120	Peps (3000)	
						MH1M09A-12 Mitsubishi					26	5	PEP4MX1-120	Peps (3000)		
						PEP1MX9-120 Peps (3000)				Nibble Mode	TTL	18	5	MB814101-12	Fujitsu	
						THM91000-12 Toshiba				Static Column	TTL	18	5	MB814102-12	Fujitsu	
						MC421000A9-12 NEC										
						MC421000B9-12 NEC										
						MC421000C9-12 NEC		4194304x4	100 nsF	CMOS	TS	20	5	M5M44400	Mitsubishi	
						MSC2312-12 OKI				Nibble Mode	TS	5	M5M444001	Mitsubishi		
						KMM491000-12 Samsung				Static-Column	TS	5	M5M444002	Mitsubishi		
		CMOS Module	TS	30	5	MH1M09-12 Mitsubishi										
						MH1M09A-12 Mitsubishi		4194304x8	100 nsF	Module	TS	5	MH4M08	Mitsubishi		
		CMOS, Module	TS	30	5	MT8C9024-12										
						MH1M09A1-12		4194304x9	100 nsF	Module	TS	5	MH4M09	Mitsubishi		
						MH1M09A2-12										
						PEP1MX9-120 Peps (3000)										
						THM91000-12 Toshiba										
150 nsF	CMOS Module	TS	30	5	MH1M09-15 Mitsubishi											
						MH1M09A-15 Mitsubishi										
						TM024EAD9-15 TI (3331)										
		CMOS, Module	TS	30	5	MT8C9024-15										
					</											

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

VIEWPOINT

VIEWPOINT

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Access Time (Max)	Type	Out-put	No. Pins	Supply Voltage, V	Device	Source	Line	Access Time (Max)	Type	Out-put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)								256x4 (Cont'd)							
256x1	40 nsF	TTL	OC	16	5	74LS301 Signetics (3057)	5	9 nsF	CMOS	TS	24	5	CY7C123-9C Cypress (2580)	45	
			TS	16	5	N82LS16 Signetics		10 nsF	CMOS	TS	22	5	P4C422-10C Performance		
	45 nsF	TTL	TS	16	5	AM27LS00AM † AMD				ECL	OE	24	-4.5	F100422 † National	
						AM27LS00C AMD							µPB100422-10 NEC		
	50 nsF	TTL	OC	16	5	N82S17 Signetics							-5.2	MCM10422-10 Motorola	
			TS	16	5	74S301 Signetics (3057)								µPB10422-10 NEC	
						N82S16 Signetics		12 nsF	CMOS	TS	22	5	P4C422-12C Performance		
	55 nsF	TTL	OC	16	5	AM27LS01M † AMD					24	5	CY7C123-12C Cypress (2580)		
			TS	16	5	AM27LS00M † AMD		15 nsF	CMOS	TS	22	5	CY7C122-15C Cypress (2580)		
	60 nsF	TTL	TS	16	5	S82LS16 † Signetics								P4C422-15C Performance	
	70 nsF	TTL	OC	16	5	54LS301 † Signetics	10							P4C422-15M † Performance	
						54S301 † Signetics								VT7C122 VLSI Tech (3343, 3345, 3347)	
	100 nsF	NVRAM	TS	24	5	FM8101-FRAM Ramtron								VT7C122-15 VLSI Tech (3343, 3345, 3347)	
	200 ns *														
		CMOS	TS	16	3-15	F4720AC National					24	5	CY7C123-15M † Cypress (2580)		
					4.5-12.5	F4720C National				ECL	OE	24	-5.2	MCM10422-15 Motorola	
						F4720M † National		20 nsF	CMOS	TS	22	5	P4C422-20M † Performance		
	400 nsR	CMOS	TS	16	3-15	MM54C200 ‡ Micrel		25 nsF	CMOS	TS	22	5	CY7C122-25C Cypress (2580)		
						MM54C200 † National								P4C422-25C Performance	
						MM74C200 National								P4C422-25M † Performance	
	1000 nsF	PMOS	TS	16	5,-9	NCM1101Z NCM	20							VT7C122-25 VLSI Tech (3343, 3345, 3347)	
	1400 nsR	CMOS	—	16	3-15	MCM14537A † Motorola				NMOS	TS	24	5	AM9122-25 AMD	
	2000 nsR	CMOS	—	16	3-15	MCM14537C † Motorola		35 nsF	CMOS	TS	22	5	CY7C122-35C Cypress (2580)		
														CY7C122-35M † Cypress (2580)	
														CY93422AC Cypress	
														P4C422-35M † Performance	
														P93U422-35C Performance	
														VT7C122-35 VLSI Tech (3343, 3345, 3347)	
256x4	2 nsF	GaAs	ECL	40	-5.2	12G014 GigaBit (2694)	25							AM9122-35 AMD	75
	2.5 nsF	GaAs	Reg.	5		12G014-2 GigaBit (2694)								AM9122-35 AMD	
	3 nsF	10K/10KH ECL	OE	24	-4.5	CY10E422-3C † Aspen								AM9122-35M † AMD	
														93422AC † National	
		100K ECL	OE	24	-5.2	CY100E422-3C † Aspen		40 nsF	TTL	OC	22	5	AM93412 AMD		
										TS	22	5	AM93422 AMD		
	3.5 nsF	GaAs	Reg.	5		12G014-3 GigaBit (2694)		45 nsF	CMOS	TS	16	5	CY93L422AC Cypress		
	4 nsF	GaAs E/D Mode	100K ECL	24	-4.5	VS12G422ED-4 Vitesse								CY93422C Cypress	
						MBM100422A-5 Fujitsu								CY93422AM † Cypress	
	5 nsF	ECL	OE	24	-4.5	MBM10422A-5 Fujitsu	30						93L422AC † National	85	
													93422AM † National		
		GaAs E/D Mode	TTL	22	5	VS12G422TD-5 Vitesse				ECL	OE	24	-5.2	AM91L22-45 AMD	
			100K ECL	24	-4.5	VS12G422ED-5 Vitesse							AM91L22-45M † AMD		
		10K/10KH ECL	OE	24	-4.5	CY10E422-5C † Aspen				NMOS	TS	24	5	93422C † National	
														CY93L422AM † Cypress	
		100K ECL	OE	24	-5.2	CY100E422-5C † Aspen								93L422AM † National	
	6 nsF	GaAs E/D Mode	TTL	22	5	VS12G422TD-6 Vitesse		55 nsF	CMOS	TS	22	5	CY93L422M † Cypress		
	7 nsF	CMOS	TS	24	5	CY7C123-7C Cypress (2580)								93L422M † National	
		ECL	OE	24	-4.5	MBM100422A-7 Fujitsu		60 nsF	CMOS	TS	16	5	CY93L422C Cypress		
						µPB100422-7 † NEC								CY93422M † Cypress	
						MBM10422A-7 Fujitsu				CMOS/SOS	TS	22	5	MA5101SOS Marconi	
						µPB10422-7 NEC				TTL	TS	22	5	AM93L422 AMD	
														AM93422M † AMD	
														93L422C † National	
														93422M † National	
	10K/10KH ECL	OE	24	-4.5	CY10E422L-7C † Aspen		40	75 nsF	CMOS	TS	22	5	CY93L422M † Cypress	100	
										TTL	TS	22	5	AM93L422M † AMD	
		100K ECL	OE	24	-5.2	CY100E422L-7C † Aspen								93L422M † National	
	8 nsF	CMOS	TS	22	5	P4C422-8C Performance		150 nsF	CMOS	TS	22	5	MWS5101 GE/RCA (2644)		
		GaAs E/D Mode	TTL	22	5	VS12G422TD-8 Vitesse								MWS5101A GE/RCA (2644)	
								220 nsF	CMOS	TS	18	5	HM6561B-8 † Harris (2749)		
														HM6561B-9 Harris (2749)	
														IM65X61-1 Intel	
														HM6561 † Matra-Harris	

Static (Cont'd)

256x4 (Cont'd)

(Continued)

(Continued)

† Military Temperature Range (-55° to 125°C)

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range

nsR—Nanoseconds at Room Temperature

OC—Open Collector

TS—Three-State

OE—Open Emitter

MEMORY—RAMs (Cont'd)

Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)									512x9 (Cont'd)								
256x4	220 nsF	CMOS	TS	22	5	HM6551B-8 † Harris (2749) HM6551B-9 Harris (2749)			240 nsF	NMOS 2-Port	TS	40	5		M79004PX-24A AT&T		
	240 nsF	CMOS	TS	22	5	HS6551RH † Harris			1024x1	10 nsF	ECL	OE	24	-4.5	F100415C ♦ National		60
	250 nsF	CMOS	TS	22	5	MWS5101EL2 GE/RCA				15 nsF	ECL	OE	16	-5.2	MCM10415-15 Motorola		
				10		CDP1822 GE/RCA (2644) TCC244 GE/RCA		5		20 nsF	ECL	OE	16	-5.2	MBM10415AH Fujitsu		
	300 nsF	CMOS	TS	18	5	HM6561-8 † Harris (2749) HM6561-9 Harris (2749)					NMOS	TS	16	5	2125H-1 Intel		
				22	5	HM6551-8 † Harris (2749) HM6551-9 Harris (2749) LH5101-30 † Sharp		10		25 nsF	NMOS	TS	16	5	2125H-2 Intel		
	350 nsF	CMOS	TS	18	5	HM6561-5 Harris (2749) MWS5101DL3				29 nsF	ECL	OE	16	-5.2	MCM10146 Motorola (2948)		
				22	5	MWS5101EL3 GE/RCA HM6551-5 Harris (2749)		15		30 nsF	NMOS	TS	16	5	2125H-3 Intel		
	400 nsF	CMOS	TS	22	5	CDP1822C † GE/RCA (2644) HB1822C † Hughes					TTL	OC	16	5	AM93425AC AMD		
	450 nsF	CMOS	TS	22	5	HM435101-1 Hitachi LH5101-45 Sharp						TS	16	5	93415AC ♦ National		
	650 nsF	CMOS	TS	22	5	LH5101-13 Sharp						TS	16	5	93425AC ♦ National		
	800 nsF	CMOS	TS	22	5	LH5101 Sharp						TS	16	5	2125H-4 Intel		
	3000 nsF	CMOS	TS	22	3	ITT5101S ITT LH5101S Sharp						TS	16	5	AM93425AM † AMD		
				36	3	LH5101SM Sharp						TS	16	5	2115A Intel		
256x8	4 nsF	ECL		24	-4.5 -5.2	BT404 Brooktree BT403 Brooktree						TS	16	5	2115AL Intel		
	40 nsF	TTL	TS	22	5	NBX350 Signetics SBX350 † Signetics						TS	16	5	2125A Intel		
	100 nsF	CMOS	TS	8	5	CDP68HC68R2 GE/RCA (2644, 2653)						TS	16	5	2125AL Intel		
		NVRAM	TS	24	5	FM1108 Ramtron						TS	16	5	93415C ♦ National		
	240 nsF	2-port	TS	40	5	MCM68HC34 Motorola						TS	16	5	AM93425C AMD		
256x8 w/3x8	4 nsF	ECL		28	-4.5 -5.2	BT402 Brooktree BT401 Brooktree						TS	16	5	93425C ♦ National		
256x9	35 nsF	TTL	TS	22	5	93479AC National N82S212A Signetics						TS	16	5	93425M ♦ National		
	45 nsF	TTL	TS	22	5	93479AM National 93479C National N82S212 Signetics						TS	16	5	93425M ♦ National		
	60 nsF	TTL	TS	22	5	93479M National						TS	16	5	93425M ♦ National		
	70 nsF	TTL	TS	22	5	S82S212 † Signetics						TS	16	5	93425M ♦ National		
	90 nsF	TTL	TS	24	5	S82S210 † Signetics						TS	16	5	93425M ♦ National		
256x16	5 nsF	ECL	OE	60	-5.2	MB770H-5 Fujitsu						TS	16	5	93425M ♦ National		
512x4	650 nsF	CMOS	TS	22	5	LH5102-6 Sharp						TS	16	5	93425M ♦ National		
	800 nsF	CMOS	TS	22	5	LH5102-8 Sharp						TS	16	5	93425M ♦ National		
	1200 nsF	CMOS	TS	22	5	LH5102W Sharp						TS	16	5	93425M ♦ National		
				24	5	LH5102 Sharp						TS	16	5	93425M ♦ National		
512x8	100 nsF	NVRAM	TS	24	5	FM1208 Ramtron						TS	16	5	93425M ♦ National		
	200 nsF	NMOS 2-Port	TS	40	5	M78004PX-20A AT&T						TS	16	5	93425M ♦ National		
	240 nsF	NMOS 2-Port	TS	40	5	M78004PX-24A AT&T						TS	16	5	93425M ♦ National		
512x9	15 nsF	ECL	OE	32	-5.2	MB70801-15 Fujitsu						TS	16	5	93425M ♦ National		
	20 nsF	ECL	OE	24	-5.2	MB70802-15 Fujitsu						TS	16	5	93425M ♦ National		
	45 nsF	NMOS	TS	24	5	TMS2150-4 ♦ TI (3298)						TS	16	5	93425M ♦ National		
	120 nsF	Dual-Port	TS	28	5	MK4511-12 ♦ SGS-Thomson						TS	16	5	93425M ♦ National		
	150 nsF	Dual-Port	TS	28	5	MK4511-15 ♦ SGS-Thomson						TS	16	5	93425M ♦ National		
	200 nsF	Dual-Port	TS	28	5	MK4511-20 ♦ SGS-Thomson						TS	16	5	93425M ♦ National		
		NMOS 2-Port	TS	40	5	M79004PX-20A AT&T						TS	16	5	93425M ♦ National		
(Continued)									1024x4 (Cont'd)								
									3 nsF	10K/10KH ECL	OE	24	-4.5		CY10E474-3C ♦ Aspen		
										100K ECL	OE	24	-5.2		CY100E474-3C ♦ Aspen		
									4.5 nsF	ECL	OE	24	-4.5		μPB100474-4 ♦ NEC		
									5 nsF	ECL	OE	24	-4.5		MBM100474A-5 Fujitsu		
													-5.2		MBM10474A-5 Fujitsu (2625)		
										10K/10KH ECL	OE	24	-4.5		CY10E474-5C ♦ Aspen		
										100K ECL	OE	24	-5.2		CY100E474-5C ♦ Aspen		
									6 nsF	ECL	OE	24	-4.5		μPB100474-6 ♦ NEC		
									7 nsF	ECL	OE	24	-4.5		MBM100474A-7 Fujitsu		
													-5.2		MBM10474A-7 Fujitsu (2625)		
(Continued)									(Continued)								

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)									1024x4	20 nsF	NMOS TTL	TS	24 18	5 5	AM9150-20 SSM2148 SSM2149	AMD † Saratoga † Saratoga	(Cont'd)
1024x4	7 nsF	10K/10KH ECL OE	24	—	—4.5	CY10E474L-7C ◊ Aspen									SSM2150	† Saratoga	
		100K ECL OE	24	—	—5.2	CY100E474L-7C ◊ Aspen				25 nsF	CMOS	TS	18	5	CY7C148-25C CY7C149-25C IMS1223-25 IMS1223-25M HM65748-25 P4C148-25C P4C148-25M P4C148L-25C P4C148L-25M	◊ Cypress (2580) ◊ Cypress (2580) Inmos (2789) † Inmos (2789) Matra-Harris Performance 	

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY

MEMORY

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

Access Time	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Organi- zation	(Max)						
Static (Cont'd)							
1024x8	55 nsF	CMOS 2-Port TS	52	5	CY7C141-55C ◊ Cypress CY7C141-55M ◊† Cypress	(Cont'd)	
		CMOS, 2-port TS	48	5	CY7C140-55C Cypress (2580) C7C140-55M ◊† Cypress (2580)		
		CMOS, 2-port TS	48	5	CY7C130-55C Cypress (2580)		
		NMOS, 2-Port TS	48	5	AM2130-55 AMD AM2140-55 AMD		
		2-Port TS	48	5	CY7C130-55M Cypress (2580) IDT7130LA-55 ◊ IDT (2840) IDT7130LA-55B ◊‡ IDT (2840) IDT7130SA-55 ◊ IDT (2840) IDT7130SA-55B ◊‡ IDT (2840) IDT7140LA-55 ◊ IDT (2840) IDT7140LA-55B ◊‡ IDT (2840) IDT7140SA-55 ◊ IDT (2840) IDT7140SA-55B ◊‡ IDT (2840)		
		70 nsF CMOS 2-Port TS	48	5	MS6130-70 Mosel MS6130L-70 Mosel		
		NMOS TS	24	5	MKB4801-87 † SGS-Thomson		
		NMOS, 2-Port TS	48	5	AM2130-70 AMD AM2140-70 AMD		
		2-Port TS	48	5	IDT7130LA-70 ◊ IDT (2840) IDT7130LA-70B ◊‡ IDT (2840) IDT7130SA-70 ◊ IDT (2840) IDT7130SA-70B ◊‡ IDT (2840) IDT7140LA-70 ◊ IDT (2840) IDT7140LA-70B ◊‡ IDT (2840) IDT7140SA-70 ◊ IDT (2840) IDT7140SA-70B ◊‡ IDT (2840)		
		90 nsF CMOS 2-Port TS	48	5	MS6130-90 Mosel MS6130L-90 Mosel		
		NMOS TS	24	5	MKB4801-89 † SGS-Thomson		
		2-Port TS	48	5	IDT7130LA-90 ◊ IDT (2840) IDT7130LA-90B ◊‡ IDT (2840) IDT7130SA-90 ◊ IDT (2840) IDT7130SA-90B ◊‡ IDT (2840) IDT7140LA-90 ◊ IDT (2840) IDT7140LA-90B ◊‡ IDT (2840) IDT7140SA-90 ◊ IDT (2840) IDT7140SA-90B ◊‡ IDT (2840)		
		100 nsF NMOS, 2-Port TS	48	5	AM2140-10 AMD VT2130 † VLSI Tech VT2131 † VLSI Tech		
		TTL	48	5	AM2130-10 AMD		
		2-Port TS	48	5	IDT7130LA-100 ◊ IDT (2840) IDT7130LA-100B ◊‡ IDT (2840) IDT7130SA-100 ◊ IDT (2840)		
(Continued)							

Access Time	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Organi- zation	(Max)						
1024x8 (Cont'd)							
100 nsF	2-Port TS	48	5	IDT7130SA-100B ◊‡ IDT (2840) IDT7140LA-100 ◊ IDT (2840) IDT7140LA-100B ◊‡ IDT (2840) IDT7140SA-100 ◊ IDT (2840) IDT7140SA-100B ◊‡ IDT (2840) VT2130-10 † VLSI Tech VT2131-10 † VLSI Tech			
120 nsF	CMOS TS	48	5	IDT7130LA-120 ◊ IDT (2840) MKB4801A-81 † SGS-Thomson			
	NMOS TS	24	5	AM2130-12 AMD AM2140-12 AMD			
	NMOS, 2-Port TS	48	5	AM2130-12 AMD AM2140-12 AMD			
	2-Port TS	48	5	IDT7130LA-120B ◊‡ IDT (2840) IDT7130SA-120 ◊ IDT (2840) IDT7130SA-120B ◊‡ IDT (2840) IDT7140LA-120 ◊ IDT (2840) IDT7140LA-120B ◊‡ IDT (2840) IDT7140SA-120 ◊ IDT (2840) IDT7140SA-120B ◊‡ IDT (2840) VT2130-12 † VLSI Tech VT2131-12 † VLSI Tech			
150 nsF	Dual-Port CMOS TS	48	5	VM2130-15 VLSI Tech VM2131-15 VLSI Tech			
	2-Port TS	48	5	VT2130-15 † VLSI Tech VT2131-15 † VLSI Tech			
175 nsF	Dual-Port CMOS TS	48	5	VM2130-17 VLSI Tech VM2131-17 VLSI Tech			
200 nsF	Dual-Port CMOS TS	48	5	VM2130-20 VLSI Tech VM2131-20 VLSI Tech			
	2-Port TS	48	5	VT2130-20 † VLSI Tech VT2131-20 † VLSI Tech			
1024x16							
10 nsF	ECL OE	60	-5.2	MB7750-10 Fujitsu			
60 nsF	CMOS, 2-Port TS	52	5	VT16AM8-60 VLSI Tech VT160P8-60 VLSI Tech			
		64	5				
70 nsF	CMOS TS	48	5	VT16AM8 † VLSI Tech			
	CMOS, 2-Port TS	52	5	VT16AM8-70 VLSI Tech VT160P8-70 VLSI Tech			
		64	5				
	2-Port 8/16 TS	64	5	VT16DP8 † VLSI Tech (3356)			
1048x4							
35 nsF	NMOS, Refurbished TS	18	5	2148-35 Krueger (2877) 2149-35 Krueger (2877)			
45 nsF	NMOS, Refurbished TS	18	5	2148-45 Krueger (2877) 2149-45 Krueger (2877)			
70 nsF	NMOS, Refurbished TS	18	5	2148-70 Krueger (2877) 2149-70 Krueger (2877)			
150 nsF	NMOS, Refurbished TS	18	5	2114-150 Krueger (2877)			
200 nsF	NMOS, Refurbished TS	18	5	2114-200 Krueger (2877)			
1048x8							
450 nsF	NMOS, Refurbished TS	18	5	2114-450 Krueger (2877)			
2038x84							
45 nsF	CMOS, 2-port TS	48	5	CY7C142-45C ◊ Cypress (2580)			

nsR–Nanoseconds at Room Temperature
OE–Open Emitter

Organ- ization	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)								
2048	75 nsF	CMOS, 2-Port TS		68	5	M79018Dx-15 AT&T		
2048x8	15 nsF	CMOS TS		24	5	IDT6116LA-15 ⚡ IDT (2835) IDT6116SA-15 ⚡ IDT (2835) P4C116-15C Performance P4C116L-15C Performance		5
	20 nsF	CMOS TS		24	5	IDT6116LA-20 ⚡ IDT (2835) IDT6116SA-20 ⚡ IDT (2835) P4C116-20C Performance P4C116-20M ↑ Performance P4C116L-20C Performance P4C116L-20M ↑ Performance VT20C18 VLSI Tech (3343, 3345, 3349) VT20C18-20 VLSI Tech (3343, 3345, 3349) VT20C19 VLSI Tech (3349) VT20C19-20 VLSI Tech (3349)		10
	TTL	TS		24	5	SSM6116 ↑ Saratoga		15
25 nsF	Cache Tag	TS		28	5	VT7152-25 VLSI Tech (3362) VT7154-25 VLSI Tech (3362)		20
	CMOS	TS		24	5	CY7C128-25C ⚡ Cypress (2580) IDT6116LA-25 ⚡ IDT (2835) IDT6116SA-25 ⚡ IDT (2835) IDT6116SA-25B ⚡ IDT (2835) P4C116-25C Performance P4C116-25M ↑ Performance P4C116L-25C Performance P4C116L-25M ↑ Performance VT20C18-25 VLSI Tech (3343, 3345, 3349) VT20C19-25 VLSI Tech (3349)		25
				28	5	CA16C08 ↑ Calmos		30
				234	5	IDT6116LA-25B ⚡ IDT (2835)		
	CMOS 2-Port	TS		52	5	CY7C136-25C ⚡ Cypress CY7C146-25C ⚡ Cypress		
	CMOS, 2-Port	TS		48	5	CY7C140-25C ⚡ Cypress (2580) CY7C142-25C ⚡ Cypress (2580)		
	NMOS	TS		24	5	TMM2018A-25 Toshiba		35
	TTL	TS		24	5	MT5C1608-25 ⚡ MiconTech		
30 nsF	CMOS	TS		24	5	IDT6116LA-30 ⚡ IDT (2835) IDT6116LA-30B ⚡ IDT (2835) IDT6116SA-30 ⚡ IDT (2835) IDT6116SA-30B ⚡ IDT (2835) P4C116-30C Performance P4C116-30M ↑ Performance P4C116L-30C Performance P4C116L-30M ↑ Performance SMJ68CE16-30 ⚡ TI		40
	CMOS, 2-Port	TS		48	5	VT7132A-30 VLSI Tech (3343, 3359) VT7142A-30 VLSI Tech (3343, 3359)		45
35 nsF	Cache Tag	TS		28	5	VT7152-35 VLSI Tech (3362) VT7154-35 VLSI Tech (3362) (Continued)		
2048x8	35 nsF	CMOS TS		20	5	V61C16P35L Vitelic CY6116-35C ⚡ Cypress CY6116-35M ⚡ Cypress CY7C128-35C ⚡ Cypress (2580) DPS9116 ⚡ Dense-Pac (2602) IMS1433-35 Inmos IDT6116LA-35 ⚡ IDT (2835) IDT6116LA-35B ⚡ IDT (2835) IDT6116SA-35 ⚡ IDT (2835) IDT6116SA-35B ⚡ IDT (2835) HM65728-35 ↑ Matra-Harris P4C116-35M ↑ Performance P4C116L-35M ↑ Performance CXK5814-35L Sony VT20C18-35 VLSI Tech (3343, 3345, 3349) VT20C19-35 VLSI Tech (3349)		50
				52	5	IDT71321LA-35 ⚡ IDT (2842) IDT71321SA-35 ⚡ IDT (2842)		55
	CMOS 2-Port	TS		52	5	CY7C136-35C ⚡ Cypress CY7C136-35M ⚡ Cypress CY7C146-35C ⚡ Cypress CY7C146-35M ⚡ Cypress		60
	CMOS, 2-port	TS		48	5	CY7C142-35C ⚡ Cypress (2580)		65
	CMOS, 2-Port	TS		48	5	CY7C142-35M ⚡ Cypress (2580)		
	CMOS, 2-Port	TS		48	5	VT7132A-35 VLSI Tech (3343, 3359) VT7142A-35 VLSI Tech (3343, 3359)		70
	H MOS	TS		24	5	MCM2018A-35 Motorola		75
	Module, 2-port	TS		58	5	DPP2X8 Dense-Pac (2609)		
	NMOS	TS		24	5	MCM2018-35 Motorola TMM2018A-35 Toshiba		
	TTL	TS		24	5	MT5C1608-35 ⚡ MiconTech		80
	2-Port	TS		48	5	CY7C132-35C Cypress (2580) IDT7132LA-35 ⚡ IDT (2841) IDT7132SA-35 ⚡ IDT (2841) IDT7142LA-35 ⚡ IDT (2841) IDT7142SA-35 ⚡ IDT (2841)		85
				52	5	IDT71421LA-35 ⚡ IDT IDT71421SA-35 ⚡ IDT		
40 nsF	CMOS	TS		24	5	SMJ68CE16-40 ⚡ TI		90
45 nsF	CMOS	TS		24	5	CY6116-45C ⚡ Cypress CY6116-45M ⚡ Cypress CY7C128-45C ⚡ Cypress (2580) CY7C128-45M ⚡ Cypress (2580) IMS1433-45 Inmos IMS1433-45M ↑ Inmos IDT6116LA-45B ⚡ IDT (2835) IDT6116SA-45 ⚡ IDT (2835) IDT6116SA-45B ⚡ IDT (2835) HM65728-45 ↑ Matra-Harris MS6516L-45C Mosel		95

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)							
2048x8	45 nsF	CMOS	TS	24	5	MS6516S-45C Mosel CXK5814P-45L Sony	(Cont'd)
				48	5	IDT71322L-45 ♂ IDT (2843) IDT71322S-45 ♂ IDT (2843)	5
				52	5	IDT71321LA-45 ♂ IDT (2842) IDT71321SA-45 ♂ IDT (2842)	5
				52	5	IDT71421SA-45B ♂ IDT	55
		CMOS 2-Port TS	52	5	CY7C136-45C ♂ Cypress CY7C136-45M ♂ Cypress CY7C146-45C ♂ Cypress CY7C146-45M ♂ Cypress	10	
		CMOS, 2-port TS	48	5	CY7C142-45M ♂ Cypress (2580)		
		CMOS, 2-Port TS	48	5	VT7132A-45 VLSI Tech (3343, 3359) VT7142A-45 VLSI Tech (3343, 3359)	15	
		HMOS NMOS	TS TS	24 24	5 5	MCM2018A-45 Motorola MCM2018-45 Motorola TMM2018A-45 Toshiba	20
		TTL	TS	24	5	MT5C1608-45 ♂ MicronTech	25
		2-Port	TS	48	5	CY7C132-45C Cypress (2580) CY7C132-45M ♂ Cypress (2580)	30
		2-Port	TS	48	5	IDT7132LA-45 ♂ IDT (2841) IDT7132LA-45B ♂ IDT (2841) IDT7132SA-45 ♂ IDT (2841) IDT7132SA-45B ♂ IDT (2841) IDT71322L-45B ♂ IDT (2843) ♂ IDT (2843) IDT7142LA-45 ♂ IDT (2841) IDT7142LA-45B ♂ IDT (2841) IDT7142SA-45 ♂ IDT (2841) IDT7142SA-45B ♂ IDT (2841)	35
				52	5	IDT71321LA-45B ♂ IDT (2842) IDT71321SA-45B ♂ IDT (2842) IDT71421LA-45 ♂ IDT IDT71421LA-45B ♂ IDT IDT71421SA-45 ♂ IDT	40
55 nsF	CMOS	TS	20	5	V61C16P55L Vitelic CY6116-55C ♂ Cypress CY6116-55M ♂ Cypress CY7C128-55C ♂ Cypress (2580) CY7C128-55M ♂ Cypress (2580) HM65162S-9 ♂ Harris (2747) IMS1433-55 Inmos IMS1433-55M ♂ Inmos IDT6116LA-55B ♂ IDT (2835) IDT6116SA-55 ♂ IDT (2835)	45	
(Continued)							

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—RAMs (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)									(Cont'd)								
2048x8	70 nsF	CMOS	TS	20 24	5	V61C16P70L Vitelic HM65162B-8 † Harris (2747) HM65162B-9 † Harris (2747) IDT6116LA-70B ‡ IDT (2835) IDT6116SA-70 † IDT (2835) IDT6116SA-70B ‡ IDT (2835) HM65161 † Matra-Harris MS6516L-70C Mosel MS6516S-70C Mosel LH5115-70 Sharp STC6116L-70 STC STC6116M-70 ‡ STC UM6116-4 UMC UM6116-70 † UMC		5	2048x8	90 nsF	2-Port	TS	48	5	IDT7132LA-90 † IDT (2841) IDT7132LA-90B ‡ IDT (2841) IDT7132SA-90 † IDT (2841) IDT7132SA-90B ‡ IDT (2841) IDT7142LA-90 † IDT (2841) IDT7142LA-90B ‡ IDT (2841) IDT7142SA-90 † IDT (2841) IDT7142SA-90B ‡ IDT (2841)		55
		CMOS, 2-Port	TS	48	5	V61C32-70 Vitelic V61C32-70L Vitelic VT7132-70 VLSI Tech (3343, 3359) VT7142-70 VLSI Tech (3343, 3359)		10		100 nsF	CMOS	TS	24	5	GM76C28-10 GoldStar (2696, 2700) HS65T162RH † Harris (2733) MS6516L-100C Mosel MS6516S-100C Mosel SRM2016C-10 S-MOS LH5116-10 † Sharp LH5118-10 † Sharp CXK5816M-10L Sony CXK5816PN-10L Sony		60
								15				TTL	24	5	HY6116A-10 Hyundai HY6116AL-10 Hyundai		70
		NMOS	TS	24	5	AM9128-70 AMD IDT71322L-70 † IDT (2843) IDT71322L-70B ‡ IDT (2843) IDT71322S-70 † IDT (2843) IDT71322S-70B ‡ IDT (2843)		20				28	5	HY6264L-10 Hyundai (2778)			
		2-port	TS	48	5					NMOS	TS	24	5	AM9128-10 AMD			
										NMOS, Refurbished	TS	24	5	2128-100 Krueger (2877) IDT7132LA-100 † IDT (2841) IDT7132LA-100B ‡ IDT (2841) IDT7132SA-100 † IDT (2841) IDT7132SA-100B ‡ IDT (2841) IDT7142LA-100 † IDT (2841) IDT7142LA-100B ‡ IDT (2841) IDT7142SA-100 † IDT (2841) IDT7142SA-100B ‡ IDT (2841)		75	
		2-Port	TS	48	5	IDT7132LA-70 † IDT (2841) IDT7132LA-70B ‡ IDT (2841) IDT7132SA-70 † IDT (2841) IDT7132SA-70B ‡ IDT (2841) IDT7142LA-70 † IDT (2841) IDT7142LA-70B ‡ IDT (2841) IDT7142SA-70 † IDT (2841) IDT7142SA-70B ‡ IDT (2841)		25								80	
								30		120 nsF	CMOS	TS	24	5	GM76C28-12 GoldStar (2696, 2700) HM6516B-8 † Harris (2747) HM6516B-9 † Harris (2747) HM65162C-8 † Harris (2747) HM6116-2 † Hitachi HY6116L-12 Hyundai IDT6116LA-120B ‡ IDT (2835) IDT6116SA-120B ‡ IDT (2835) HM6116 † Matra-Harris SRM2016C-12 S-MOS SRM2017C-12 S-MOS SRM2018C-12 S-MOS MK48T02B-12 SGS-Thomson MK48T12B-12 SGS-Thomson MK48Z02B-12 SGS-Thomson MK48Z12B-12 SGS-Thomson LH5116-12 † Sharp CXK5816M-12L ‡ Sony CXK5816PN-12L Sony STC6116M-12 ‡ STC		85
	80 nsF	CMOS	TS	24	5	HS65C162RH † Harris (2733) HM65162-8 † Harris (2747) HM65162-9 † Harris (2747) HM65162C-9 † Harris (2747) IDT6116LA-90B ‡ IDT (2835) IDT6116SA-90 † IDT (2835) IDT6116SA-90B ‡ IDT (2835) STC6116-90 STC STC6116L-90 STC STC6116M-90 ‡ STC UM6116-3 UMC UM6116-90 † UMC		35								90	
	90 nsF	CMOS	TS	24	5			40									95
		CMOS, 2-Port	TS	48	5	V61C32-90 Vitelic V61C32-90L Vitelic V61C33-90 Vitelic V61C34-90 Vitelic VT7132-90 VLSI Tech (3343, 3359) VT7142-90 VLSI Tech (3343, 3359)		45									100
								50				TTL	24	5	HY6116A-12 Hyundai HY6116AL-12 Hyundai		105
										CMOS/SOS	TS	24	5	MA6116SOS Marconi			
										CMOS, Refurbished	TS	24	5	6116-120 Krueger (2877) 6116LP-120 Krueger (2877)			
(Continued)									(Continued)								

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

Access Time (Max)	Type	Out- put	No. Pins	Voltage, V	Device	Source
Static	(Cont'd)					
2048x8	120 nsF					
	CMOS, 2-Port TS	48	5		HM65321-2 † Matra-Harris HM65321-9 Matra-Harris	
	NMOS TS	24	5		AM9128-12M † AMD	
	NMOS, Refurbished TS	24	5		2128-120 Krueger (2877) IDT7132LA-120 ◊ IDT (2841) IDT7132LA-120B ◊ IDT (2841) IDT7132SA-120 ◊ IDT (2841) IDT7132SA-120B ◊ IDT (2841) IDT7142LA-120 ◊ IDT (2841) IDT7142LA-120B ◊ IDT (2841) IDT7142SA-120 ◊ IDT (2841) IDT7142SA-120B ◊ IDT (2841)	5
	2-Port TS	48	5			
	150 nsF CMOS TS	24	5		CDM6116A-3 GE/RCA (2644, 2653) HM6116-3 ◊ Hitachi IDT6116LA-150B ◊ IDT (2835) IDT6116SA-150B ◊ IDT (2835) SRM2016C-15 S-MOS KM6816-15 Samsung MK48T02B-15 SGS-Thomson MK48T12B-15 SGS-Thomson MK48Z02-15 SGS-Thomson MK48Z12B-15 SGS-Thomson LH5116-15 Sharp CXK5816M-15L ◊ Sony CXK5816PN-15L Sony STC6116M-15 † STC	15
	TTL	24	5		HY6116A-15 Hyundai HY6116AL-15 Hyundai	
	CMOS, Refurbished TS	24	5		6116-150 Krueger (2877) 6116LP-150 Krueger (2877)	30
	NMOS TS	24	5		AM9128-15M † AMD ETL2128-3 SGS-Thomson	
	NMOS, Refurbished TS	24	5		2128-150 Krueger (2877)	
	200 nsF CMOS TS	24	5		CDM6116A-2 GE/RCA (2644, 2653) HM6516-5 ◊ Harris HM6516-8 ◊ Harris (2747) HM6516-9 ◊ Harris (2747) HM6116-4 ◊ Hitachi KM6816-20 Samsung MK48T02B-20 SGS-Thomson MK48T12B-20 SGS-Thomson MK48Z02-20 SGS-Thomson MK48Z12B-20 SGS-Thomson	35
		28	5		MK48C02-20 ◊ SGS-Thomson MK48C02L-20 ◊ SGS-Thomson	40
	CMOS, Refurbished TS	24	5		6116-200 Krueger (2877) 6116LP-200 Krueger (2877)	45
	NMOS TS	24	5		AM9128-20 AMD AM9128-20M † AMD ETL2128-4 SGS-Thomson	50
					(Continued)	
2048x8	200 nsF					
	NMOS, Refurbished TS	24	5		2128-200 Krueger (2877) GR281 LMS NVR2 LMS	
	250 nsF CMOS TS	24	5		CDM6116A-9 GE/RCA (2644, 2653) MK48T02B-25 SGS-Thomson MK48T12B-25 SGS-Thomson MK48Z02-25 SGS-Thomson MK48Z12B-25 SGS-Thomson	55
		28	5		MK48C02-25 ◊ SGS-Thomson MK48C02L-25 ◊ SGS-Thomson	60
	NMOS TS	24	5		ETL2128-5 SGS-Thomson	
2048x9	25 nsF CMOS TS	28	5		CA16C09 Calmos	
2048x16						
	35 nsF Module, 2-port TS	64	5		DPP2X16 Dense-Pac (2609) MAP168-45 WaferScale (3392)	
	40 nsF CMOS TS	44	5		MAP168-45 WaferScale (3392)	65
	45 nsF CMOS TS	44	5		MAP168-45 WaferScale (3392)	
	50 nsF Module TS	40	5		DPS2X16 Dense-Pac (2607)	
	55 nsF CMOS TS	44	5		MAP168-55 WaferScale (3392) IDT7133L-55 ◊ IDT (2844) IDT7133S-55 ◊ IDT (2844) IDT7143L-55 ◊ IDT (2844) IDT7143S-55 ◊ IDT (2844)	70
		68	5		IDT7133L-70 ◊ IDT (2844) IDT7133S-70 ◊ IDT (2844) IDT7143L-70 ◊ IDT (2844) IDT7143S-70 ◊ IDT (2844)	75
	70 nsF CMOS TS	68	5		IDT7133L-70B ◊ IDT (2844) IDT7133S-70B ◊ IDT (2844) IDT7143L-70B ◊ IDT (2844) IDT7143S-70B ◊ IDT (2844)	80
	2-Port TS	68	5		IDT7133L-90 ◊ IDT (2844) IDT7133L-90B ◊ IDT (2844)	
	2-port slave TS	68	5		IDT7143L-90 ◊ IDT (2844) IDT7143L-90B ◊ IDT (2844)	
	2-Port TS	68	5		IDT7133S-90 ◊ IDT (2844) IDT7133S-90B ◊ IDT (2844) IDT7143S-90 ◊ IDT (2844) IDT7143S-90B ◊ IDT (2844)	85
2048x32						
	35 nsF Module TS	28	5		DPS2X32 Dense-Pac (2604)	
	Module, 2-port TS	84	5		DPP2X32 Dense-Pac (2609)	
	85 nsF CMOS Module TS	32	5		μPD43608 NEC	90
4096x1	3 nsF 10K/10KH ECL OE	18	-4.5		C710E470-3C ◊ Aspen	
	100K ECL OE	18	-5.2		CY100E470-3C ◊ Aspen	
	5 nsF 10K/10KH ECL OE	18	-4.5		CY10E470-5C ◊ Aspen	
	100K ECL OE	18	-5.2		CY100E470-5C ◊ Aspen	
	7 nsF 10K/10KH ECL OE	18	-4.5		CY10E470L-7C ◊ Aspen	
	100K ECL OE	18	-5.2		CY100E470L-7C ◊ Aspen	95
					(Continued)	

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MEMORY—RAMs (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
Static (Cont'd)									4096x1 (Cont'd)									
4096x1	10 nsF	CMOS	TS	18	5	P4C147-10C Performance P4C147L-10C Performance				55 nsF	CMOS	TS	18	5	CY2147-55C Cypress CY2147-55M † Cypress HM6147H-55 Hitachi		60	
		ECL	OE	18	-4.5	μPB100470-10 NEC SSM100470 † Saratoga					NMOS	TS	18	5	AM21147-55 AMD AM2147-55 † AMD M2147H-3 † Intel 2147H-3 Intel 2147HL-3 Intel NMC2147H-4 National ETL2147H-3 SGS-Thomson ET2147H-3 SGS-Thomson STC2147-55 STC UM2147 UMC UM2147-1 UMC UM2147L-1 UMC		65	
					-5.2	MBM100470A-10 Fujitsu MBM10470A-10 Fujitsu μPB10470-10 NEC SSM10470 † Saratoga		5				NMOS, Refurbished	TS	18	5	2147-55 Krueger (2877)		70
	12 nsF	CMOS	TS	18	5	P4C147-12C Performance P4C147L-12C Performance		10										
	15 nsF	CMOS	TS	18	5	P4C147-15C Performance P4C147-15M † Performance P4C147L-15C Performance P4C147L-15M † Performance				70 nsF	CMOS	TS	18	5	HM6147H Hitachi		75	
		ECL	OE	18	-4.5	MBM100470A-15 Fujitsu μPB100470-15 NEC		15				CMOS/SOS	TS	18	5	MA5104SOS † Marconi AM21147-70 AMD AM2147-70 † AMD 2147 † GE/Intersil M2147H † Intel 2147H † Intel 2147HL Intel ETL2147 SGS-Thomson STC2147-70 STC STC2147L-70 STC STC2147M-70 STC UM2147L UMC		80
					-5.2	MBM10470A-15 Fujitsu μPB10470-15 NEC							TS	18	5	2147-70 Krueger (2877)		85
	20 nsF	CMOS	TS	18	5	P4C147-20C Performance P4C147-20M † Performance P4C147L-20C Performance P4C147L-20M † Performance		20										
		ECL	OE	18	-5.2	MBM10470A-20 Fujitsu				90 nsF	NMOS	TS	18	5	STC2147-90 STC		90	
	25 nsF	CMOS	TS	18	5	CY7C147-25C † Cypress (2580) IMS1203-25 Inmos (2788) IMS1203-25M † Inmos (2788) HM65747-25 † Matra-Harris P4C147-25C Performance P4C147-25M † Performance P4C147L-25C Performance P4C147L-25M † Performance		25		120 nsF	CMOS	TS	18	5	HM6504S-8 † Harris (2748) HM6504S-9 † Harris (2748)			
								30					TS	18	5	AM21141-12 AMD		
										150 nsF	NMOS	TS	18	5	AM21141-15 AMD			
										180 nsF	CMOS	TS	18	5	HS6504RH † Harris (2733) HM6504B-8 † Harris (2748)		95	
										200 nsF	CMOS	TS	18	5	HM6504B-9 † Harris (2748)			
													TS	18	5	AM21141-20 AMD		
	35 nsF	CMOS	TS	18	5	CY2147-35C Cypress CY7C147-35C † Cypress (2580) CY7C147-35M † Cypress (2580) HM6147H-35 Hitachi IMS1203-35 Inmos (2788) IMS1203-35M † Inmos (2788) HM65747-35 † Matra-Harris P4C147-35M † Performance P4C147L-35M † Performance		35		220 nsF	CMOS	TS	18	5	HM6504 † Matra-Harris AM21141-25 AMD MKB4104-84 † SGS-Thomson MK4104-4 SGS-Thomson		100	
								40		250 nsF	NMOS	TS	18	5				
										300 nsF	CMOS	TS	18	5	CMM5104/1RZ † GE/RCA (2663) HM6504-5 † Harris (2748) HM6504-8 † Harris (2748) HM6504-9 † Harris (2748) HM6504C-9 † Harris (2748) NMC6504-9 National		105	
		NMOS	TS	18	5	AM2147-35 † AMD 2147H-1 Intel ET2147H-1 SGS-Thomson												
		NMOS, Refurbished	TS	18	5	2147-35 Krueger (2877)											110	
	45 nsF	CMOS	TS	18	5	CY2147-45C Cypress CY2147-45M † Cypress CY7C147-45C † Cypress (2580) CY7C147-45M † Cypress (2580) HM6147H-45 Hitachi IMS1203-45M † Inmos (2788) HM65747-45 † Matra-Harris		45		450 nsF	CMOS	TS	18	5	LH5104-4 Sharp AM92L44B AMD			
								50		4096x4	7 nsF	100K ECL	OE	28	-5.2	CY1E484-7C † Aspen CY100E484-7C † Aspen		115
		NMOS	TS	18	5	AM21147-45 AMD AM2147-45 † AMD M2147H-2 † Intel 2147H-2 Intel ET2147H-2 SGS-Thomson UM2147-2 UMC		55			10 nsF	BiCMOS	OE	28	-4.5	HM100484-10 † Hitachi HM10484-10 Hitachi		
															-5.2	MBM100484A-10 † Fujitsu μPB100484-10 NEC		120
		NMOS, Refurbished	TS	18	5	2147-45 Krueger (2877)									-5.2	MBM10484A-10 † Fujitsu (2626) μPB10484-10 NEC		
(Continued)									(Continued)									

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◇ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line											
Static (Cont'd)								(Cont'd)																		
4096x4	25 nsF	CMOS	TS	24	5	CY7C171-25 † Cypress (2580) CY7C171-25C † Cypress (2580) CY7C172-25C † Cypress (2580) CY7C172-25M † Cypress (2580) IDT71681LA-25 ‡ IDT IDT71681LA-25B ‡ IDT IDT71681SA-25 ‡ IDT IDT71681SA-25B ‡ IDT IDT71682LA-25 ‡ IDT IDT71682LA-25B ‡ IDT IDT71682SA-25 ‡ IDT IDT71682SA-25B ‡ IDT MCM62350-25 ‡ Motorola MCM62351-25 ‡ Motorola MCM6268A-25 Motorola MCM6270A-25 Motorola P4C1681-25C Performance P4C1681-25M † Performance P4C1681L-25C Performance P4C1681L-25M † Performance P4C1682-25C Performance P4C1682-25M † Performance P4C1682L-25C Performance P4C1682L-25M † Performance VT20C71-25 VLSI Tech (3343, 3345, 3351) VT20C72-25 VLSI Tech (3343, 3345, 3351)	5	10	15	20	25	30	35	40	45											
TTL	OC	20	5	MB81C68A † Fujitsu																						
	TS	20	5	MT5C1604-25 † MicronTech																						
		22	5	MT5C1605-25 † MicronTech																						
		24	5	MT5C1606-25 † MicronTech																						
30 nsF	CMOS	TS	20	5	MB81C69A-30 Fujitsu P4C168-30C Performance P4C168-30M † Performance P4C168L-30C Performance P4C168L-30M † Performance P4C169-30C Performance P4C169-30M † Performance MCM4180-30 Motorola P4C170-30C Performance P4C170-30M † Performance MCM62350-30 † Motorola MCM62351-30 † Motorola MCM6268A-30 Motorola MCM6270A-30 Motorola P4C1681-30C Performance P4C1681-30M † Performance P4C1681L-30C Performance P4C1681L-30M † Performance P4C1682-30C Performance	5	5	5	5	5	5	5	5	5	5											
								35 nsF	CMOS	TS	20	3.3	5	P4C1682-30M † Performance P4C1682L-30C Performance P4C1682L-30M † Performance MK41L68-35 SGS-Thomson CY7C168-35C † Cypress (2580) CY7C168-35M † Cypress (2580) CY7C168L-35C † Cypress (2580) CY7C169-35C † Cypress (2580) CY7C169-35M † Cypress (2580) CY7C169L-35C † Cypress (2580) CY7C171L-35C † Cypress (2580) CY7C172L-35C † Cypress (2580) HM6268-35 Hitachi IMS1423-35 Inmos IMS1423-35M † Inmos IDT6168LA-35 † IDT (2836) IDT6168LA-35B † IDT (2836) IDT6168SA-35 † IDT (2836) IDT6168SA-35B † IDT (2836) HM65768-35 † Matra-Harris M5M21C68-35 † Mitsubishi MS6168L-35C Mosel MS6168S-35C Mosel MCM6268-35 Motorola MCM6269-35 Motorola μPD4314-35 NEC P4C168-35C Performance P4C168-35M † Performance P4C168L-35C Performance P4C168L-35M † Performance P4C169-35C Performance P4C169-35M † Performance MK41H68-35 † SGS-Thomson MK41H69-35 † SGS-Thomson MK41L69-35 SGS-Thomson CXK5416P-35L Sony SMJ64C16-35 † TI V61C68P35L Vitec VT20C68-35 VLSI Tech (3343, 3345, 3350) VT20C69-35 VLSI Tech (3343, 3345, 3350)	50	55	60	65	70	75	80	85	90	95	100	105
								(Continued)																		

◆ Available in Surface Mount Package

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† Military Temperature Range (-55° to 125°C)
OC—Open Collector

† Military Temperature Range (-55° to 125°C) ns*--Nanoseconds Typical nsF--Nanoseconds over Full Temperature Range nsR--Nanoseconds at Room Temperature
OC--Open Collector TS--Three-State OE--Open Emitter

MEMORY—RAMs (Cont'd)

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
Static (Cont'd)								(Cont'd)								
4096x4	55 nsF	CMOS	TS	24	5	IDT71681LA-55 ◊ IDT IDT71681LA-55B ◊† IDT IDT71681SA-55B ◊† IDT IDT71682LA-55B ◊† IDT IDT71682SA-55B ◊† IDT	(Cont'd)	4096x8	35 nsF	Module, 2-port TS NMOS	58 20	5 5	DPP4X8 TMM2068A-35	Dense-Pac (2609) Toshiba	45	
		NMOS	TS	20	5	AM2168-55 IMS1420-55M ↑ Inmos STC2168-55 STC2168L-55 STC2168M-55 ↑ STC	AMD		40 nsF	CMOS	TS	44	5	MAP168-40 MAP168-45	Waferscale Waferscale	(3392) (3392)
	70 nsF	CMOS	TS	20	5	HM6168H-70 IDT6168LA-70B ◊† IDT IDT6168SA-70B ◊† IDT MS6168L-70C MS6168S-70C MCM6168-70 SRM2268C-70 UM6168	Hitachi (2836) (2836) Mosel Mosel Motorola S-MOS UMC	5								
				24	5	IDT71681LA-70B ◊† IDT IDT71681SA-70B ◊† IDT IDT71682LA-70B ◊† IDT IDT71682SA-70B ◊† IDT		10								
		NMOS	TS	20	5	AM2168-70 AM2169-70 IMS1420-70M ↑ Inmos STC2168-70 STC2168L-70 STC2168M-70 ↑ STC	AMD AMD AMD Inmos STC STC STC STC	15								
	85 nsF	CMOS	TS	20	5	IDT6168LA-85B ◊† IDT IDT6168SA-85B ◊† IDT	(2836) (2836)	20								
				24	5	IDT71681LA-85B ◊† IDT IDT71681SA-85B ◊† IDT IDT71682LA-85B ◊† IDT IDT71682SA-85B ◊† IDT		25								
		NMOS	TS	20	5	MBM8168-85W ↑ Fujitsu		30								
	100 nsF	CMOS	TS	20	5	IDT6168LA-100B ◊† IDT IDT6168SA-100B ◊† IDT	(2836) (2836)	35								
				24	5	IDT71681LA-100B ◊† IDT IDT71681SA-100B ◊† IDT IDT71682LA-100B ◊† IDT IDT71682SA-100B ◊† IDT		40								
	25 nsF	CMOS	TS	20	5	CY7C168-25	Cypress (2580)	45								
4096x8	25 nsF	NMOS	TS	20	5	TMM2068A-25	Toshiba	50								
	35 nsF	Module	TS	24	5	DPS88H04	Dense-Pac	55								
(Continued)								(Continued)								

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Access	Time	Type	Out-	No.	Supply	Device	Source	Line	Access	Time	Type	Out-	No.	Supply	Device	Source	Line									
Organi-	(Max)		put	Pins	V				Organi-	(Max)		put	Pins	V												
zation									zation																	
Static (Cont'd)									8192x8 35 nsF CMOS TS 28 5 (Cont'd)																	
4096x16																										
55 nsF CMOS TS 48 5									(Cont'd)																	
									IDT71502S-55 ◊‡ IDT (2846)																	
									IDT71502S-55B																	
									◊‡ IDT (2846)																	
70 nsF CMOS TS 40 5									IDT7186L-70B ◊‡ IDT (2849)																	
									IDT7186S-70B ◊‡ IDT (2849)																	
									IDT71502L-70B																	
									◊‡ IDT (2846)																	
									IDT71502S-70B																	
									◊‡ IDT (2846)																	
4096x32																										
25 nsF Module TS 56 5									DPS4X32 Dense-Pac (2603)																	
35 nsF Module, 2-port TS 84 5									DPP4X32 Dense-Pac (2609)																	
8192x4 35 nsF Module TS 22 5									DPS84H08 Dense-Pac																	
8192x8 12 nsF BiCMOS TS 28 5									CY7C185-12C																	
									◊ Aspen																	
15 nsF BiCMOS TS 28 5									CY7C185-15C																	
									◊ Aspen																	
20 nsF BiCMOS TS 28 5									CY7C185-20M																	
									◊‡ Aspen																	
									CY7C185-20 Cypress (2580)																	
									CY7C186-20 Cypress (2580)																	
									P4C164-20C Performance																	
									P4C164L-20C Performance																	
25 nsF CMOS TS 28 5									CY7C185-25 † Cypress (2580)																	
									CY7C185-25C ◊ Cypress (2580)																	
									CY7C185L-25C ◊ Cypress (2580)																	
									CY7C186-25 † Cypress (2580)																	
									CY7C186-25C ◊ Cypress (2580)																	
									CY7C186L-25C ◊ Cypress (2580)																	
									P4C164-25C Performance																	
									P4C164-25M † Performance																	
									P4C164L-25C Performance																	
									P4C164L-25M																	
									† Performance																	
									CXK5863J-25 Sony																	
									CXK5863P-25 Sony																	
									VT20C98-25 VLSI Tech																	
									VT20C99-25 VLSI Tech																	
TTL TS 28 5									SSM7164 † Saratoga																	
									MT50C608-25																	
									◊ MicronTech																	
30 nsF CMOS TS 28 5									IDT71C65L-30																	
									◊‡ IDT																	
									IDT71C65S-30																	
									◊‡ IDT																	
									IDT7164L-30 ◊‡ IDT (2848)																	
									IDT7164S-30 ◊‡ IDT (2848)																	
									IDT7165L-30																	
									◊‡ IDT																	
									IDT7165S-30																	
									◊‡ IDT																	
									P4C164-30C Performance																	
									P4C164-30M † Performance																	
									P4C164L-30C Performance																	
									P4C164L-30M																	
									† Performance																	
									CXK5863J-30 Sony																	
									CXK5863P-30 Sony																	
									SMJ68CE64-30																	
									◊‡ TI																	
35 nsF CMOS TS 28 5									CA64C08 † Calmos																	
									CY7C185-35C ◊ Cypress (2580)																	
									CY7C185-35M ◊‡ Cypress (2580)																	
									CY7C185L-35C ◊ Cypress (2580)																	
									CY7C186-35C ◊ Cypress (2580)																	
									CY7C186-35M ◊‡ Cypress (2580)																	
									CY7C186L-35C ◊ Cypress (2580)																	
									DPS9264 ◊ Dense-Pac (2602)																	
									EDI8808C35B ◊‡ EDI (2615)																	
									MB81C78A-35 Fujitsu																	
									(Continued)																	

VIEWPOINT

VIEWPOINT

◆ Available in Surface Mount Package

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MEMORY—RAMs (Cont'd)

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
Static (Cont'd)								Static (Cont'd)								
8192x8	150 nsF	CMOS	TS	28	5	(Cont'd)		8192x8	200 nsF	CMOS	TS	28	5	IDT7164S-2008	(Cont'd)	
					MB8464-15X ♦ Fujitsu									† IDT (2848)	55	
					MB8464A-15 ♦ Fujitsu									μPD4464-20 ♦ NEC		
					MB8464A-15L									MK48Z08B-20 SGS-Thomson		
					♦ Fujitsu									MK48Z09B-20 SGS-Thomson		
					MB8464A-15LL									MK48Z18B-20 SGS-Thomson		60
					♦ Fujitsu									MK48Z19B-20 SGS-Thomson		
					MB8464A-15W		5	250 nsF	CMOS	TS	28	5	MK48Z08B-25 SGS-Thomson			
					♦ Fujitsu									MK48Z09B-25 SGS-Thomson		
					CDM6264-3 GE/RCA (2644, 2653)									MK48Z18B-25 SGS-Thomson		
					CDM6264AC/3 GE/RCA (2644, 2653)			260 nsF*	CMOS	TS	40	5	MK48Z19B-25 SGS-Thomson			
					HM65642 ♦† Harris (2747)			350 nsF	CMOS Module	TS	40	5	HS6564RH ‡ Harris (2734)		65	
					HM6264A-15 Hitachi		10	400 nsF	CMOS Module	TS	40	5	HM5-6564 Harris			
					HM6264AL-15 Hitachi									HM6564-2 † Harris		
					IDT7164L-1508									HM6564-9 Harris		
					† IDT (2848)			450 nsF	CMOS Module	TS	40	5	HM6564-5 Harris			
					IDT7164S-1508											
					† IDT (2848)			8192x9	20 nsF	CMOS	TS	28	5	P4C163-20C ♦ Performance		70
					HM2064 † Matra-Harris									P4C163L-20C ♦ Performance		
					M5M5165-15 Mitsubishi		15	25 nsF	CMOS	TS	28	5	P4C163-25C ♦ Performance			
					M5M5165-15L Mitsubishi									P4C163-25M		
					MCM60L64-15									†† Performance		
					♦ Motorola									P4C163L-25C ♦ Performance		
					MCM6064-15 ♦ Motorola									P4C163L-25M		
					μPD4364-15 ♦ NEC									†† Performance		75
					μPD4364-15L ♦ NEC									CXK5971P-25 Sony		
					μPD4364-15LL		20									
					♦ NEC			30 nsF	CMOS	TS	28	5	P4C163-30C ♦ Performance			
					μPD4464-15 ♦ NEC									P4C163-30M		
					μPD4464-15L ♦ NEC									†† Performance		
					MSM5165L-15 OKI									P4C163L-30C ♦ Performance		
					SRM2064C-15 S-MOS									P4C163L-30M		
					KM6264-15 Samsung (3036)		25							†† Performance		80
					KM6264L-15 Samsung (3036)									CXK5971P-30 Sony		
					CXK5864BM-15L									SMJ69CE72-30		
					Sony									†† TI		
					CXK5864BP-15L			35 nsF	CMOS	TS	28	5	CA64C09 Calmos			
					Sony									ED18908C358 ♦ EDI (2615)		
					CXK5864BSP-15L									P4C163-35C ♦ Performance		85
					Sony									P4C163-35M		
					CXK5864M-15L									†† Performance		
					♦ Sony		30							P4C163L-35M		
					CXK5864PN-15L									†† Performance		
					Sony									CXK5971P-35 Sony		
					TC5564A-15 Toshiba									TMM2089-35 Toshiba		
					TC5565A-15 Toshiba									VT8K9 VLSI Tech		90
					UM6264-150 ♦ UMC		35							VT8K9-35 VLSI Tech		
					V62C64-15 Vitelic											
					V62C64-15L Vitelic											
					V65C64-15 Vitelic											
					V65C64L-15 Vitelic											
					TTL	28	5									
					HY6264-15 Hyundai (2778)			40 nsF	CMOS	TS	28	5	SMJ69CE72-40			
					HY6264L-15 Hyundai (2778)		40							†† TI		
														VT8K9-40 VLSI Tech		
					CMOS Module											
					TS	28	5									
					HM8808-8 † Harris (2750)			45 nsF	CMOS	TL	28	5	M5M5179P-45 Mitsubishi		95	
					HM8808-9 Harris (2750)									ED18908C458 ♦ EDI (2615)		
					HM8808A-8 † Harris (2750)									P4C163-45M		
					HM8808A-9 Harris (2750)									†† Performance		
														P4C163L-45M		
					CMOS, Refurbished									†† Performance		
					TS	28	5							TMM2089-45 Toshiba		
					6264-150 ♦ Krueger (2877)		45	55 nsF	CMOS	TS	28	5	ED18908C558 ♦ EDI (2615)			
					6264LP-150 ♦ Krueger (2877)									TMM2089-55 Toshiba		
														VT8K9-45 VLSI Tech		100
					NMOS	TS	28	5								
					TMM2063-15 Toshiba											
					TMM2064-15 Toshiba											
					NVRAM, Battery											
					TS	28	5									
					GR881 LMS											
					200 nsF	CMOS	TS	28	5							
					EDH808ACL-20MHR											
					†† EDI											
					MB8464-20W ♦ Fujitsu											
					HM6264A-20 Hitachi											
					HM6264AL-20 Hitachi											
					IDT7164L-2008											
					†† IDT (2848)		50									
					(Continued)											
								8192x16								
								35 nsF	Module, VERSAPAC	TS	66	5	DPS8X16V Dense-Pac			
									Module, 2-port	TS	64	5	DPP8X16 Dense-Pac (2609)			
														(Continued)		

† Military Temperature Range (–55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

♦ Available in Surface Mount Package

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Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)									16384x1 (Cont'd)								
8192x16 (Cont'd)																	
45 nsF	Module	TS	40	5		DPS8M628 Dense-Pac (2604)			25 nsF	CMOS	TS	20	5		IDT6167SA-25 ◊ IDT		45
50 nsF	Module	TS	40	5		IDT8MP628-50 IDT IDT8M628S-50 IDT									IDT6167SA-25B ◊† IDT		
60 nsF	Module	TS	40	5		IDT8M628S-60 IDT IDT8M628S-60B † IDT		5							HM65767-25 † Matra-Harris MK41H66-25 † SGS-Thomson MK41H67-25 † SGS-Thomson SMJ61CD16-25 ◊† TI		50
70 nsF	Module	TS	40	5		IDT8M628S-70 IDT IDT8M628S-70B † IDT				ECL	OE	20	-4.5		AM100480 AMD MBM100480-25 ◊ Fujitsu HM100480 ◊ Hitachi		
85 nsF	Module	TS	40	5		IDT8M628S-85 IDT IDT8M628S-85B † IDT								-5.2	MBM10480-25 ◊ Fujitsu		
100 nsF	Module	TS	40	5		IDT8M628S-100B † IDT		10							MT5C1601-25 ◊ MicronTech		55
8192x32																	
35 nsF	Module, 2-port TS		84	5		DPP8X32 Dense-Pac (2609)			35 nsF	CMOS	TS		5		IMS1403-35LM † Inmos (2790) IMS1403-35M Inmos (2790)		
8192x112																	
35 nsF	CMOS	TS	164	5		7MB6042 IDT							20	3.3	MK41L66-35 SGS-Thomson MK41L67-35 SGS-Thomson		
16384x1																	
7 nsF	10K/10KH ECL OE		20	-5.2		CY1E480-7C ◊ Aspen								5	CY7C167-35C ◊ Cypress (2580) CY7C167-35M ◊† Cypress (2580) CY7C167L-35C ◊ Cypress (2580) DPS9167 ◊ Dense-Pac (2602) HM6267-35 Hitachi IMS1403-35 Inmos (2790)		60
	100K ECL OE		20	-5.2		CY100E480-7C ◊ Aspen									IDT6167LA-35 ◊ IDT		
10 nsF	BICMOS ECL	OE	20	-4.5		HM100480-10 Hitachi MBM100480A-10 ◊ Fujitsu SSM100480 † Saratoga		15							IDT6167LA-35B ◊† IDT		
			20	-4.5		MBM10480A-10 ◊ Fujitsu μPB10480-10 NEC SSM10480 † Saratoga									IDT6167SA-35 ◊† IDT		
			28	-4.5		μPB100480-10 NEC		20							HM65767-35 † Matra-Harris M5M21C67-35 ◊ Mitsubishi μPD4311-35 NEC SRM2367C-35 S-MOS MK41H66-35 † SGS-Thomson MK41H67-35 † SGS-Thomson SMJ61CD16-35 ◊† TI V61C67P35L Vitelic		70
12 nsF	CMOS	TS	20	5		IDT6167LA-12 ◊† IDT IDT6167SA-12 ◊† IDT									AM2167-35 AMD MT5C1601-35 ◊ MicronTech		
15 nsF	CMOS	TS	20	5		IDT6167LA-15 ◊† IDT IDT6167SA-15 ◊† IDT		25		NMOS	TS	20	5		MAS9167 ◊† Marconi IMS1403-45LM † Inmos (2790) IMS1403-45M Inmos (2790)		80
	ECL		20	-4.5		MBM100480-15 ◊ Fujitsu -5.2 MBM10480-15 ◊ Fujitsu			40 nsF	SOS	TS	20	5		CY7C167-45C ◊ Cypress (2580) CY7C167-45M ◊† Cypress (2580) CY7C167L-45C ◊ Cypress (2580)		
			20	-5.2		μPB10480-15 NEC			45 nsF	CMOS	TS		5		MB81C67-45W ◊ Fujitsu HM6167H-45 Hitachi HM6267-45 Hitachi IMS1403-45 Inmos (2790) IDT6167LA-45B ◊† IDT IDT6167SA-45B ◊† IDT HM65767-45 † Matra-Harris M5M21C67-45 ◊ Mitsubishi μPD4311-45 NEC SRM2367C-45 S-MOS SMJ61CD16-45 ◊† TI UM6167-2 UMC V61C67-45 Vitelic V61C67-45L Vitelic		85
			28	-4.5		μPB100480-15 NEC											90
20 nsF	CMOS	TS	20	5		CY7C167-20C ◊ Cypress (2580) IDT6167LA-20 ◊ IDT IDT6167LA-20B ◊† IDT IDT6167SA-20 ◊ IDT IDT6167SA-20B ◊† IDT MK41H66-20 † SGS-Thomson MK41H67-20 † SGS-Thomson		30					20	5			
	TTL	TS	20	5		SSM6167 † Saratoga											
25 nsF	CMOS	TS	20	3.3		MK41L66-25 SGS-Thomson MK41L67-25 SGS-Thomson											
				5		CY7C167-25C ◊ Cypress (2580) CY7C167-25M ◊† Cypress (2580) CY7C167L-25C ◊ Cypress (2580) IDT6167LA-25 ◊ IDT IDT6167LA-25B											

nsR-Nanoseconds at Room Temperature
OE-Open Emitter

MEMORY

MEMORY

◆ Available in Surface Mount Package

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Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line	Organization	Access Time (Max)	Type	Output	No. Pins	Supply Voltage, V	Device	Source	Line		
Static (Cont'd)										16384x4 (Cont'd)									
16384x4	17 nsF	CMOS	TS	22	5	P4C188-17C	Performance			25 nsF	CMOS	TS	22	5	P4C188-25M	Performance			
						P4C188L-17C	Performance								P4C188L-25C	Performance			
	20 nsF	CMOS	TS	22	5	CY7C164-20C	◊ Cypress (2580)								P4C188L-25M	Performance			
						IDT7188L-20	◊ IDT								CXK5464AJ-25	Sony	60		
						IDT7188S-20	◊ IDT	5							CXK5464AP-25	Sony			
						P4C188-20C	Performance								CXK5465P-25	Sony			
						P4C188L-20C	Performance								CXK5864AP-25L	Sony			
				24	5	CY7C166-20C	◊ Cypress (2580)								VT62KS4-25	VLSI Tech	65		
						IDT6198L-20	◊ IDT								VT64KS4-25	VLSI Tech			
						IDT6198S-20	◊ IDT	10					24	5	CY7C166-25C	◊ Cypress (2580)			
						IDT7198L-20	◊ IDT								CY7C166-25M	◊ Cypress (2580)			
						IDT7198S-20	◊ IDT								CY7C166L-25C	◊ Cypress (2580)			
						IDT7198L-20	◊ IDT								IDT6198L-25	◊ IDT			
						IDT7198S-20	◊ IDT								IDT6198S-25	◊ IDT	70		
						MCM6288A-20	Motorola								IDT7198L-25	◊ IDT			
						MCM6290A-20	Motorola	15							IDT7198L-25B	◊ IDT			
						P4C198-20C	Performance								IDT7198S-25	◊ IDT			
						P4C198A-20C	Performance								IDT7198S-25B	◊ IDT			
						P4C198AL-20C	Performance								M5M5189A-25	◊ Mitsubishi	75		
						P4C198L-20C	Performance								MCM6288A-25	Motorola			
						P4C1981-20C	Performance	20							MCM6290-25	Motorola			
						P4C1981L-20C	Performance								MCM6290A-25	Motorola			
						P4C1982-20C	Performance								F1621-25	National	80		
						P4C1982L-20C	Performance								F1624	National			
						P4C1982L-20C	Performance								F1624-25	National			
						P4C1982L-20C	Performance								NM1624-25	National			
						P4C1982L-20C	Performance								NM1625-25	National			
						P4C1982L-20C	Performance								P4C198-25C	Performance			
						P4C1982L-20C	Performance								P4C198-25M	Performance	85		
						P4C1982L-20C	Performance								P4C198A-25C	Performance			
						P4C1982L-20C	Performance								P4C198A-25M	Performance			
						P4C1982L-20C	Performance								P4C198AL-25C	Performance			
						P4C1982L-20C	Performance								P4C198AL-25M	Performance			
						P4C1982L-20C	Performance								P4C198L-25C	Performance	90		
						P4C1982L-20C	Performance								P4C198L-25M	Performance			
						P4C1982L-20C	Performance								P4C1981-25C	Performance			

MEMORY

MEMORY

♦ Available in Surface Mount Package

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Access	Supply	Access	Supply
Time	Voltage,	Time	Voltage,
Organi- zation (Max)	Type	Organi- zation (Max)	Type
Out- put Pins	No. Pins	Out- put Pins	No. Pins
Device	Source	Device	Source
Line	Line	Line	Line
Static (Cont'd)			
16384x4		16384x4	
35 nsF CMOS TS 24 5	(Cont'd)	35 nsF CMOS TS 28 5	(Cont'd)
CY7C166L-35C ◊ Cypress (2580)		P4C1982-35M	↑ Performance
ED18417C35B ◊ EDI (2614)		P4C1982L-35C Performance	
MB81C75-35 Fujitsu		P4C1982L-35M	↑ Performance
IDT6198L-35			
◊ IDT		TTL 22 5	M5M5188A-35
IDT6198S-35			◊ Mitsubishi
◊ IDT		Module TS 22 5	DPS7M464 Dense-Pac (2603)
IDT7198L-35 ◊ IDT			DPS8M464 Dense-Pac (2603)
IDT7198L-35B		28 5	DPS16X4 Dense-Pac (2603)
◊ IDT		TTL TS 22 5	MT5C6404-35
IDT7198S-35 ◊ IDT			◊ MicronTech
IDT7198S-35B			MT5C6405-35
◊ IDT			◊ MicronTech
M5M5189A-35			MT5C6406-35
◊ Mitsubishi			◊ MicronTech
MCM6290-35 Motorola		40 nsF CMOS TS 22 5	SMJ64C64-40
F1621-35 National			◊ TI
F1624-35 National		45 nsF CMOS TS 22 5	CY7C164-45C ◊ Cypress (2580)
F1624M ↑ National			CY7C164-45M ◊ Cypress (2580)
NM1624-35 National			CY7C164L-45C ◊ Cypress (2580)
NM1625-35 National			ED18416C45B ◊ EDI (2614)
1624-35 ↑ National			MB81C74-45 Fujitsu
1625-35 ↑ National			GM76C164-45 GoldStar
P4C198-35C Performance			IMS1620-45M ◊ Inmos (2794)
P4C198-35M ↑ Performance			IDT7188L-45 IDT
P4C198A-35C Performance			IDT7188L-45B
P4C198A-35M			↑ IDT
↑ Performance			IDT7188S-45 IDT
P4C198AL-35C Performance			IDT7188S-45B
P4C198AL-35M			↑ IDT
↑ Performance			HM65788-45 ↑ Matra-Harris
P4C198L-35C Performance			M5M5188-45 ◊ Mitsubishi
P4C198L-35M			F1620-45 National
↑ Performance			1620-45 ↑ National
SRM2275C-35 S-MOS			1621-45 ↑ National
CXK5465J-35 Sony			μPD4362-45 NEC
CXK5465P-35 Sony			MSM5188-45 OKI
CXK5865P-35L Sony			P4C188-45C Performance
TC55417-35 Toshiba (3335)			P4C188L-45C Performance
VT16H4 VLSI Tech			P4C188L-45M
VT16H4-35 ↑ VLSI Tech			↑ Performance
VT63KS4-35 VLSI Tech			SRM2274C-45 S-MOS
VT65KS4 ↑ VLSI Tech			V61C62-45 Vitelec
			V61C62-45L Vitelec
28 5			VM64KS4 ◊ VLSI Tech
CY7C161-35C ◊ Cypress (2580)			VT62KS4-45 VLSI Tech
CY7C161-35M ◊ Cypress (2580)			VT64KS4-45 VLSI Tech
CY7C161L-35C ◊ Cypress (2580)		24 5	CY7C166-45C ◊ Cypress (2580)
CY7C162-35C ◊ Cypress (2580)			CY7C166-45M ◊ Cypress (2580)
CY7C162-35M ◊ Cypress (2580)			CY7C166L-45C ◊ Cypress (2580)
CY7C162L-35C ◊ Cypress (2580)			ED18417C45B ◊ EDI (2614)
IDT7198L-35			MB81C75-45 Fujitsu
◊ IDT			IDT6198L-45
IDT7198L-35B			◊ IDT
◊ IDT			IDT6198S-45
IDT7198S-35			◊ IDT
◊ IDT			F1621-45 National
IDT7198S-35B			F1624-45 National
◊ IDT			1624-45 ↑ National
IDT7198L-35			1625-45 ↑ National
◊ IDT			μPD4363-45 NEC
IDT7198L-35B			P4C198-45C Performance
◊ IDT			P4C198-45M ↑ Performance
IDT7198S-35			P4C198A-45C Performance
◊ IDT			P4C198A-45M
IDT7198S-35B			↑ Performance
◊ IDT			P4C198AL-45C Performance
MCM6294-35 Motorola			P4C198AL-45M
P4C1981-35C Performance			↑ Performance
P4C1981-35M			P4C198L-45C Performance
↑ Performance			P4C198L-45M
P4C1981L-35C Performance			↑ Performance
P4C1981L-35M			SRM2275C-45 S-MOS
↑ Performance			
P4C1982-35C Performance			
(Continued)			(Continued)

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)								
16384x4	45 nsF	CMOS	TS	24	5			
				28	5	VM65KS4 VLSI Tech VT16H4-45 † VLSI Tech VT63KS4-45 VLSI Tech VT65KS4-45 VLSI Tech	(Cont'd)	
						CY7C161-45C ◊ Cypress (2580) CY7C161-45M ◊† Cypress (2580) CY7C161L-45C ◊ Cypress (2580) CY7C162-45C ◊ Cypress (2580) CY7C162-45M ◊† Cypress (2580) IMS1624-45M ◊† Inmos (2795) IDT7198L-45 ◊ IDT IDT7198L-45B ◊† IDT IDT7198S-45 ◊ IDT IDT7198S-45B ◊† IDT IDT7198L-45 ◊ IDT IDT7198L-45B ◊† IDT IDT7198S-45 ◊ IDT IDT7198S-45B ◊† IDT IDT7198L-45 ◊ IDT IDT7198L-45B ◊† IDT IDT7198S-45 ◊ IDT IDT7198S-45B ◊† IDT IDT7198L-45C Performance P4C1981-45M ↑ Performance P4C1981L-45C Performance P4C1981L-45M ↑ Performance P4C1982-45C Performance P4C1982-45M ↑ Performance P4C1982L-45C Performance P4C1982L-45M ↑ Performance	5 10 15 20 25 30	
TTL				22	5	IMS1620-45 Inmos (2794) IMS1624-45 Inmos (2795)		
TTL		TS		22	5	MT5C6404-45 ◊ MicronTech MT5C6405-45 ◊ MicronTech MT5C6406-45 ◊ MicronTech		
55 nsF	CMOS	TS		22	5	ED18416C55B ◊† EDI (2614) ED18417C55B ◊† EDI (2614) IMS1620-55 Inmos (2794) IMS1620-55M ◊† Inmos (2794) IDT7188L-55B ↑ IDT IDT7188S-55B ↑ IDT M5M5188-55 ◊ Mitsubishi 1620-55 ↑ National 1621-55 ↑ National μPD4362-55 NEC MSM5188-55 OKI P4C188-55M ↑ Performance P4C188L-55M ↑ Performance SRM2274C-55 S-MOS SMJ64C64-55 ◊† TI V61C62-55 Vitelic V61C62-55L Vitelic	40 45 50	
(Continued)								

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
16384x4	55 nsF	CMOS	TS	24	5			
				28	5	IMS1624-55 Inmos (2795) 1624-55 † National 1625-55 † National μPD4363-55 NEC P4C198-55M † Performance P4C198A-55M ↑ Performance P4C198AL-55M ↑ Performance P4C198L-55M ↑ Performance SRM2275C-55 S-MOS VT16H4-55 † VLSI Tech	(Cont'd)	55 60
				28	5	IMS1624-55M ◊† Inmos (2795) IDT7198L-55B ◊† IDT IDT7198S-55 ◊ IDT IDT7198S-55B ◊† IDT IDT7198L-55B ◊† IDT IDT7198S-55B ◊† IDT IDT7198L-55B ◊† IDT IDT7198S-55B ◊† IDT P4C1981-55M ↑ Performance P4C1981L-55M ↑ Performance P4C1982-55M ↑ Performance P4C1982L-55M ↑ Performance	(2795)	65 70
70 nsF	CMOS	TS		22	5	IMS1620-70M ◊† Inmos (2794) IDT7188L-70B ↑ IDT IDT7188S-70B ↑ IDT 1620-70 † National 1621-70 † National μPD4362-70 NEC MSM5188-70 OKI V61C62-70 Vitelic V61C62-70L Vitelic	(2794)	75 80
				24	5	1624-70 † National 1625-70 † National μPD4363-70 NEC		85
				28	5	IMS1624-70M ◊† Inmos (2795) IDT7198L-70B ◊† IDT IDT7198S-70 ◊ IDT IDT7198S-70B ◊† IDT IDT7198L-70B ◊† IDT IDT7198S-70B ◊† IDT IDT7198L-70B ◊† IDT IDT7198S-70B ◊† IDT	(2795)	90
				22	5	IMS1620-70 Inmos (2794) IMS1624-70 Inmos (2795)		95
85 nsF	CMOS	TS		22	5	IDT7188L-85B ↑ IDT IDT7188S-85B ↑ IDT		
				28	5	IDT7198L-85B ◊† IDT IDT7198S-85B ◊† IDT		100
(Continued)								

♦ Available in Surface Mount Package

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MEMORY—RAMs (Cont'd)

Access	Time	Type	Out-	No.	Supply	Device	Source	Line	Access	Time	Type	Out-	No.	Supply	Device	Source	Line	
Organi-	(Max)		put	Pins	Voltage,				Organi-	(Max)		put	Pins	Voltage,				
zation					V				zation					V				
Static (Cont'd)									16384x8 (Cont'd)									
16384x4									16384x16									
	85 nsF	CMOS	TS	28	5	IDT71981L-85B				140 nsF	Module, 2-port	TS	58	5	IDT7M135S-140B			
						‡ IDT					Module, 2-port slave	TS	58	5	‡ IDT			
						IDT71981S-85B									IDT7M145S-140B			
						‡ IDT									‡ IDT			
						IDT71982L-85B												
						‡ IDT												
						IDT71982S-85B												
						‡ IDT												
	350 nsF	CMOS	TS	40	5	HM6564	◊ Harris	5							EDH816H16C-25C			
		CMOS Module		40	5	HM5-6564	Harris								EDI			
	45 nsF	CMOS	TS	28	5	CY7C162L-45	Cypress (2580)								DPS16X17	Dense-Pac (2604)		
16384x5									16384x20									
	20 nsF	CMOS	TS	28	5	IDT7M564-20					25 nsF	CMOS	TS	36	5	IDT7M656L-25	IDT	40
						‡ IDT												
	35 nsF	CMOS	TS	28	5	IDT7M564-35									DPS16X16	Dense-Pac (2604)		
						‡ IDT												
		Module	TS	28	5	DPS16X6	Dense-Pac	10							IDT7M656L-25	IDT		
16384x8									16384x25									
	35 nsF	Module	TS	22	5	DPS88H16	Dense-Pac (2603)				35 nsF	CMOS	TS	36	5	EDH816H16C-35C		
		Module, VERSAPAC		66	5	DPS16X8V	Dense-Pac								EDI			
		Module, 2-port		58	5	DPP16X8	Dense-Pac (2609)								DPS257	Dense-Pac (2603)		
	45 nsF	CMOS	TS	58	5	IDT7M135S-45									IDT7M656L-35	IDT		
						‡ IDT									IDT7M656L-35B			
						IDT7M145S-45		15							‡ IDT		45	
						‡ IDT												
	60 nsF	CMOS	TS	58	5	IDT7M145S-60									Module, VERSAPAC			
						‡ IDT									TS	66	5	
	70 nsF	CMOS	TS	28	5	HM8816H-8 ‡ Harris	(2750)								Module, 2-port			
		CMOS Module		28	5	HM8816H-9 Harris	(2750)								TS	64	5	
		Module, 2-port		58	5	IDT7M135S-70	IDT								Module, 2-port slave			
		Module, 2-port slave		58	5	IDT7M145S-70	IDT	20							TS	58	5	
	90 nsF	Module, 2-port		58	5	IDT7M135S-90	IDT											
						IDT7M135S-90B	‡ IDT											
		Module, 2-port slave		58	5	IDT7M145S-90	IDT											
						IDT7M145S-90B	‡ IDT											
	100 nsF	Module	TS	28	5	DPS40128	Dense-Pac	25										
						DPS41128	Dense-Pac											
						DPS41129	Dense-Pac (2604)											
						DPS41256	Dense-Pac											
		Module, 2-port		58	5	IDT7M135S-100	IDT											
		Module, 2-port slave		58	5	IDT7M145S-100	IDT											
						IDT7M145S-100B	‡ IDT	30										
	120 nsF	Module, 2-port		58	5	IDT7M135S-120	IDT											
						IDT7M135S-120B	‡ IDT											
		Module, 2-port slave		58	5	IDT7M145S-120	IDT											
						IDT7M145S-120B	‡ IDT	35										
(Continued)									16384x30									
									16384x35									
									16384x40									
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‡ Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

WILMIDRY

WILMIDRY

♦ Available in Surface Mount Package

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[illegible]

MEMORY—RAMs (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)									(Cont'd)								
32768x8	150 nsF	CMOS	TS	28	5	EDH8832C-15MHR ‡ EDI EDH8832P-15MHR ‡ EDI GM76C256-15 GoldStar (2696) HM62256-15 Hitachi HM62256L-15 Hitachi HY63C256-15 Hyundai (2778) HY63C256L-15 Hyundai (2778) M5M5256-15 Mitsubishi M5M5256-15L Mitsubishi M5M5256A-15L ‡ Mitsubishi M5M5256A-15LL ‡ Mitsubishi μPD43256A-15L ‡ NEC μPD43256A-15LL ‡ NEC BR62256 ‡ ROHM KM62256-15 Samsung (3036) KM62256L-15 Samsung (3036) CXK58257M-15L ‡ Sony CXK58257P-15L ‡ Sony CXK58257SP-15L ‡ Sony UM62256-150 UMC		5	32768x16	75 nsF	Module	TS	40	5	IDT8M612-B ‡ IDT	50	
								10	32768x24	35 nsF	Module, VERSAPAC	TS	66	5	DPS32X24V Dense-Pac		
								15	32768x32	35 nsF	Module, VERSAPAC	TS	66	5	DPS32X32V Dense-Pac		
								20			Module, 2-port	TS	84	5	DPP32X32 Dense-Pac (2609)		
								25	65384x4	35 nsF	CMOS	TS	28	5	VT16H41-35 VLSI Tech	55	
										40 nsF	CMOS	TS	24	5	VT16H44-40 VLSI Tech		
												28	5	VT16H41-40 VLSI Tech			
										45 nsF	CMOS	TS	28	5	VT16H41-45 VLSI Tech		
										55 nsF	CMOS	TS	28	5	VT16H41-55 VLSI Tech		
								30	65536x1	8 nsF	10K/10KH ECL	OE	22	-5.2	CY1E490-8C ‡ Aspen	60	
											100K ECL	OE	22	-5.2	CY100E490-8C ‡ Aspen		
										10 nsF	BiCMOS	OE	22	-4.5	IDT100490S10D IDT IDT10490S10D IDT	65	
											10K/10KH ECL	OE	22	-5.2	CY1E490-10C ‡ Aspen		
											100K ECL	OE	22	-5.2	CY100E490-10C ‡ Aspen		
										12 nsF	BiCMOS	OE	22	-4.5	IDT100490S12D IDT IDT10490S12D IDT	70	
													28	-5.2	HM10490-12 ‡ Hitachi		
											CMOS	TS	22	5	P4C187-12C Performance P4C187L-12C Performance		
											10K/10KH ECL	OE	22	-5.2	CY1E490-12C ‡ Aspen CY1E490-12M ‡ † Aspen		
											100K ECL	OE	22	-5.2	CY100E490-12C ‡ Aspen		
										15 nsF	BiCMOS	OE	22	-4.5	HM100490-15 ‡ Hitachi IDT100490S15P IDT	75	
													28	-5.2	HM10490-15 ‡ Hitachi		
												TS	22	5	IDT100490-15 ‡ IDT (2827)		
											CMOS	TS	22	5	IDT7187L-15 ‡ IDT (2850) IDT7187S-15 ‡ IDT (2850) P4C187-15C Performance P4C187-15M † Performance P4C187L-15C Performance P4C187L-15M ‡ Performance	80	
											TTL	22	5	M5M5187B-15 ‡ Mitsubishi			
											ECL	OE	22	-4.5	MBM100C490-15 ‡ Fujitsu MBM10C490-15 ‡ Fujitsu MBM100490-15 ‡ Fujitsu	85	
														-5.2			
														4.5			
										20 nsF	BiCMOS	OE	22	-4.5	HM100490-20 ‡ Hitachi IDT100490S20P IDT IDT100490S20Y IDT		
(Continued)									(Continued)								
32768x9	25 nsF	CMOS	TS	32	5	MB8289-25 Fujitsu		40									
	35 nsF	CMOS	TS	32	5	MB8289-35 Fujitsu											
						LH52259-35 Sharp (3054)											
	45 nsF	CMOS	TS	32	5	LH52259-45 Sharp (3054)											
32768x16	35 nsF	Module, VERSAPAC	TS	66	5	DPS32X16V Dense-Pac											
		Module, 2-port	TS	64	5	DPP32X16 Dense-Pac (2609)											
	45 nsF	Module	TS	40	5	DPS8M612 Dense-Pac (2604) DPS3216 Dense-Pac (2604)		45									
	60 nsF	Module	TS	40	5	IDT8MP612 IDT IDT8M612 IDT											
(Continued)									(Continued)								

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

VICTORY

VICTORY

‡ High Radiation Resistance

^o Macrocell

♦ Available in Surface Mount Package

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MEMORY—RAMs (Cont'd)

[illegible]† Military Temperature Range (-55° to 125°C)
OC-Open Collector

ns*—Nanoseconds Typical

nsF-Nanoseconds over Full Temperature Range
-Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY-RAMs (Cont'd)

Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organiza- tion	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)									65536x16 (Cont'd)								
65536x8									55 nsF								
120 nsF	CMOS	TS	32	5		ED18M864C120B † EDI (2617) ED18M864C120C EDI (2617)					Module	TS	40	5	IDT7M624S-55 IDT IDT7M624S-55B † IDT		
125 nsF	Module	TS	32	5		DPS4648 Dense-Pac (2604)			60 nsF	CMOS	TS	40	5		ED18M1664C60C EDI (2616) IDT8MP624 IDT IDT8M624 IDT		45
150 nsF	CMOS	TS	32	5		ED18M864C150B † EDI (2617) ED18M864C150C EDI (2617)		5	65 nsF	CMOS Module	TS	48	5		IDT7M624S-65 IDT IDT7M624S-65B IDT		
160 nsF	CMOS Module	TS	48	5		HM91M2B-8 † Harris (2751) HM91M2B-9 Harris (2751)			70 nsF	CMOS	TS	40	5		EDH816H64C-70C EDI EDH816H64C-70MHR † EDI ED18M1664C70B † EDI ED18M1664C70C EDI (2616) S64K16-70CC Inova (2807) S64K16-70IC Inova (2807) S64K8-70MC † Inova		50
180 nsF	CMOS Module	TS	48	5		HM91M2-9 Harris (2751)			75 nsF	Module	TS	40	5		IDT8M624-B † IDT ED18M1664C85B † EDI ED18M1664C85C EDI (2616) S64K16-85CC Inova (2807) S64K16-85IC Inova (2807) S64K8-85MC † Inova		55
65536x9									85 nsF								
25 nsF	CMOS	TS	40	5		IDT7M912-25 ‡ IDT		10	CMOS Module	TS	48	5		IDT7M624S-85 IDT IDT7M624S-85B IDT			60
35 nsF	CMOS	TS	40	5		IDT7M912-35 ‡ IDT			100 nsF	CMOS	TS	40	5		ED18M1664C100B † EDI ED18M1664C100C EDI (2616) S64K16-100CC Inova (2807) S64K16-100IC Inova (2807) S64K8-100MC † Inova		65
Module	TS	40	5			DPS8589 Dense-Pac (2603)			150 nsF	CMOS	TS	48	5		HM91M2 † Harris (2751)		70
45 nsF	CMOS	TS	40	5		IDT7M912-45 ‡ IDT		15	65536x32								
Module	TS	40	5			IDT7M912S-45 IDT			35 nsF	Module, 2-port	TS	84	5		DPP64X32 Dense-Pac (2609) IDT7M4017-45 ‡ IDT (2866) 7M4017 ‡ IDT		
55 nsF	Module	TS	40	5		IDT7M912S-55 IDT IDT7M912S-55B † IDT		20	45 nsF	CMOS	TS	60	5		IDT7M6026-45 ‡ IDT		
65 nsF	Module	TS	40	5		IDT7M912S-65 IDT IDT7M912S-65B † IDT			Module	TS	64	5		DPS6432 Dense-Pac			
85 nsF	Module	TS	40	5		IDT7M912S-85 IDT IDT7M912S-85B † IDT		25	55 nsF	Module	TS	60	5		DPS6433 Dense-Pac IDT7M4017-60 ‡ IDT (2866)		75
100 nsF	Module	TS	40	5		IDT7M912S-100B † IDT			60 nsF	CMOS	TS	60	5		IDT7M6026-60 ‡ IDT		
65536x10									98304x8								
35 nsF	Module	TS	36	5		DPS6410 Dense-Pac (2603)			125 nsF	Module	TS	32	5		DPS4968 Dense-Pac (2604)		
65536x12									131072x2								
35 nsF	Module	TS	36	5		DPS6412 Dense-Pac (2603)			75 nsF	Module	TS	40	5		DPS166167 Dense-Pac (2603)		
65536x16									131072x8								
25 nsF	CMOS	TS	40	5		IDT7M624S-25 ‡ IDT			35 nsF	Module	TS	40	5		DPS1027 Dense-Pac (2603)		80
30 nsF	Module	TS	40	5		IDT7MB624-25 IDT IDT7M624S-30 IDT			Module, VERSAPAC	TS	66	5		DPS128X8V Dense-Pac			
35 nsF	CMOS	TS	40	5		EDH816H64C-35C EDI EDH816H64C-35MHR † EDI IDT7M624S-35 ‡ IDT		30	Module, 2-port	TS	64	5		DPP128X8 Dense-Pac (2609)			
Module	TS	40	5			DPS1025 Dense-Pac (2603) DPS1027 Dense-Pac (2603)			45 nsF	CMOS	TS	40	5		EDH816H64C-45C EDI EDH816H64C-45MHR † EDI DPS8M624 Dense-Pac (2604) IDT7M624S-45 IDT IDT7M624S-45B † IDT		35
Module, VERSAPAC	TS	66	5			DPS64X16V Dense-Pac			55 nsF	CMOS	TS	40	5		EDH816H64C-55C EDI EDH816H64C-55MHR † EDI S64K16-55CC Inova (2807) S64K16-55IC Inova (2807)		40
Module, 2-port	TS	64	5			DPP64X16 Dense-Pac (2609)											(Continued)
45 nsF	CMOS	TS	40	5		EDH816H64C-45C EDI EDH816H64C-45MHR † EDI DPS8M624 Dense-Pac (2604) IDT7M624S-45 IDT IDT7M624S-45B † IDT			64	5				IDT7M824S-45 ‡ IDT		85	
55 nsF	CMOS	TS	40	5		EDH816H64C-55C EDI EDH816H64C-55MHR † EDI S64K16-55CC Inova (2807) S64K16-55IC Inova (2807)			(Continued)								

† Military Temperature Range (-55° to 125°C)

‡ High Radiation Resistance

*Typical Value

*Macrocell

◊ Available in Surface Mount Package

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MEMORY—RAMs (Cont'd)

Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)								131072x8 (Cont'd)							
131072x8								85 nsF	CMOS Module	TS	48	5	IDT7M624S-85 IDT IDT7M624S-85B IDT		
45 nsF	Module	TS	40	5	DPS1025 Dense-Pac (2603) IDT7M624S-45B † IDT			90 nsF	CMOS	TS	32	5	ED18M8128C90B † EDI (2616) ED18M8128C90C EDI (2616) ED18M8128P90B † EDI (2616) ED18M8128P90C EDI (2616) IDT71024L-90B ‡ IDT IDT71024S-90B ‡ IDT		45
50 nsF	CMOS	TS	30	5	IDT8MP824-50 ‡ IDT				CMOS Module	TS	32	5	MS88128-90 Mosel		50
55 nsF	CMOS	TS	32	5	IDT71024L-55 ‡ IDT IDT71024L-55B ‡ IDT IDT71024S-55 ‡ IDT IDT71024S-55B ‡ IDT		5	100 nsF	CMOS	TS	32	5	DPS921024 Dense-Pac (2602) ED18M8128C100B † EDI (2616) ED18M8128C100C EDI (2616) ED18M8128P100B † EDI (2616) ED18M8128P100C EDI (2616) HM658128-10 Hitachi S128K8-100CC Inova (2806) S128K8-100IC Inova (2806) S128K8-100MC † Inova (2806)		55
			64	5	IDT7M824S-55 ‡ IDT					TTL	32	5	MH12808TNA-10 Mitsubishi M5M51000-10 ‡ Mitsubishi M5M51008-100 ‡ Mitsubishi CXK581000M-10L Sony CXK581000P-10L Sony		60
	TTL		32	5	M5M51008-55 ‡ Mitsubishi				CMOS Module	TS	32	5	MS88128-100 Mosel		65
	Module	TS	40	5	IDT7M624S-55 IDT IDT7M624S-55B † IDT		10		Module	TS	68	5	DPS91288 Dense-Pac (2604) DS1245-100 Dallas		
60 nsF	CMOS	TS	30	5	IDT8MP824-60 ‡ IDT ED18M8128C60C EDI (2616)			120 nsF	CMOS	TS	32	5	ED18M8128C120B † EDI (2616) ED18M8128C120C EDI (2616) ED18M8128P120B † EDI (2616) ED18M8128P120C EDI (2616) HM658128-12 Hitachi S128K8-120IC Inova (2806) S128K8-120MC † Inova (2806)		70
			32	5	IDT8M824 IDT (2872) IDT7M824 IDT		15								
	Module	TS	32	5						TTL	32	5	M5M51000-12 ‡ Mitsubishi CXK581000M-12L Sony CXK581000P-12L Sony		75
65 nsF	CMOS Module	TS	48	5	IDT7M624S-65 IDT IDT7M624S-65B IDT										
70 nsF	CMOS	TS	32	5	ED18M8128C70B † EDI (2616) ED18M8128C70C EDI (2616) S128K8-70CC Inova (2806) IDT71024L-70 ‡ IDT IDT71024L-70B ‡ IDT IDT71024S-70 ‡ IDT IDT71024S-70B ‡ IDT		20								
	TTL		32	5	M5M51000-70 ‡ Mitsubishi M5M51008-70 ‡ Mitsubishi CXK581001M-70L Sony CXK581001P-70L Sony		25								
	CMOS Module	TS	32	5	MS88128-70 Mosel										
	NVRAM	TS	32	5	DS1245-70 Dallas		30								
75 nsF	Module	TS	32	5	IDT8M824-B † IDT (2872) IDT7M824-B † IDT										
			64	5											
80 nsF	CMOS	TS	32	5	ED18M8128C80B † EDI (2616) ED18M8128C80C EDI (2616)										
85 nsF	CMOS	TS	32	5	S128K8-85CC Inova (2806) S128K8-85IC Inova (2806) S128K8-85MC † Inova (2806)		35								
	TTL		32	5	M5M51000-85 ‡ Mitsubishi M5M51008-85 ‡ Mitsubishi CXK581001M-85L Sony CXK581001P-85L Sony		40								
							(Continued)								(Continued)

† Military Temperature Range (-55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

nsF—Nanoseconds over Full Temperature Range
TS—Three-State

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY

MEMORY

♦ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.

MEMORY—RAMs (Cont'd)

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
Static (Cont'd)									262144x8 (Cont'd)								
262144x4									262144x8								
45 nsF	CMOS	TTL	32	5		M5M51004-45 ◊ Mitsubishi			70 nsF	CMOS	TTL	35	5		MH25608S1N-70 Mitsubishi		40
Module	TS	40	5			IDT7M624S-45B † IDT			85 nsF	CMOS	TTL	35	5		DPS42568 Dense-Pac		
55 nsF	CMOS	TS	28	5		IDT71028L-55 ◊ IDT IDT71028L-55B ◊ IDT IDT71028S-55 ◊ IDT IDT71028S-55B ◊ IDT			100 nsF	CMOS	TTL	35	5		MH25608S1N-85 Mitsubishi MH25608S1N-10 Mitsubishi M525608S1N-10 Mitsubishi		
TTL	32	5				M5M51004-55 Mitsubishi			120 nsF	CMOS	TTL	35	5		MH25608S1N-12 Mitsubishi M525608S1N-12 Mitsubishi		45
Module	TS	40	5			IDT7M624S-55 IDT IDT7M624S-55B † IDT			150 nsF	CMOS	TS	35	5		MH25608S1N-15 Mitsubishi		
65 nsF	CMOS Module	TS	48	5		IDT7M624S-65 IDT IDT7M624S-65B IDT			250 nsF	CMOS	TS	40	5		M5M23C400 ◊ Mitsubishi		
70 nsF	CMOS	TS	28	5		IDT71028L-70 ◊ IDT IDT71028L-70B ◊ IDT IDT71028S-70 ◊ IDT IDT71028S-70B ◊ IDT			45 nsF	Module	TS	54	5		DPS25618 Dense-Pac (2605)		
85 nsF	CMOS	TS	18	5		HYB514256-85 ◊ Siemens			75 nsF	Module	TS	44	5		DPS5122 Dense-Pac (2603)		55
CMOS Module	TS	48	5			IDT7M624S-85 IDT IDT7M624S-85B IDT			45 nsF	Module	TS	54	5		DPS5124 Dense-Pac (2604)		
90 nsF	CMOS	TS	28	5		IDT71028L-90B ◊ IDT IDT71028S-90B ◊ IDT			35 nsF	Module, VERSAPAC	TS	66	5		DPS512X8V Dense-Pac IDT7MP4008-45 ◊ IDT (2871)		
100 nsF	CMOS	TS	18	5		HYB514256-10 ◊ Siemens			45 nsF	CMOS	TS	36	5		DPS25616 Dense-Pac (2605) DPS45129 Dense-Pac (2604) DPS96122 Dense-Pac (2604)		60
20						MT4C4256-10/883C ◊ MicronTech			55 nsF	CMOS	TS	36	5		IDT7MP4008-55 ◊ IDT (2871)		
CMOS 2-Port Graphics Buffer	TS	28	5			μPD42273-10 NEC μPD42274-10 NEC			200 nsF	CMOS	TS	32	5		M5M23C401 Mitsubishi		
120 nsF	CMOS	TS	18	5		HYB514256-12 ◊ Siemens			CMOS Module	TS	32	5			RAMBO Onset		
20						MT4C4256-12/883C ◊ MicronTech			45 nsF	Module	TS	54	5		DPS25618 Dense-Pac (2605)		65
CMOS Module	TS	32	5			HM66204-12 Hitachi HM66204L-12 Hitachi			45 nsF	Module	TS	32	5		DPS10241 Dense-Pac (2605) DPS5122 Dense-Pac (2603)		
CMOS 2-Port Graphics Buffer	TS	28	5			μPD42273-12 NEC μPD42274-12 NEC			75 nsF	Module	TS	44	5		DPS5122 Dense-Pac (2603)		
150 nsF	CMOS	TS	20	5		MT4C4256-15/883C ◊ MicronTech			35 nsF	Module	TS	44	5		DPS25616 Dense-Pac (2605)		
CMOS Module	TS	32	5			HM66204-15 Hitachi HM66204L-15 Hitachi			25 nsF	CMOS	TTL	32	5		M5M51001-25 ◊ Mitsubishi		
262144x6	45 nsF	Module	TS	44	5	DPS2566 Dense-Pac			35 nsF	CMOS	TS	30	5		IDT7MC4001-35 ◊ IDT		70
262144x8	35 nsF	Module, VERSAPAC	TS	66	5	DPS2568 Dense-Pac DPS5124 Dense-Pac (2604) DPS6432 Dense-Pac			45 nsF	CMOS	TS	28	5		IDT71027L-45 ◊ IDT IDT71027S-45 ◊ IDT		
45 nsF	Module	TS	44	5					55 nsF	CMOS	TS	28	5		IDT71027L-55B ◊ IDT		75
54									TTL	32	5				M5M51001-45 ◊ Mitsubishi		
64																	

† Military Temperature Range (–55° to 125°C)
OC—Open Collector

ns*—Nanoseconds Typical

MEMORY—RAMs (Cont'd)

Access	Supply									
Organi- zation	Time (Max)	Type	Out- put	No. Pins	Voltage, V	Device	Source			Line
Static (Cont'd)										
1048576x1 (Cont'd)										
55 nsF	CMOS	TS	28	5		IDT71027S-55 ⚡ IDT IDT71027S-55B ⚡ IDT				
			TTL	32	5	M5M51001-55 ⚡ Mitsubishi				
70 nsF	CMOS	TS	28	5		IDT71027L-70 ⚡ IDT IDT71027L-70B ⚡ IDT IDT71027S-70 ⚡ IDT IDT71027S-70B ⚡ IDT			5	
85 nsF	CMOS	TS	18	5		HYB511000-85 ⚡ Siemens				
90 nsF	CMOS	TS	28	5		IDT71027L-90B ⚡ IDT IDT71027S-90B ⚡ IDT			10	
100 nsF	CMOS	TS	18	5		MT4C1024C-10/883C ⚡ MicronTech				
120 nsF	CMOS	TS	18	5		MT4C1024C-12/883C ⚡ MicronTech				
150 nsF	CMOS	TS	18	5		MT4C1024C-15/883C ⚡ MicronTech				
16384x116384x1										
85 nsF	CMOS	TS	20	5		HS65C262RH ⚡ Harris (2734)				
2097152x2										
75 nsF	Module	TS	44	5		DPS20482 Dense-Pac (2605)			15	
4194204x1										
75 nsF	Module	TS	44	5		DPS20482 Dense-Pac (2605)				
65536x4										
55 nsF	CMOS	TS	32	5		LH52259-55 Sharp (3054)				
8192x9	35 nsF	CMOS	TS	28	5	P4C163L-35C ⚡ Performance				

† Military Temperature Range (–55° to 125°C) ‡ High Radiation Resistance *Typical Value °Macrocell ◊ Available in Surface Mount Package

MEMORY—ROMs

Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	Organi- zation	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line
256x8	725 nsF	PMOS	-	24	± 12	NCM4230Z	NCM		4096x8								(Cont'd)
512x8	1.5 nsF	GaAs	TS	5		14GM048	GigaBit (2694)		450 nsF	NMOS	TS	24	5		RO94132B	Microchip	
	500 nsF	CMOS	TS	24	10	CDP1831	† GE/RCA (2644)								RO9432B	Microchip	
						CDP1832	† GE/RCA (2644)								RO9433B	Microchip	
						HB1831	† Hughes	5							F3532-45	National	
						HB1832	† Hughes								F3533-45	National	
						HC1831	◊ Hughes								TSU333-2	Toshiba	
						HC1832	◊ Hughes								UM2332	UMC	
	1000 nsF												28	5	UM2333	UMC	
		CMOS	TS	24	5	CDP1832C	† GE/RCA (2644)	10	500 nsF	NMOS	TS	24	5		F68332	National	
						HB1831C	† Hughes		500 μsF	CMOS	TS	24	4-6.5		CDP1837C	GE/RCA (2644)	75
						HB1832C	† Hughes		750 nsF	CMOS	TS	24	5		HB23C32	◊† Hughes	
						HC1831C	◊ Hughes								HC23C32	Hughes	
						HC1832C	◊ Hughes										
1024x8	250 nsF	NMOS	TS	24	5	F68B308	National		8192x8	—	Emulator (RAM w/Bat.)				GR2364	LMS	
	350 ns *	CMOS	TS	24	10	CDP1833	† GE/RCA (2644)	15	35 nsF	CMOS	TS	28	5		HB12C64	◊† Hughes	
						CDP1834	† GE/RCA (2644)								HC12C64	Hughes	80
						HB1833	† Hughes		200 nsF	Mask ROM							
						HB1834	† Hughes	20			TS	28	5		LH2369	Sharp	
						HC1833	◊ Hughes				NMOS	TS	28	5	S2364C-200	◊ Gould/AMI	
						HC1834	◊ Hughes								RO9864AD	Microchip	
															RO9864D	Microchip	
	850 ns *	CMOS	TS	24	5	CDP1833C	† GE/RCA (2644)								MSM3864	OKI	
						CDP1834C	† GE/RCA (2644)								UM2366-2	UMC	
		NMOS	TS	24	5	HB1833C	† Hughes								UM2366A-2	UMC	
						HB1834C	† Hughes		250 nsF	CMOS	TS	24	5		CDM5364	GE/RCA (2644, 2653)	
						HC1833C	◊ Hughes	25							HN61365	Hitachi	
						HC1834C	◊ Hughes								HN61366	Hitachi	
2048x4	60 nsF	NMOS	TS	24	5	82HM185C	GE/Intersil								CDM5365	GE/RCA (2644, 2653)	90
2048x8	—	Emulator (RAM w/Bat.)				GR2516	LMS								HN61364	Hitachi	
		NMOS	—	16	5	SPR016	Microchip								SMM6365	S-MOS	
	250 nsF	NMOS	TS	24	5	F35316-25	National	30									
						NCR2316-25	NCR										
	300 nsF	CMOS	TS	24	5	CDP1835C	† GE/RCA (2644)								M5M2365	Mitsubishi	
		NMOS	TS	24	5	F35316-30	National								F3564-25	National	
	350 nsF	NMOS	TS	24	5	RO3-9316C	Microchip								MKB36000-83	† SGS-Thomson	
						F3516-35	National	35							MKB37000-84	† SGS-Thomson	
						F68316	National										
	450 nsF	NMOS	TS	24	5	RO3-9316B	Microchip								S2364B	◊ Gould/AMI	
						F3516-45	National								S2364B-250	◊ Gould/AMI	
						M2316	SGS-Thomson	40							S2364I-250	◊ Gould/AMI	
						TSU2316E	Toshiba								RO9864ADS	Microchip	
	900 nsF	CMOS	TS	24	5	HB23C16	◊† Hughes								RO9864DS	Microchip	
						HC23C16	Hughes								M5M2364	Mitsubishi	
4096x4	45 nsF	TTL	TS	20	5	MB7134H	◊ Fujitsu								F3565-25	National	
	55 nsF	TTL	TS	20	5	MB7134E	◊ Fujitsu								M2365	SGS-Thomson	
4096x8	—	Emulator (RAM w/Bat.)				GR2532	LMS	45							2364	Commodore (2576)	
	200 ms	NMOS	TS	24	5	2333	Commodore (2576)								F3566-25	National	
						2332	Commodore (2576)								F3568-25	National	
	200 nsF	NMOS	TS	24	5	RO9432D	Microchip								F3569-25	National	
						RO9433D	Microchip								F3570-25	National	
						M2332	SGS-Thomson	50							HC23C64C	◊ Hughes	
						M2333	SGS-Thomson								883C23C64	† Sprague	
	250 nsF	NMOS	TS	24	5	RO9432DS	Microchip								HB23C65	◊† Hughes	
						RO9433DS	Microchip								HC23C65	Hughes	
	300 nsF	CMOS	TS	24	5	883C23C32	† Sprague								883C23C65	† Sprague	115
						883C23C33	† Sprague								RO9464C	Microchip	
		NMOS	TS	24	5	RO9432C	Microchip	55							MKB36000-84	† SGS-Thomson	
						F3532-30	National								MKB37000-85	† SGS-Thomson	
						F3533-30	National								M2364	SGS-Thomson	
	350 nsF	CMOS	TS	24	4-6.5	CDM5332	GE/RCA (2644)	60							S2364M-300	◊† Gould/AMI	
						CDM5333	GE/RCA (2644)								RO9864AC	Microchip	
		NMOS	TS	24	5	RO94132CS	Microchip								RO9864C	Microchip	
						RO9432CS	Microchip								UM2366-1	UMC	
						F3532-35	National								UM2366A-1	UMC	
						F3533-35	National										
						F68A332	National	65							SMM2364	S-MOS	
															SMM2365	S-MOS	
																	(Continued)

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MEMORY

MEMORY

♦ Available in Surface Mount Package

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MEMORY—ROMs (Cont'd)

Organ- ization	Access Time (Max)	Type	Out- put	No. Pins	Supply Voltage, V	Device	Source	Line	
(Cont'd)									
131072x8	120 nsF	NMOS	TS	28	5	VT231025-12	VLSI Tech	5	
	150 nsF	CMOS	TS	28	5	M5M231001	Mitsubishi		
						TC531000A	◊ Toshiba		
			NMOS	TS	28	5	VT231025-15	VLSI Tech	5
						VT231024	VLSI Tech		
						VT231024-15	VLSI Tech		
	200 nsF	CMOS	TS	28	5	μPD23C1010A	NEC	10	
						MB831000	◊ Fujitsu		
						μPD23C1000-1	NEC		
						μPD23C1000A	NEC	10	
				32	5	μPD23C1000EA	NEC		
						μPD23C1001E	NEC		
			NMOS	TS	28	5	GM231000-20	GoldStar (2696)	15
						GM231024-20	GoldStar		
						VT231024-20 †	VLSI Tech		
						VT231025-20	VLSI Tech	15	
	250 nsF	CMOS	TS	28	5	M5M231000	Mitsubishi		
					CDM53100	GE/RCA			
					CDM531000	GE/RCA	20		
					HN62301S-25	Hitachi			
					M5M23C100	Mitsubishi			
					μPD23C1000	◊ NEC	20		
					μPD23C1010	NEC			
					SMM63100C	S-MOS			
	Mask ROM	TS	28	5	LH231000	Sharp	25		
					LH531000	Sharp			
		NMOS	TS	28	5	GM231000-25	GoldStar (2696)	30	
					GM231024-25	GoldStar			
					RP231024D	Ricoh			
					VT231024-25	VLSI Tech	30		
					VT231025-25	VLSI Tech			
	300 nsF	NMOS	TS	28	5	RP231024B	Ricoh	35	
	350 nsF	CMOS	TS	28	5	HN62301	Hitachi		
131072x16								35	
200 nsF	CMOS	TS	40	5	HN62402-20	Hitachi			
250 nsF	CMOS	TS	40	5	μPD23C2000	◊ NEC			
262144x8								40	
150 nsF	CMOS	TS	32	5	LH532300	Sharp			
					LH532400	Sharp			
200 nsF		TTL	32	12.5	MB832000	Fujitsu			
	CMOS	TS	40	5	HN62302-20	Hitachi			
250 nsF	CMOS	TS	32	5	μPD23C2001	NEC			
	NMOS	TS	32	5	LH532100	Sharp			
			40	5	LH532000	Sharp			
					LH534000	Sharp	45		
262144x8/131072x16									
250 nsF	CMOS	TS	32	5	LH532200	Sharp			
262144x16								45	
200 nsF	CMOS	TS	40	5	MB834200	Fujitsu			
250 nsF	CMOS	TS	40	5	μPD23C4000	NEC			
250 nsF		TTL	40	12.5	MB834100	Fujitsu			
524288x8								50	
200 nsF	CMOS	TS	32	5	MB834000	◊ Fujitsu			
					M5M23C401	Mitsubishi			
250 nsF	CMOS	TS	32	5	μPD23C4001E	NEC			
					LH534100	Sharp			
					TC534000	Toshiba			
1048576x8									
200 nsF	CMOS	TS	32	5	MB838000	Fujitsu			

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MEMORY

MEMORY

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Bits Per Register	No. of Reg.	Oper- ation	Process	Frequency (Hz - Spec)	Supply Voltage, V	Device	Source	Line
Static (Cont'd)								
5	1	PP	Bipolar	10 M	5	54LS96 Signetics 5496 † Signetics 74LS96 Signetics (3057) 7496 Signetics (3057) SN5496 † TI SN7496 TI		
				25	5	SN54LS96 † TI SN74LS96 TI		
	4	SS	CMOS	2 M	3-15	CD4006BE GE/RCA (2638, 2653) F4006BC National		
				2.5 M	3-15	F4006M † National		
				3 M	3-15	883C4006B † Sprague		
				4 M	5-15	MC14006BC Motorola (2944)		
				7 M	5-15	MC14006BA † Motorola (2944)		
8		PS	CMOS	2-6		MC54HC589 † Motorola (2944) MC74HC589 Motorola (2944) MC74HC597 Motorola (2944)		
		SP	CMOS	2-6		MC54HC164 † Motorola (2943) MC54HC595 † Motorola (2944) MC74HC164 Motorola (2943) MC74HC595 Motorola (2944)		
		SS/PS						
		CMOS	2-6			MC54HC165 † Motorola (2943) MC74HC165 Motorola (2943)		
1		PP	Bipolar	25 M	5	74199 Signetics (3057) SN54198 † TI SN54199 † TI SN74198 TI SN74199 † TI		
				35 M	5	54LS299 † National 54LS323 † National 74LS299 † National 74LS323 National SN54LS299 † TI SN54LS323 † TI SN74LS323 TI		
				50 M	5	SN54S299 † TI SN74S299 TI		
		CMOS	2.5 M	3-18		MC14034BC Motorola (2943)		
			3 M	3-15		CD4034B † GE/RCA (2638) CD4034B ‡ Micrel CD4034BC National CD4034BM National 883C4034B † Sprague TC4034B Toshiba (3341)		
				3-18		MC14034BA Motorola (2943)		
		PS	Bipolar	20 M	5	54165 † National 74165 National 54165 † Signetics 74165 Signetics (3057) SN54165 † TI SN74165 TI		
				25 M	5	HD74LS165A Hitachi SN54LS165 † Motorola (2943) SN74LS165 Motorola (2943) SN74LS166 Motorola (2944) DM74LS166 National DM74166 National 54LS165 † National 74LS165 † National 74166 National 54166 † Signetics 74166 Signetics (3057) SN54LS165A † TI SN54LS166A † TI		
(Continued)								

nsR—Nanoseconds at Room Temperature
OE—Open Emitter

MEMORY—Shift Registers (Cont'd)

Bits Per Register	No. of Reg.	Oper- ation	Process	Frequency (Hz - Spec)	Supply Voltage, V	Device	Source	Line	Bits Per Register	No. of Reg.	Oper- ation	Process	Frequency (Hz - Spec)	Supply Voltage, V	Device	Source	Line
Static (Cont'd)									(Cont'd)								
10	1	SP	Bipolar	25 M	5	RM8273 N8273 S8273	† Raytheon Signetics (3076) † Signetics		256	2	SS	PMOS	2.5 M	-12,5	AM2856 AM4056 AM5056	AMD † AMD AMD	60
16	1	S/SP	Bipolar	20M	5	54F676 74F673 74F675 74F676 74F673 74F674 74F675 74F676	National ◊ National ◊ National ◊ National Signetics (3078) Signetics (3078) Signetics Signetics (3078)		480	2	PP	NMOS	3.0M	5	MIC2535	Micrel	
		SP	NMOS	3.0M	5	TSC9403 TSC9404	TeledyneS TeledyneS		512	1	SS	PMOS	2.5 M	-12,5	AM2857C AM4057 AM5057	AMD † AMD AMD	65
16-128	1	SS	CMOS	1.5 M 3 M	3-15 3-15	MC14562BC MC14562BA	Motorola (2944) † Motorola (2944)			2	PP	NMOS	3.0M	5	MIC2534	Micrel	
18-3	8	PP	Bipolar	20M	5	TDC1011	TRWLSI		1024	1	SS	NMOS	1.5M 2.0M 3.0M 4.0M 5.0M	5 5 5 5 5	MIC2533 MIC2833 MIC2833M MIC2833A MIC2833B MIC2833C	Micrel Micrel † Micrel Micrel Micrel Micrel	70
64	1	SS	CMOS	1 M 2 M 2.7 M 4 M 5 M 10 M	3-15 3-15 3-15 3-15 3-15 3-16	CD4031BE F4031BC CD4031B CD4031B F4031BM F4557BM MC1455BC CD4031BC CD4031BM F4557BC MC14557BA MS612	GE/RCA (2638) National † GE/RCA (2638) † Micrel † National † National Motorola (2989) National † National National National † Motorola (2944) RTC					PMOS	1.5 M 2 M	-12,5 -12,5	AM2533 AM2833C AM2833M	AMD AMD † AMD	75
	2	SS	CMOS	4 M	3-15	CD4517BE MC14517BC CD4517BE MC14517BA 883C4517B	† GE/RCA (2638, 2653) Motorola (2944) † GE/RCA (2638, 2653) † Motorola (2944) † Sprague		290560	1	SS	Bubble		—	H4701B	Hitachi	
		TTL	30 M	5	TDC1005 TDC1005	† TRWLSI TRWLSI											
	4	SS	CMOS	4 M	4.5-12.5	F4731BC F4731BM	National † National										
80	4	SS	NMOS PMOS	1 M 1.5 M 2.5 M	5 -12,5 -12,5	SR5015-80 AM3347 AM2847M F2847LM F2847M	SMC AMD † AMD † National † National										
				3 M	-12,5	AM2847C F2847 F2847L	AMD National National										
				4 M	-12,5	F3357M	† National										
81	4	SS	NMOS	1 M	5	SR5015-81 SR5018	SMC SMC										
100	2	SS	PMOS	10M	-30	NCM4231Z	† NCM										
128	1	SS	CMOS	5 M	12	MS625	RTC										
	2	SS	PMOS	2 M	-12,5	TMS3114	AMD										
	4	SS	PMOS	2.5 M	-12,5	AM2855 AM4055 AM5055	AMD † AMD AMD										
133	4	SS	NMOS	1 M	5	SR5015-133 SR5017	SMC SMC										
256	1	SS	TTL	30 M	5	TDC1006 TDC1006	† TRWLSI TRWLSI										

(Continued)

† Military Temperature Range (-55° to 125°C)

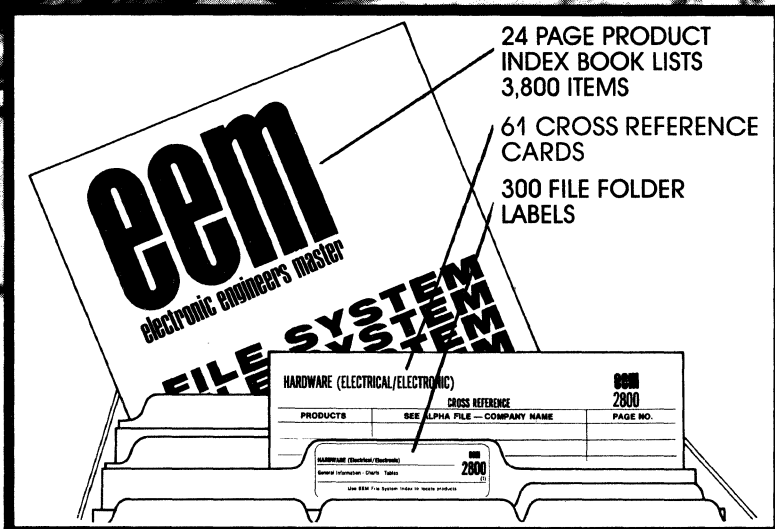
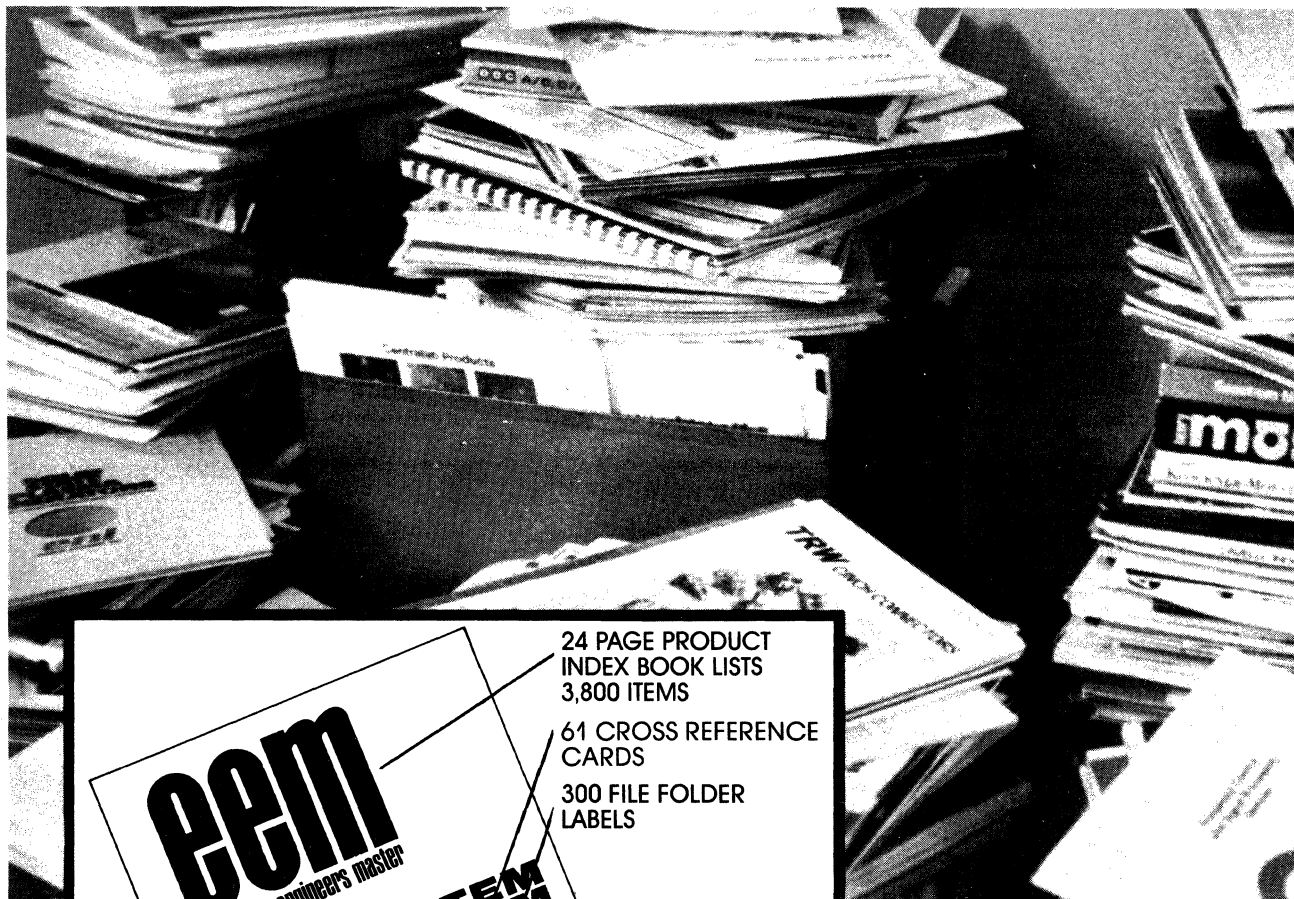
‡ High Radiation Resistance

*Typical Value

°Macrocell

◊ Available in Surface Mount Package

Bold face indicates additional data is provided on the page noted.



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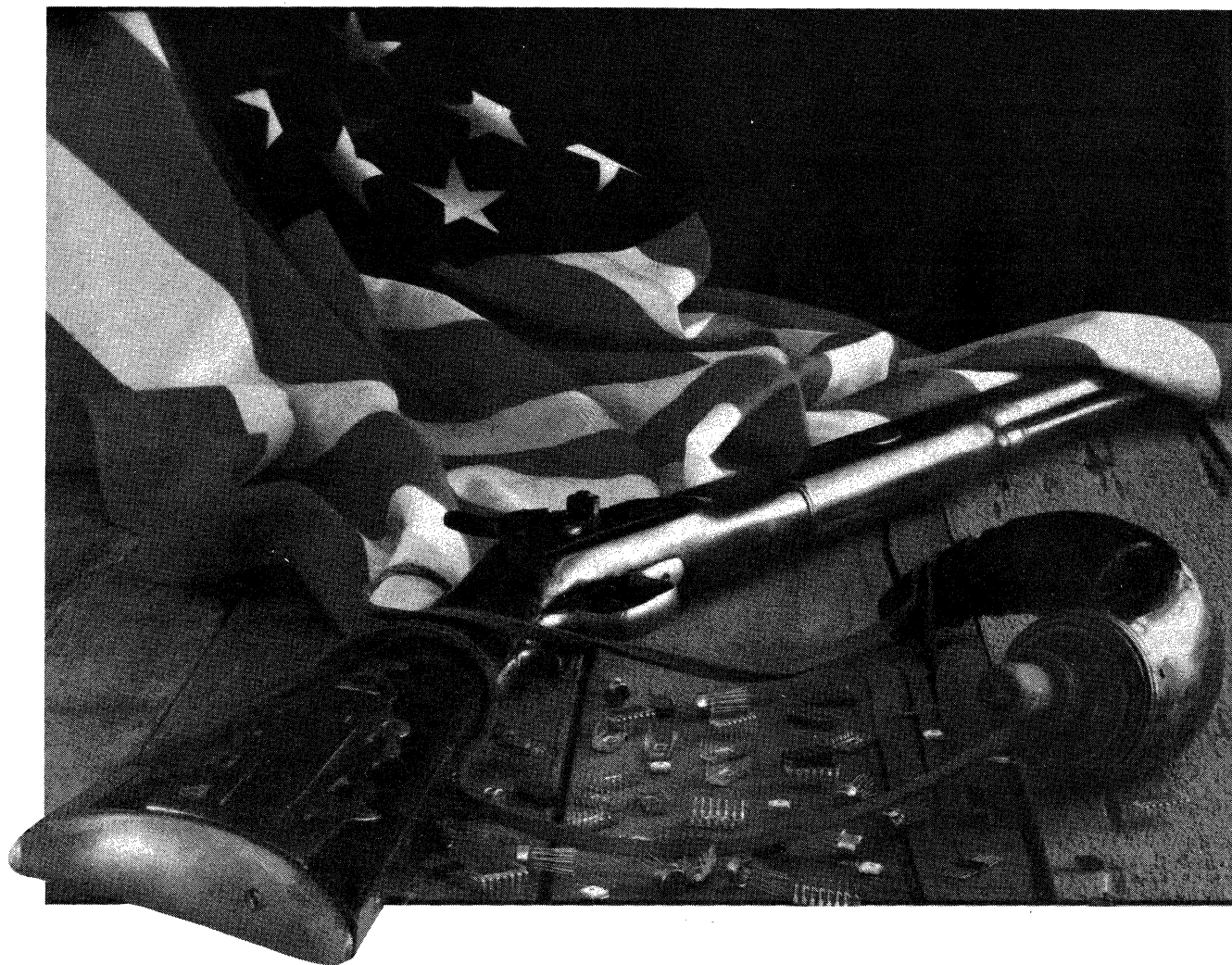
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ALTERNATE SOURCE DIRECTORY

The Alternate Source Directory is an industry-wide cross reference of devices that manufacturers claim are pin-for-pin and functional equivalents to IC's made by other firms. It contains over 113,000 cross references.

The second column of this Alternate Source Directory shows devices that are replacements for those in the first column. Devices listed in **BOLD FACE** type have technical data in the Master Selection Guides. This information begins on the page listed to the right of the **BOLD FACE** part numbers. Products preceded by a ♦ have been discontinued by the manufacturer. This section does include discontinued devices that are not listed in the Master Selection Guides; in order to maintain this list within some reasonable bounds, the A and B suffixes indicating improved versions generally have been dropped.

One of the difficulties with any cross reference is that devices meant to be alternates do not necessarily perform the same in all circuits. Thus, it will be necessary for you to check specifications, or even check circuit performance before deciding which alternates are right for you. But if you do not find the devices you need here, it may be possible to find additional alternates by locating the device in the Master Selection Guides. Particularly for digital circuits, the other products grouped with it will normally offer similar or identical performance.

WALSH: SOURCE DIRECTION

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Advanced Micro Devices (Cont'd)				AMPAL16R6		(Cont'd)		AMPAL16R8Q	Lattice	GAL16V8-25Q (4259)		AMPAL20R6B	Lattice	GAL20V8-15L (4260)	
				Samsung		CPL16R6-35 (3031)		Samsung		CPL16R8L-35 (3031)		MMI		PAL20R6B	
						CPL16R6L-35 (3031)		AMPAL18P8	ICT	PEEL18CV8 (4257)		AMPAL20R8A	Lattice	GAL20V8-25L (4260)	
AMPAL16L8A	National	PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A	(Cont'd)	TI		TIBPAL16R6 TIBPAL16R6-20 TIBPAL16R6-30		AMPAL20L10	MMI	PAL18P8 PAL20L10 PEEL20CG10 PEEL20CG10 (4257)		MMI		PAL20R8A PAL20R8B-2 PAL20R8A CPL20R8-25 (3031)	
AMPAL16L8AL	Lattice	GAL16V8-25L (4259)		AMPAL16R6A	Lattice	GAL16V8-25L (4259)		MMI	Cypress	GOULD/AMI ICT		National		TIBPAL20R8A (3303)	
	Samsung	CPL16L8-25 (3031)		MMI		PAL16R6A PAL16R6A 16RP6A 16RP6B2 16R6A		MMI		PAL12L10 PAL20L10 PAL12L10 PAL20L10 CPL20L10-35 (3031)		TI		TIBPAL20R8A (3303)	
AMPAL16L8AQ	Lattice	GAL16V8-25Q (4259)		Samsung		CPL16R6-25 (3031)		National		Signetics		AMPAL20R8AL	Lattice	GAL20V8-25L (4260)	
AMPAL16L8B	Lattice	GAL16V8-15L (4259)		TI		TIBPAL16R6A		TI		PEEL173 TIBPAL12L10 TIBPAL20L10 TIBPAL20L10A-2		AMPAL20R8B	Lattice	GAL20V8-15L (4260)	
	MMI	PAL16L8B F16L8B PAL16L8B		AMPAL16R6AL	Lattice	GAL16V8-25L (4259)		AMPAL20L10AL	MMI	PAL20L10A CPL20L10-25 (3031)		MMI		PAL20R8B AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PEEL22CV10 (4242)	
AMPAL16L8BL	Lattice	GAL16V8-15L (4259)		Samsung		CPL16R6-25 (3031)		AMPAL20L8A	TI	TIBPAL20L10-30 GAL20V8-25L (4260)		AMPAL22V10	AMD	CYPALC22V10A CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PEEL22CV10 (4242)	
AMPAL16L8D	Lattice	GAL16V8A-10L (4259)		AMPAL16R6AQ	Lattice	GAL16V8-25Q (4259)		MMI		PAL20L8A PAL20L8B-2 PAL20L8A CPL20L8-25 (3031)		TI		PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL14L8 PAL14L8 CPL20L8-35 (3031)	
AMPAL16L8L	MMI	PAL16L8D GAL16V8-25L (4259)		AMPAL16R6B	Lattice	GAL16V8-15L (4259)		AMPAL20R8A	Lattice	GAL20V8-25L (4260)		National		CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 PLS173 (3209, 3226)	
	Samsung	CPL16L8-35 (3031)		MMI		PAL16R6B F16R6B PAL16R6B		MMI		PAL20L8B PAL20L8B CPL20L8-25 (3031)		Lattice		GAL16V8-25L (4259)	
AMPAL16L8Q	Lattice	GAL16V8-25Q (4259)		AMPAL16R6BL	Lattice	GAL16V8-15L (4259)		AMPAL20R4A	National	Samsung		Signetics		GAL20V8-25L (4260)	
	Samsung	CPL16L8L-35 (3031)		AMPAL16R6D	Lattice	GAL16V8A-10L (4259)		TI		TIBPAL20L8-25 (3303)		MMI		PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL14L8 PAL14L8 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 PLS173 (3209, 3226)	
AMPAL16R4	Cypress	CYPALC16R4 CYPAL16R4 GM231024 HPL16R4 PEEL18CV8 (4257) PALC16R4Q-25 PAL16R4 PAL16R4D-4 PAL16R4 CPL16R4L-25 (3031)		AMPAL16R6L	Lattice	GAL16V8-25L (4259)		AMPAL20R4AL	Lattice	GAL20V8-25L (4260)		TI		TIBPAL22V10 (3304)	
	GoldStar	HPL16R4		Samsung		CPL16R6-35 (3031)		AMPAL20R4B	Lattice	GAL20V8-15L (4260)		AMPAL22V10A	AMD	AMPAL22V10 CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PEEL22CV10 (4242)	
	ICT	PEEL18CV8 (4257)		AMPAL16R6Q	Lattice	GAL16V8-25Q (4259)		AMPAL20R6A	Lattice	GAL20V8-25L (4260)		Cypress		AMPAL22V10 CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PEEL22CV10 (4242)	
	MMI	PAL16R4 PAL16R4D-4 PAL16R4 CPL16R4L-25 (3031)		AMPAL16R8	Cypress	CYPALC16R8 CYPAL16R8 HPL16R8C (2745) HPL16R8C-5 (2745)		AMPAL20R6AL	Lattice	GAL20V8-25L (4260)		TI		TIBPAL22V10A (3283, 3304)	
AMPAL16R4A	Toshiba	TC53100 GAL16V8-25L (4259)		ICT		HPL16R8 PEEL18CV8 (4257) GAL16V8 (4259) GAL16V8-25L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	Lattice			Lattice		GAL16V8-25L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	MMI	PAL16R4A PAL16R4A 16RP4A 16RP4B2 16R4A CPL16R4-25 (3031)		MMI		PAL16R8 PAL16R8 CPL16R8-35 (3031)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	National			Samsung		CPL16R8-35 (3031)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
AMPAL16R4AL	TI	TIBPAL16R4A		AMPAL16R8A	Lattice	GAL16V8-25L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	Lattice	GAL16V8-25L (4259)		MMI		PAL16R8A PAL16R8A 16RP8A 16RP8B2 16R8A CPL16R8-25 (3031)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	Samsung	CPL16R4-25 (3031)		National		16R8A 16R8A 16R8A 16R8A CPL16R8-25 (3031)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
AMPAL16R4AQ	Lattice	GAL16V8-25Q (4259)		AMPAL16R8B	Lattice	GAL16V8-15L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
AMPAL16R4B	Lattice	GAL16V8-15L (4259)		TI		SN74PAL16R8A TIBPAL16R8-20 TIBPAL16R8-30 GAL16V8-25L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	MMI	PAL16R4B F16R4B PAL16R4B		AMPAL16R8AL	Lattice	GAL16V8-25L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
AMPAL16R4BL	Lattice	GAL16V8-15L (4259)		Samsung		CPL16R8-25 (3031)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
AMPAL16R4D	Lattice	GAL16V8A-10L (4259)		TI		TIBPAL16R8A		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	MMI	PAL16R4D GAL16V8-25L (4259)		AMPAL16R8AQ	Lattice	GAL16V8-25Q (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
AMPAL16R4L	Lattice	GAL16V8-25L (4259)		AMPAL16R8B	Lattice	GAL16V8-15L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	Samsung	CPL16R4-35 (3031)		MMI		PAL16R8B F16R8B PAL16R8B		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
AMPAL16R4Q	Lattice	GAL16V8-25Q (4259)		AMPAL16R8BL	Lattice	GAL16V8-15L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	Samsung	CPL16R4L-35 (3031)		AMPAL16R8D	Lattice	GAL16V8A-10L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
AMPAL16R6	Cypress	CYPAL16R6 HPL16R6C (2745) HPL16R6C-5 (2745)		AMPAL16R8L	Lattice	GAL16V8-25L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	Harris			MMI		PAL16R8D PAL16R8D-25L (4259)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	ICT	PEEL18CV8 (4257) GAL16V8 (4259) GAL16V8-25L (4259)		Samsung		CPL16R8-35 (3031)		AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	Lattice							AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	MMI	PAL16R6 PAL16R6						AMPAL20R6B	Lattice	GAL20V8-25L (4260)					
	National							AMPAL20R6B	Lattice	GAL20V8-25L (4260)					

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Advanced Micro Devices (Cont'd)				AM21149	Cypress	CY21149 CY7C225 PLE9R8 53RA481 53RA481AS 53RA481S 63RA481 63RA481AS 63RA481S MCM27S25 DM77SR25 DM77SR25B DM77SR476 DM77SR476B DM87SR25 DM87SR25B DM87SR474 DM87SR476 DM87SR476B	(Cont'd) (2585)	AM2167	GE/RCA Immos Intel Matra-Harris MicronTech Motorola NEC SGS-Thomson Sharp STC TI Vitellic VLSI Tech	CDM5167 IMS1400 51C66 51C67 HM65263 MT5C1601 MCM2167 μPD4311 MK41H66 LH5167 STC2167 SMJ61CD16 V61C67 VT20C68	(Cont'd)	AM2169	VLSI Tech	VT20C68 VT20C69 VT20C98 VT2069 SN74LS688 SN74S350 AM25S557 LMU558 SN74S558 74S558 AM25S558 LMU558 SN74S558 74S558	(Cont'd) (3343, 3345, 3350)		
AM100474	National NEC	F100474 μPB100474 μPB100474A	(Cont'd)		MMI							AM25LS2521 AM25S10 AM25S557	TI TI AMD LogicDev MMI	SN74LS688 SN74S350 AM25S558 LMU558 SN74S558 74S558			
AM100480	Saratoga Fujitsu NEC	SSM100474 MB100480 μPB100480			Motorola National												
AM100484	Saratoga Fujitsu	SSM100480 MBM100484															
AM10415	NEC Fujitsu	μPB100484 MBM10415															
AM10470	Motorola National Siemens Fujitsu	MCM10146 DM10415 GXB10415 MBM10470A MB10470	(2948)														
AM10470	Motorola National NEC	MCM10470 DM10470 μPB10470		AM2101	AMD	AM91L01 AM9101 ADC5101 HA5101	(2595) (2767)		AMD	AM99CL68 CY7C168 CY7C169	(2580) (2580)	AM2168	AMD Cypress	AM26LS30 AM26LS31	Signetics AMD	AM26LS30 26LS31 AM26LS31 μA26LS31 DS26LS31 AM26LS31 AM26LS31	(2983)
AM10474	Saratoga Fujitsu	SSM10470 MBM10474A	(2625)		Datel Harris Intel	5101 MNS101 M5L5101 MCM5L101 MCM145101			GoldStar Inmos	GM76C164 IMS1420 IMS1421 IMS1424				AM26LS32	Signetics TI	AM26LS32 AM26LS32A 26LS32	
	Motorola National	MB10474 MCM10474 DM10474			MicroNet Mitsubishi Motorola	5101 MNS101 M5L5101 MCM5L101 MCM145101			IDT	IMS1420 IDT6120 IDT6169				AM26LS32	Motorola National	AM26LS32 μA26LS32 DS26LS32 DS26LS32	
	NEC	F10474 μPB10474 μPB10474A			National Panasonic Sharp	MM74C920 MNS101 LH5101			Matra-Harris	HM65769 HM65682					Signetics TI	AM26LS32 AM26LS32A AM26LS32AM AM26LS32	
AM10480	Saratoga Fujitsu Inova	SSM10474 MBM10480 S32K8	(2807)	AM2130	IDT	IDT7130	(2840)		MicronTech	MT5C1604 MT5C1605 MCM1423				AM26LS32A	AMD	AM26LS32 26LS32	
	National	F10480			Mosel	MS6130			Motorola National	V1620							
AM1101ADM	NEC Intel National NCM SGS-Thomson	μPB10480 1101 MM1101 NCM1101Z		AM2141	AMD	AM9244 CY7C147 HM6504	(2580) (2748)		NEC S-MOS SGS-Thomson	μPD4314 SRM2274				AM26LS32	Motorola National	AM26LS32 μA26LS32 DM26LS32 DS26LS32	
AM1408	AD	MK6027P ADDAC-08 AD1408	(2471)		Hitachi Intel	HM4315 5104			STC TI	MK41H68 STC2168 SMJ64C16				Signetics TI	AM26LS32 AM26LS32A AM26LS32AM AM26LS33A AM26LS33AM		
AM1408	Datel	DACIC8B DACIC8BC DAC18BC DAC08B	(2596)		Matra-Harris Mitsubishi National OKI Rockwell Toshiba Cypress	HM6504 M58981 NMC6504 MSM5104 R6504 TMM315 CY2147			Toshiba Vitellic VLSI Tech	TMM2068 V61C62 VT20C19 VT20C69	(3349) (3343, 3350)	AM2169	AMD	AM26S10 AM26S11	Motorola National TI	DS26S10 DS26S11 AM26S11	
AM1408	Hitachi	HA17008 HA17408				CY7C147 MBM2147 M2147H 2147 2147H	(2580)		Cypress	CY7C168 CY7C169	(2580) (2580)			AM26S10 AM26S11	Motorola National TI	DS26S10 DS26S11 AM26S11	
AM1408	Motorola	DAC08	(2971, 2989)		Fujitsu Intel	MBM2147 M2147H 2147 2147H			Fujitsu	MB81C68 MB81C68A HM6168HP				AM27C010	AMD Atmel Hitachi	AM27010 AT27C010 HN27C010G HN27C101 HN27C101G HN27C301G	
AM1408	National	MC1408 μA0801 μA0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μPC624 DAC08 DAC1408 DAC1508 DAC08	(2971)		Krueger	2147-35 2147-45 2147-55 2147-70	(2877) (2877) (2877) (2877)		Hyundai Inmos IDT	HM6268 HM6268L HY61C68 IMS1421C IDT6120				Intel	27010 27210		
AM1408	NEC PMI	DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μPC624 DAC08 DAC1408 DAC1508 DAC08	(3017)		Motorola National	MCM6147 MM2147 NMC2141 NMC2147H NM2147			Matra-Harris MicronTech	HM65682 HM65768 MT5C1604 MT5C1605 MT5C1608				Mitsubishi	M5M23C1000 M5M27C101K M5M27C102 M5M27C102K NMC27C1023 μPDC1024 μPD23C1010 MSM271000 MSM271024 SMM63100		
AM1408	Raytheon Samsung	KDA0800 KDA0801 KDA0802 KDA0806 KDA0807 KDA0808 DAC08 MC1408 AD1508 DACIC8BM MC1508 MC1508 PMI DAC1508 MC1508 PMI DAC1508A-8Q	(3025)		SGS-Thomson	ET2147 STC2147 TMM3150 CY21149 CY2148 CY7C148 CY7C149	(2580) (2580)		NEC Performance Saratoga SGS-Thomson	μPD4314 μPD4314C P4C168 P4C169 PS6168 SSM6168				National NEC	μPDC1024 μPD23C1010 MSM271000 MSM271024 SMM63100 TMS27C010 TMS27C210	(3326) (3326)	
AM1408	Signetics	DAC08 MC1408			Hitachi	HM6148 HM6148H HM6148HL 2148H			Mitsubishi Mosel Motorola	M5M21C68P MS6168 MCM6168 MCM6269				Toshiba	TMX27C210 TC541000 TC571024		
AM1508	AD Datel Motorola	AD1508 DACIC8BM MC1508 MC1508 PMI DAC1508 MC1508 PMI DAC1508A-8Q	(2471) (2971)		Intel Krueger	2148-35 2148-45 2148-70	(2877) (2877) (2877)		NEC	μPD4314 μPD4314C				Waferscale	WS27C010 WS27C210L AT27C1024 MBM27C1024 HN27C1024 HN27C1024G 27C1024 μPD27C1024 NMC27C1024 μPD27C1024 OKI MSM27C1024	(3390)	
AM1508L8	National	MM1702			UMC	ET2148 UM2148			Performance Saratoga SGS-Thomson	P4C168 P4C169 PS6168 SSM6168				Microchip National	μPD27C1024 NMC27C1024 μPD27C1024 OKI MSM27C1024		
AM214X2901	IMI	IM4X2901			Cypress	CY2149			Sony TI	CKX5416P/K SMJ64C16				SGS-Thomson	M27C1024 V27C1024 AT27C256 MBM27C256A	(2628)	
AM21L48	Waferscale Cypress	WS59016 CY21L48 CY7C148	(2580)		Intel Krueger	2149HL 2149-35 2149-45 2149-70	(2877) (2877) (2877)		Toshiba	SMJ68CE64 TMM2018 TMM2068 TMM2068AP				Hitachi Intel	HN27C256 M27C256 27C256		
AM21L49	Matra-Harris Performance AMD	HN65748 P4C148 AM27S25 AM27S25A AM27S255A			Saratoga Cypress Fujitsu	SSM2149 CY7C167 MB8164A	(2580)		UMC Vitellic VLSI Tech	UM6168 V61C68 VT20C19	(3349)						
(Continued)				(Continued)				(Continued)				(Continued)					

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Advanced Micro Devices (Cont'd)				AM27S03	Cypress	CY7C189 (2580)	(Cont'd)	AM27S19			(Cont'd)	AM27S25A	AMD	AM21L49 AM27S25 AM27S255A		
AM27C256			(Cont'd)		National	CY74S189 DM74S189 DM7599 DM8599 54F189			Fujitsu MMI	MB7112 53S081 63S081			Cypress	CY7C225 (2585)		
	Krueger	27C256-200 27C256-250 27C256-300			TI	SN54HCT189 SN54HC189 SN74HCT189 SN74HC189			Motorola National	MCM27S19 DM74S288 DM8578			MMI	PLE9R8 53RA481 53RA481AS 53RA481S		
	Microchip	RO9256 27C256 (2913)		AM27S07	Cypress	CY27S07 CY7C190 (2580)		AM27S190	Hitachi National	N82S123 N82US123 S82S123 82S123			Motorola National	63RA481 63RA481AS 63RA481S		
	Mitsubishi	M5L27256			National	DM75S07 54F219 74F219		AM27S191	Waferscale AMD	WS57C291 (3390) AM27S291 AM27S291A AM27S291SA						
	National	μPD27C256A		• AM27S11	AMD	AM27S21 27S21			Cypress	CY7C291 (2585)						
	NEC	MSM27C256		• AM27S11	Fujitsu MMI	MB7138 MB7138E MB7138H			Fujitsu	MB7138 MB7138E MB7138H						
	OKI	MSM27C256				63S141 63S141A			MMI	63S1681 63S1681A		AM27S255A	AMD	AM21L49 AM27S25 AM27S25A		
	SEEQ	27C256		• AM27S11	National	DM74S287 N82S129A S82S129			Motorola National	DM878291 932511			Cypress	CY7C225 (2585)		
	SGS-Thomson	TS27C256 27C256 CKX54256P		• AM27S12	Fujitsu	S82S5129 MB7115 63S240			Raytheon TI	29683A TBP38A166 TBP38S166			MMI	PLE9R8 53RA481 53RA481AS 53RA481S		
• AM27C64	Fujitsu	MBM27C64			MMI	DM74S570 N82S130 S82S130			Waferscale	WS57C191 (3390) WS57C291 (3390)						
	Intel	M27C64 27C64 87C64		AM27S13	GE/Intersil	ICL7621 (2673, 2675)		AM27S191SA	AMD	AM27S191 27S191						
• AM27C64	Krueger	27C64-200 27C64-250 27C64-300			Maxim	ICL7621			Cypress	CY7C291 (2585) CY7C292 (2585) CY7C292A (2585) CY7C292AL (2585)			Motorola National	MCM27S25 DM77SR25 DM77SR25B DM77SR476 DM77SR476B		
• AM27C64	Microchip	27C64 (2911)			MicroPwr	MP7621				Hitachi	HN25169 82S191 53S1681					
	OKI	MSM27C64			MMI	63S241				Intel	82S191 MCM76101 MCM76160		AM27S281	Cypress	CY7C281 (2585)	
	S-MOS	SPM27C64			National	DM74S571 N82S131 S82S131				Motorola	DM77S191 DM87S191 DM87S291		AM27S29	Fujitsu MMI	MB7124 63S481	
	SGS-Thomson	TS27C64 27C64 TMS27C64 (3326)		AM27S18	Signetics	DM74S571A N82S131 S82S131				MMI	DM87S291A DM87S291B 932510 932511 932512 932511			National Raytheon Signetics	DM77SR476 DM87SR476B DM87SR476 DM87SR476B	
AM27LS03	VLSI Tech	VT27C64		AM27S180	National	DM87S180 DM87S229			National			AM27S281	Cypress	CY7C281 (2585)		
	Waferscale	WS27C64				CY7C282M (2585)						AM27S29	MMI	MB7138 63S481		
	AMD	AM27S03 SN74S189		AM27S181	Cypress	Gould/AMI Hitachi MMI							National Raytheon Signetics	DM77SR476 DM87SR476B DM77SR476 DM87SR476B		
	Cypress	CY27LS03M (2580)			Gould/AMI	S25089 HN25089										
		CY27S03			Hitachi	HN25089										
		CY7C189 (2580)			MMI	63S881										
	National	CY74S189 DM74S189 DM7599 DM8599 54F189			National	DM77LS181 DM77S181 DM77S281 DM87S181 DM87S281			Signetics	N82S191 N82S191A 82S191		AM27S291	AMD	AM27S191 AM27S291A AM27S291SA		
	TI	SN54HCT189 SN54HC189 SN74HCT189 SN74HC189			Raytheon	93Z451 29631 29631AM			TI	TBP38L166 TMS27C291			Cypress	CY7C291 (2585)		
AM27LS18	National	DM54S188 DM7577			Signetics	29632 N82S181 S82S181			Waferscale	WS57C191 (3390) WS57C291 (3390)						
AM27LS19	AMD	AM27S19 27S19		• AM27S181M	AMD	AM27S181		AM27S20	MMI	63S140 DM54S387			MMI	63S1681 MCM76		
	Fujitsu	MB7112			Cypress	CY7C282M (2585)			National	N82S126 S82S126			Motorola National	DM878291 932511		
	MMI	53S081 63S081			Gould/AMI	S25089		AM27S21	AMD	27S21			Raytheon TI	29683A TBP38A166 TBP38S166		
	Motorola	MCM27S19			Hitachi	HN25089			Fujitsu	MB7114 63S141						
	National	DM74S288 DM8578			MMI	63S881			MMI	63S141A DM74S287			Waferscale	WS57C191 (3390) WS57C291 (3390)		
	Signetics	N82S123 N82US123 S82S123 82S123			National	DM77LS181 DM77S181 DM77S281 DM87S181 DM87S281			National Signetics	N82S129A S82S129 S82S5129		AM27S291A	AMD	AM27S191 AM27S291 AM27S291A		
AM27PS43	AMD	AM27S43 AM27S43A 27S43			TI	28586-60										
	Fujitsu	MB7142		• AM27S181M	Raytheon	29631 29631AM 29632			AMD	AM21L49 AM27S25A AM27S255A			Cypress	CY7C291 (2585)		
	ICT	27CX321 (2875)			Signetics	N82S181 S82S181			Cypress	AM27S255A CY21L49			Fujitsu	MB7138 MB7138E MB7138H		
	MMI	53S3281 63S3281		• AM27S181M		29651 29651A			MMI	PLE9R8 53RA481			MMI	63S1681 63S1681A		
	National	DM77S321 DM87S321		• AM27S181M	TI	28586-60			National	53RA481AS 53RA481S 63RA481			Motorola National	MCM76 DM878291 932511		
	Raytheon	R29671D 29671 29671A		AM27S185	AMD	27S185				63RA481AS 63RA481S			Raytheon TI	29683A TBP38A166 TBP38S166		
	Signetics	N82H321			Fujitsu	MB7128			Motorola National	MCM27S25 DM77SR25 DM77SR25B			Waferscale	WS57C191 (3390) WS57C291 (3390)		
	Waferscale	WS57C43 (3390) WS57C43B (3390) WS57C43D (3390)			Hitachi	HN25085				DM77SR476 DM77SR476B		AM27S291SA	AMD	AM27S191 AM27S291 AM27S291A		
AM27S03	AMD	AM27LS03 SN74S189			MMI	63S841				DM87SR25 DM87SR25B						
	Cypress	CY27LS03M (2580)			National	DM87S185				DM87SR25 DM87SR25B			Cypress	CY7C291 (2585)		
		CY27S03	(Continued)	AM27S19	TI	24S81-55				DM87SR476 DM87SR476B			Fujitsu	MB7138 MB7138E MB7138H		
					AMD	AM27LS19 27S19	(Continued)				(Continued)				(Continued)	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Advanced Micro Devices (Cont'd)				AM29C116		(Cont'd)		AM29C861	AMD	AM29861 SN74BCT29861 (3317)		AM29510		(Cont'd)	
AM2764A	Intel	M2764 P2764A 2764 2764A	(Cont'd)	AM29C116A	AMD	Raytheon TI 74ACT29116 74ACT29116-1 AM29C116 AM29L116A AM29116		AM29C862	AMD	AM29862 SN74BCT29862 (3317)			Matra-Harris	MS2010 SN74HCT9510	
	Krueger	2764-200 (2877) 2764-250 (2877) 2764-300 (2877) 2764-450 (2877) 2764A-200 (2877) 2764A-250 (2877) 2764A-450 (2877)			Cypress	CY7C9116 (2592) CY7C9117 (2592) 27CX322 (2875)		AM29C863	AMD	AM29863 SN74BCT29863 (3314, 3317)			TRWLSI	TDC1010 TMC2210 VL2010	
	Mitsubishi	MSL2764		AM29C117	AMD	AM29117		AM29C864	AMD	AM29864 SN74BCT29864 (3317)			VLSI Tech	WS59510 WS59610	
	National	2764		AM29C509	Gould/AMI	PEEL153 (4242) PEEL153 (4257) AD ADSP1009 (2436)		AM29L116A	AMD	AM29C116 AM29C116A AM29116 CY7C9116 (2592) CY7C9117 (2592) 27CX322 (2875)			Waferscale	WTL1010 WTL2010 WTL2044 WTL2245	
	OKI	MSM2764 MSM2764A			ICT	DM87S421 R29671S 74ACT29116 74ACT29116-1			TI	AM29864 SN74BCT29864 (3317)		AM29516	AMD	AM29C516 AD ADSP1016 (2436) Cypress CY7C516 (2590)	
	SEEQ	2764 5133			IDT	IDT7209		AM29L510	AMD	AD ADSP1010 (2436) ADSP1010A (2436, 2462)			Harris	HMU16 IDT7216	
	SGS-Thomson	M2764A TMS2764 (3326)		AM29C516	AD	AM29516 AD ADSP1016 (2436) Cypress CY7C516 (2590)			LogicDev	LMU216 LMA1010 LMA2010			LSI Logic	LMU16 LMU216 L64015 L64016A	
AM28LS32	AMD	AM26LS32 AM26LS32A 26LS32			Harris	HMU16 IDT7216 LMU16			TI	AM29510 ADSP1010 (2436) ADSP1010A (2436, 2462)			Matra-Harris	MS2516 SN741616 MPY016H	
AM28LS32	Motorola	AM26LS32 μA26LS32 DM26LS32			LogicDev	LMU16 LMU216 L64015 L64016A			TI	Cypress CY7C510 (2590) Intel IM29C510 LMA1010 LMA2010			TRWLSI	MPY016H MPY016K TMC216 TMC216H	
AM28LS32	Signetics	AM26LS32 AM26LS32A AM26LS32AM			LSI Logic	MS2516 SN741616 MPY016H MPY016K TMC216 TMC216H			LogicDev	LMU216 L64012 L64012 L64012		AM29517	Cypress	CY7C517 (2590)	
AM2812	Plessey	MP3812			Matra-Harris	MS2516 SN741616 MPY016H MPY016K TMC216 TMC216H			TI	MS2010 SN74HCT9510 TDC1010 TMC2210			Harris	HMU17 LMU17	
AM2813	Plessey	MJ2813			TRWLSI	MPY016H MPY016K TMC216 TMC216H			TRWLSI	TDC1010 TMC2210 TMC2210 TMC2210			LogicDev	WTL2517 L29C520	
AM2817A	EXEL	XL2817A			Weitek	WTL1016 WTL1516 WTL2516			VLSI Tech	WS59510 WS59610 WTL1010 WTL2010 WTL2044 WTL2245		AM29520	LogicDev	MMI L29C520 29C520 Waferscale WS59520 LogicDev L29C521 29C521	
	Microchip	28C17A (2917)		AM29C517	AMD	AM29517 Cypress CY7C517 (2590)		AM2901	Cypress	CY2901 IDT39C01 L429C01 AM29705 IDT39C705 CY2909 CY7C909 (2590)		AM29521	LogicDev	MMI L29C521 29C521 Waferscale WS59521	
	National	NMC9817			Cypress	HMU17 LMU17 L64017 WTL1517 WTL2517 WTL9517		AM2903	LogicDev	IDT39C01 L429C01 AM29705 IDT39C705 CY2909 CY7C909 (2590)		AM2960	Motorola	MC74F2968 MC74F2970	
	OKI	MSM2816			LSI Logic	WTL1517 WTL2517 WTL9517		AM2909	AMD	AM29705 IDT39C705 CY2909 CY7C909 (2590)		AM2970	Motorola	MC74F2970 MC74F2970	
	Samsung	KM2817A	(3038)		Weitek	WTL1517 WTL2517 WTL9517		AM2910A	Cypress	IDT39C01 L429C01 AM29705 IDT39C705 CY2909 CY7C909 (2590)		AM2970A	AMD	AM2903 IDT39C705 IDT39C707 IDT39C707	
AM2841	AMD	AM3341		AM29C818	AMD	AM29818A SN74BCT29818 (3317)		AM2911	IDT	IDT39C01 L429C01 AM29705 IDT39C705 CY2909 CY7C909 (2590)		AM29707	AMD	AM29C818 SN74BCT29818 (3317)	
	Cypress	CY3341	(2587)	AM29C821	AMD	AM29821 SN74AS821 SN74BCT29821		AM2911A	Cypress	IDT39C01 L429C01 AM29705 IDT39C705 CY2909 CY7C909 (2590)		AM29818A	TI	SN74BCT29818 (3317)	
	National	CY3341AC 3341A MJ2841 F2847		AM29C822	AMD	AM29822 SN74AS822 SN74BCT29822		AM29116	AMD	IDT39C01 L429C01 AM29705 IDT39C705 CY2909 CY7C909 (2590)		AM29821	AMD	AM29C821 TI SN74AS821	
AM2847	Plessey	AT28C64		AM29C824	AMD	AM29824 SN74AS824 SN74BCT29824		AM29117	LogicDev	WS5910A WS5910B CY2911 CY7C911 (2590)		AM29822	TI	SN74AS822 SN74BCT29822	
AM2864A	AMD	XL2864A (2621)		AM29C825	AMD	AM29825 SN74AS825 SN74BCT29825		AM29117	TI	WS5910A WS5910B CY2911 CY7C911 (2590)		AM29823	TI	SN74AS823 SN74BCT29823	
	Atmel	AT28C64		AM29C826	AMD	AM29826 SN74AS826 SN74BCT29826		AM29117	TI	WS5910A WS5910B CY2911 CY7C911 (2590)		AM29824	TI	SN74AS824 SN74BCT29824	
	EXEL	XLS2864A		AM29C833	AMD	AM29833 SN74BCT29833 (3317)		AM29117	TI	WS5910A WS5910B CY2911 CY7C911 (2590)		AM29825	TI	SN74AS825 SN74BCT29825	
	Fujitsu	MBM28C64		AM29C841	AMD	AM29834 SN74AS841 SN74BCT29834 (3317)		AM29117	Cypress	CY7C9116 (2592) CY7C9117 (2592) 27CX322 (2875)		AM29826	TI	SN74AS826 SN74BCT29826	
	Hitachi	HM58064		AM29C842	AMD	AM29834 SN74AS841 SN74BCT29834 (3317)		AM29117	ICT	DM87S421 R29671S 74ACT29116 74ACT29116-1		AM29833	AMD	AM29C833 SN74BCT29833 (3317)	
	Hitachi	HM58064		AM29C843	AMD	AM29834 SN74AS841 SN74BCT29834 (3317)		AM29117	National	DM87S421 R29671S 74ACT29116 74ACT29116-1		AM29834	AMD	AM29C841 AM29841 SN74AS841 SN74BCT29834 (3317)	
	IDT	IDT7M7864		AM29C844	AMD	AM29844 SN74AS844 SN74BCT29844		AM29117	Raytheon	DM87S421 R29671S 74ACT29116 74ACT29116-1		AM29841	AMD	AM29C841 AM29841 SN74AS841 SN74BCT29834 (3317)	
	Intel	I2864A		AM29C845	AMD	AM29845 SN74AS845 SN74BCT29845		AM29117	TI	AM29C117 PEEL153 (4242) PEEL153 (4257)		AM29842	TI	SN74BCT29842	
	Microchip	28C64A (2918)		AM29C846	AMD	AM29846 SN74AS846 SN74BCT29846		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29843	AMD	AM29C843 SN74AS843 SN74BCT29843	
	Mitsubishi	M5M28C64		AM29C847	AMD	AM29847 SN74AS847 SN74BCT29847		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29844	TI	SN74BCT29844	
	National	NMC98C64		AM29C848	AMD	AM29848 SN74AS848 SN74BCT29848		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29845	TI	SN74AS845 SN74BCT29845	
	NEC	μPD28C64		AM29C849	AMD	AM29849 SN74AS849 SN74BCT29849		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29846	TI	SN74AS846 SN74BCT29846	
	Samsung	KM28C64 KM2864A DQ2864 DQ52B33 28C64 2864	(3038)	AM29C850	AMD	AM29850 SN74AS850 SN74BCT29850		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29847	TI	SN74AS847 SN74BCT29847	
	SEEQ	DQ2864 DQ52B33 28C64 2864		AM29C851	AMD	AM29851 SN74AS851 SN74BCT29851		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29848	TI	SN74AS848 SN74BCT29848	
	Xicor	X2864A (3412, 3452) X2864B (3412, 3452) X2864H (3412, 3452)		AM29C852	AMD	AM29852 SN74AS852 SN74BCT29852		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29849	TI	SN74AS849 SN74BCT29849	
AM2864B	Motorola	MCM76165		AM29C853	AMD	AM29853 SN74AS853 SN74BCT29853		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29850	TI	SN74AS850 SN74BCT29850	
AM2864S	Samsung	KM28C65 (3038)		AM29C854	AMD	AM29854 SN74AS854 SN74BCT29854		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29851	TI	SN74AS851 SN74BCT29851	
AM2864S	EXEL	XL2865A (2621)		AM29C855	AMD	AM29855 SN74AS855 SN74BCT29855		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29852	TI	SN74AS852 SN74BCT29852	
	Hitachi	HN58C65		AM29C856	AMD	AM29856 SN74AS856 SN74BCT29856		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29853	TI	SN74AS853 SN74BCT29853	
	NCR	NCR5264		AM29C857	AMD	AM29857 SN74AS857 SN74BCT29857		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29854	TI	SN74AS854 SN74BCT29854	
	Samsung	KM28C65 (3038)		AM29C858	AMD	AM29858 SN74AS858 SN74BCT29858		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29855	TI	SN74AS855 SN74BCT29855	
AM29C101	Cypress	CY7C9101 (2590)		AM29C859	AMD	AM29859 SN74AS859 SN74BCT29859		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29856	TI	SN74AS856 SN74BCT29856	
AM29C116	AMD	AM29C116A AM29L116A AM29116 CY7C9116 (2592) CY7C9117 (2592) 27CX322 (2875)		AM29C860	AMD	AM29860 SN74AS860 SN74BCT29860		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29857	TI	SN74AS857 SN74BCT29857	
	Cypress	CY7C9116 (2592) CY7C9117 (2592) 27CX322 (2875)		AM29C861	AMD	AM29861 SN74AS861 SN74BCT29861		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29858	TI	SN74AS858 SN74BCT29858	
	ICT	DM87S421		AM29C862	AMD	AM29862 SN74AS862 SN74BCT29862		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29859	TI	SN74AS859 SN74BCT29859	
	National	DM87S421		AM29C863	AMD	AM29863 SN74AS863 SN74BCT29863		AM29117	SGS-Thomson	TS2914 IDT39C02 SGS-Thomson TS2915		AM29860	TI	SN74AS860 SN74BCT29860	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Advanced Micro Devices (Cont'd)				AM8085AH (Cont'd)				AM9114 (Cont'd)				AM9218 Krueger (Cont'd)			
AM29854	TI	SN74BCT29854	(3317)	AM8177	Mitsubishi	M5M80C85A		AM9114	Sharp	LH2114		AM9218		2128-120	(2877)
AM29861	AMD	AM29C861		AM8212	NEC	μPD8085			Toshiba	TMM2114A				2128-150	(2877)
	TI	SN74BCT29861	(3317)		OKI	MSM8085			UMC	TMM314A				2128-200	(2877)
AM29862	TI	SN74BCT29862	(3317)		MMI	679502		AM9122		UM6114				6116-120	(2877)
AM29863	AMD	AM29C863			Calmos	CA82C12	(2677)		Cypress	CY7C122	(2580)			6116-150	(2877)
	TI	SN74BCT29863	(3314, 3317)		GE/Intersil	ICL8212			VLSI Tech	VT7C122	(3343, 3345, 3347)			6116-200	(2877)
AM29864	TI	SN74BCT29864	(3317)		Intel	8212		AM9124	AMD	AM9114		AM9218	Matra-Harris	HM6166	
AM3341	AMD	AM2841		AM8237A	Maxim	MAX8212			Intel	2114A				HM65161	
	Cypress	CY3341	(2587)		NEC	μPB8212			Krueger	2114-150	(2877)			HM65162	
	National	CY3341AC			OKI	MSM82C12				2114-200	(2877)			HM65163	
		3341			AMD	D8237A				2114-450	(2877)			HN65728	
		3341A				8237A						AM9218		MT5C1608	
AM53C80	Plessey	MJ2841			Calmos	CA82C37A			Mitsubishi	M5L2114				MS8725	
	LogicDev	L53C80			Harris	CP82C37A			Motorola	MCM21L14		AM9218	MicronTech	M5M116	
	NCR	NCR53C80	(2994)		Intel	8037A				MCM2114			Mitsubishi	M5M5116	
	Samsung	KS53C80				8237			National	F2114				M5M5117	
	VDA	V8580				8237A-4				NMC2114A				M5M5118	
	Zilog	Z0538010			Mitsubishi	8237A-5				MSM2114		AM9218		M58725	
AM5380	LogicDev	L5380			NEC	μPD8237A				MSM2114				MCM2016	
	National	TP5380			OKI	μPD8237A				MSM2114				MCM2016H	
	NCR	NCR5380	(2994)		S-MOS	SMC82C37AC-5				UM6114		AM9218	Motorola	MCM2018P	
		NMOS5380			Samsung	SM82C37A				S23128				MCM6116	
		KS53C80			Toshiba	TMP82C37	(3339)			RO9128		AM9218		MMC2116	
AM592	Samsung	Adv Analog			UMC	UM8237A		AM9128	UMC	UM6114				MSM2128	
	GE/Intersil	A733			VLSI Tech	UM8737A			Gould/AMI	UM23128		AM9218	National	MSM5126	
		NE592-8			MicronTech	VL82C37A			Microchip	VT23128			OKI	MSM5128	
		SE592		AM90C256		MT1256			Mitsubishi	VT23129				MSM5129	
		HA17733			Motorola	MT1259			NCR	VT23129A		AM9218		P4C116	
	Hitachi	MC1733	(2953, 2989)		SGS-Thomson	MCM64256			Signetics	VT23130			Performance	SMC6116	
	Motorola		(2991)			MK45H56		AM9150	Supertex	VT23131		AM9218	S-MOS	SSM6116	
		NE592			TI	SMJ4256			UMC	VT23138			Saratoga		
		μA733			Vitellic	V51C256			VLSI Tech	VT23138			SGS-Thomson	ET2128	
		LM733				V51C257		AM9150	Cypress	CY7C150	(2580)			MK2817	
		NE592				ML5404			Performance	P4C150		AM9218		MK6116	
		μA733				DM5404			Saratoga	SSM2150				LH5115	
		LM733				DM9016C		AM9212B	AMD	AM9128		AM9218	Sharp	NE5517	
		NE592				5404			Gould/AMI	S23128			Signetics	CXK5814P	
		μA733				9016			Microchip	RO9128			Sony	UDN6116	
		NE592				NMC5257A			Mitsubishi	M5M23128			Sprague	STC2018	
		SE592				MB81C74			NCR	NCR23128			STC	TC56116	
		SG1401				MB81C75			Signetics	CM1310		AM9218	TI	SMJ68CE16	
		μA733				MT5C6404			Supertex	UM23128			Toshiba	TC55178	
		μA733M				MT5C6405			UMC	UM23128				TMM2015A	
		NE592				TCC55417			VLSI Tech	VT23128				TMM2018	
		NE592-8				TC55417	(3335)			VT23129				TMM2018AP	
		SE592				TMM55417				VT23129A		AM9218		UM6116	
AM6012	AD	AD6012				V61C62				VT23130				V61C16	
	Exar	XR3464				AM2101		AM92128	AMD	AM9128		AM9218	UMC	V62C16	
	Maxim	AM6012				AM9101			Gould/AMI	S23128			VLSI Tech	VT20C18	(3343, 3345, 3349)
	National	NS8464				ADC5101	(2595)		Microchip	RO9128				DPS92256	(2609)
	NEC	μPC6012				HA5101	(2767)		Mitsubishi	M5M23128		AM92256	Dense-Pac	S23256	
	Plessey	ZN6012				5101			NCR	NCR23128			Gould/AMI	M5M23256	
	PMI	DAC312				MNS101			Signetics	23128			Mitsubishi	NCR23256	
	Raytheon	DAC6012				MCMS101			Supertex	CM1310		AM92256	NCR	NCR23257	
	Signetics	AM6012				MCM145101			UMC	UM23128			OKI	MSM38256	
AM6080	IMI	IMI6080				MM74C920			VLSI Tech	VT23128			Panasonic	MN23256	
	S-MOS	SLA6080				MNS101				VT23129		AM92256		MN23257	
AM6081	Datel	DACUP88	(2596)			LH5101				VT23129A			S-MOS	SMM23256	
	Signetics	NE5018	(3171)			AM2101				VT23130				SMM6325	
		NE5019				AM91L01				VT23131				SMM6326	
		NE5119				Datel	ADC5101	(2595)		VT23138		AM92256	Signetics	23256	
		SE5119				Harris	HA5101	(2767)		CY6116				23256A	
AM6420	Burr-Brown	SHC5320	(2556)			Intel	5101			CY7C128	(2580)	AM92256		TC53257	
	Datel	SHM20	(2597)			MicroNet	MNS101			IH6116	(2670)			VT23256	
	Harris	HA5320				Mitsubishi	M5L5101			CDM6116	(2644, 2653)	AM9232		VT23257	
		HI5320				Motorola	MCMS101							VT23257	
AM6420	LSI Logic	LL5320					MCM145101			CDM6116A	(2644, 2653)			MPS2332	
	TeledyneP	TP4866					MM74C920			GM76C28	(2696, 2700)	AM9232	Commodore	P51C69	
AM686	AD	AD9686	(2426)				MNS101			HM6516	(2747)		Fujitsu	P51C69	
AM688	AD	AD9688	(2419)				LH5101			HM65162			Hitachi	UM2168	
AM7910	National	μA7910					MM2102A			HM6716		AM9232	Intel	51C69	
		LM7910					2102H			HY61C16A				RO9432	
	SGS-Thomson	EF7910					MM2102			HY6116A	(2778)			M58333	
	TI	μA7910					AM9124			IMS1433		AM9232		F3532	
	Toshiba	TA78020					2114A			IDT6116A	(2835)			NM52132	
AM7950	Ericsson	PBL3736					2114-150	(2877)		IDT6116L	(2835)			NCR2332	
AM7990	SGS-Thomson	MK68590					2114-200	(2877)		IDT6116L	(2835)	AM9232		MN2332	
							2114-450	(2877)		IDT6116S	(2835)			LH2332	
AM7991	SGS-Thomson	MK68591								IDT6116L	(2835)			SA88332	
										IDT6116S	(2835)			SA88332	
AM7992	SGS-Thomson	MK68592								IDT6116L	(2835)	AM9232		2332	
AM80535	Siemens	SAB80535								IDT6116S	(2835)			2632A	
AM8085AH	Calmos	CA80C85B								IDT6166		AM9232		SG3532	
	Intel	P8085AH								81C28				CM3200	
	Krueger	P8085A	(2877)							2128-100	(2877)			235C32	
		8085AH	(2877)												
			(Continued)												(Continued)

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ALT CALIBRE DIRECTORY

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Advanced Micro Devices (Cont'd)				• AM9968	Matra-Harris	HM165769		• AM9988	Vitelis	V61C62 V61C64 V62C64 V65C64		• DAC08	Hitachi	HA17008 HA17408	
• AM99C88	Fujitsu	MB81C78A MB8464 MB8464A	(Cont'd)	• AM9968	MicronTech	MT5C1604 MT5C1605		• AM9988	VLSI Tech	VT20C98 VT20C99		• DAC08	Motorola	DAC08	(2971, 2989)
• AM99C88	GE/RCA	CDM6264	(2644, 2653)	• AM9968	Motorola	MCM1423 F1620		• AM9988C	Cypress	CY7C185 CY7C186	(2580) (2580)	• DAC08	National	µA0801 µA0802 DAC08	(2971)
	GoldStar	GM76C88	(2696, 2703)		SGS-Thomson	MK41H68 STC2168 SMJ64C16 TMM2068		• AM9988C	Dense-Pac Exar Fujitsu	XR8464 MB88464 MB81C78A MB8464 MB8464A	(2620)			DAC0801 DAC0802 DAC0806 DAC0807 DAC0808	
	Harris Hitachi	HM65642 HM6264 HM6464 MB6264	(2747)		STC TI Toshiba VLSI Tech	V61C62 VT20C19 VT20C69	(3349) (3343, 3350)	• AM9988C	GE/RCA	CDM6264	(2644, 2653)	• DAC08	NEC	µPC5624 DAC08	(3017)
• AM99C88	Hyundai	HY6264	(2778)	• AM9988	Cypress	CY7C185 CY7C186	(2580) (2580)		GoldStar	GM76C88	(2696, 2703)	• DAC08	PMI	DAC1408 DAC1508	
	Inmos	IMS1630	(2796)	• AM9988	Dense-Pac	DPS88H08			Harris Hitachi	HM65642 HM6264 HM6464 MB6264	(2747)	• DAC08	Raytheon	DAC08	(3025)
	IDT	IDT7165		• AM9988	Exar	MB88464 MB81C78A MB8464 MB8464A	(2620)	• AM9988C	Hyundai	HY6264	(2778)		Samsung	KDA0800 KDA0801 KDA0802 KDA0806 KDA0807 KDA0808	
	Krueger	6264-100 6264-120 6264-150 6264LP-100	(2877) (2877) (2877) (2877)		Fujitsu	6264LP-120			Inmos	IMS1630	(2796)				
		6264LP-120	(2877)	• AM9988	GE/RCA	CDM6264	(2644, 2653)		IDT	IDT7165		• DAC08	Signetics	DAC08 MC1408 DP8303	
		6264LP-150	(2877)		GoldStar	GM76C88	(2696, 2703)	• AM9988C	Krueger	6264-100 6264-120 6264-150 6264LP-100	(2877) (2877) (2877) (2877)	DP8303 DP8304	National Fujitsu Harris Intel	CP82C86H 82C86 8286 DP8304	(2635)
• AM99C88	Matra-Harris	HM2064 HM56162 HM62641 HM65641 HN65641			Harris Hitachi	HM65642 HM6264 HM6464 MB6264	(2747)	• AM9988C	Matra-Harris	HM2064 HM56162 HM62641 HM65641 HN65641				µP8286 µP8286 µP8286	
• AM99C88	MicroLinear	ML8464		• AM9988	Hyundai	HY6264	(2778)	• AM9988C				• D82C84	OKI	MSM82C86 µP8286	
• AM99C88	MicronTech	MT5C6404 MT5C6408			Inmos	IMS1630	(2796)						Calmos	CA82C84A CA82C84A	(2635)
• AM99C88	Mitsubishi	AM99C88 M5M165 M5M5164 M5M5165 M5M5178			IDT	IDT7165		• AM9988C	MicroLinear	ML8464			Fujitsu	CP82C84A 82C84A	
• AM99C88	Mosel	MS6264			Krueger	6264-100 6264-120 6264-150 6264LP-100	(2877) (2877) (2877) (2877)	• AM9988C	MicronTech	MT5C6404 MT5C6408		• D82C84	Intel	8284A	
• AM99C88	Motorola	MCM6064 MCM61164 MCM6164 MCM6164C MCM6264				6264LP-120		• AM9988C	Mitsubishi	AM99C88 M5M165 M5M5164 M5M5165 M5M5178		• D82C84	Mitsubishi	MSL8284A MSL8284AP	
		DP8464		• AM9988	Matra-Harris	HM2064 HM56162 HM62641 HM65641 HN65641						• D82C84	NEC	µPB8284 µPB8284A µPD71084	
• AM99C88	National	NMC6164				6264LP-150	(2877)	• AM9988C	Mosel	MS6264		• D82C84	OKI	µPD71084C MSM82C84	
• AM99C88	NEC	µPD4364		• AM9988	MicroLinear	ML8464		• AM9988C	Motorola	MCM6064 MCM61164 MCM6164C		• D82C84	Samsung	UC82C84A UC82C84A	
	OKI	MSM5164 MSM5165 MSM5188		• AM9988	MicronTech	MT5C6404 MT5C6408		• AM9988C	National	DPM6264		• D82C84	Unicorn	UM82C84A UM8284A	
• AM99C88	Performance	P4C164 P4C188		• AM9988	Mitsubishi	AM99C88 M5M165 M5M5164 M5M5165 M5M5178		• AM9988C				• D82C84	UMC	UM82C84A UM8284A	
• AM99C88	S-MOS	SRM2064 SRM2264				MCM6164 MCM6164C MCM6264		• AM9988C	NEC	NMC6164 µPD4364		• D82C84	VLSI Tech	VL82C84A CA82C88	
• AM99C88	Samsung	KM6264 KM6264A	(3036) (3036)	• AM9988	Mosel	MS6264 MCM6064 MCM61164 MCM6164 MCM6164C		• AM9988C	OKI	MSM5164 MSM5165 MSM5178 MSM5188		• D82C84	Fujitsu	MBL8288 CP82C88	(2635)
• AM99C88	Sharp	LH5164 LH5165		• AM9988	Motorola	MCM6164 MCM6164C MCM6264		• AM9988C	Performance	P4C164 P4C188			Harris	82C88 8288	
• AM99C88	Sony	CVK5864 CXK5164P CXK5863P CXK5865 CXK5865P		• AM9988		MCM6164C MCM6264		• AM9988C	S-MOS	SRM2064 SRM2264		• D82C84	Intel	8288 8288	
• AM99C88	STC	STC6264 SMJ68CE64		• AM9988	National	DP8464 NMC6164		• AM9988C	Samsung	KM6264 KM6264A	(3036) (3036)	• D82C84	Mitsubishi	µPB8288 µPB8288	
	TI	TC5565		• AM9988	NEC	µPD4364		• AM9988C	Sharp	LH5164 LH5165			NEC	µPD71088C MSM82C88	
	Toshiba	TC5565A TC5585 TC5588 TMM2063 TMM2064 TMM2088		• AM9988	OKI	MSM5164 MSM5165 MSM5188		• AM9988C	Sony	CVK5864 CXK5164P CXK5863P CXK5865 CXK5865P			OKI	MSM82C88 K82C88	
• AM99C88	Vitelis	V61C62 V61C64 V62C64 V65C64		• AM9988	Performance	P4C164 P4C188		• AM9988C					Samsung	UM82C88 UM8288	
• AM99C88	VLSI Tech	VT20C98 VT20C99		• AM9988	S-MOS	SRM2064 SRM2264		• AM9988C	STC	STC6264 SMJ68CE64		D8237A	VLSI Tech	VL82C88 AMD8237A	
• AM9968	AMD	AM2168 AM99CL68		• AM9988	Samsung	KM6264 KM6264A	(3036) (3036)	• AM9988C	Toshiba	TC5565 TC5565A TC5585 TC5588 TMM2063 TMM2064 TMM2088			AMD	8237A 8237A-4 8237A-5	
• AM9968	Cypress	CY7C168 CY7C169	(2580) (2580)	• AM9988	Sharp	LH5164 LH5165		• AM9988C					Calmos	CA82C37A CP82C37A	
• AM9968	Fujitsu	MB81C69 MB81C69A MB8168		• AM9988	Sony	CVK5864 CXK5164P CXK5863P CXK5865 CXK5865P		• AM9988C					Harris	8037A	
• AM9968	GoldStar	GM76C164		• AM9988	STC	STC6264 SMJ68CE64		• AM9988C					Intel	8237A 8237A-4 8237A-5	
• AM9968	Inmos	IMS1420 IMS1421 IMS1424		• AM9988	Toshiba	TC5565 TC5565A TC5585 TC5588 TMM2063 TMM2064 TMM2088		• AM9988C					Mitsubishi	MSM82C37A M5M82C37AP	
• AM9968	IDT	IDT6120 IDT6169		• AM9988		6264LP-120		• AM9988C					NEC	µPD8237 µPD8237A	
			(Continued)			6264LP-150		• AM9988C					OKI	SMC82C37AC-5	
								• AM9988C					Samsung	KS82C37A	
								• AM9988C					Toshiba	TMP82C37	(3339)
								• AM9988C					Unicorn	UC82C37A	
								• AM9988C					UMC	UM8237A UM8737A	
								• AM9988C					VLSI Tech	VL82C37A	
								• AM9988C					Calmos	CA82C55A	
								• AM9988C					Harris	CP82C55A	
								• AM9988C							(Continued)

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ALT SOURCE DIRECTORY

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Advanced Micro Devices (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
LM339A	PMI	CMP04 PM139 PM339		P8051	Intel	P8051 P8051AH		SN54LS162A	SGS-Thomson	T54LS162 54LS162A SN54LS162A		SN54LS240	SGS-Thomson	T54LS240 SN54LS240	
LM339A	Raytheon	LM339	(3025)	SE592	Adv Analog GE/Intersil	A733 NE592-8 SE592		SN54LS163A	Motorola	SN54LS163A	(2942)	SN54LS241	Motorola	SN54LS241 (2939)	
MCM6256	Fujitsu	HM50256 HM50257		SE592	Hitachi	HA17733		SN54LS163A	SGS-Thomson	T54LS163 54LS163A SN54LS163A		SN54LS242	Motorola	SN54LS242 (2939)	
MCM6256	Mitsubishi	MSM4257 MSM4256		SE592	Motorola	MC1733	(2953, 2989) (2991)	SN54LS164	Motorola	SN54LS164 (2943)		SN54LS243	Motorola	SN54LS243 (2939)	
MCM6256	Motorola	MCM6256 MT1259		SE592	National	NE592 HA17733		SN54LS164	SGS-Thomson	T54LS164 54LS164 SN54LS164		SN54LS244	Motorola	SN54LS244 (2939)	
MCM6256	NEC	μPD41256 MSM37256		SE592	Signetics	μA733 NE592 SE592		SN54LS168A	Motorola	SN54LS168 (2943)		SN54LS251	Motorola	SN54LS251 (2944)	
MCM6256	OKI	MSM37257A MSM41256		SE592	SiiconG	SG1401 μA733 μA733M		SN54LS168A	SGS-Thomson	T54LS168 SN54LS169 (2943)		SN54LS253	Motorola	SN54LS253 (2944)	
MCM6256	Panasonic	MM41256 KM41256A	(3036)	SE592	TI	NE592 NE592-8 SE592		SN54LS169A	Motorola	DM54LS169 54LS169		SN54LS253	National	DM54LS253 DM7214 54LS253	
MCM6256	Samsung	TMS4257 TMM41256	(3036)	SN54LS138	Motorola	SN54LS138 (2945)		SN54LS169A	SGS-Thomson	T54LS169 SN54LS169B		SN54LS253	SGS-Thomson	T54LS253 54LS253	
MCM6256	TI	V51C256 V51C257		SN54LS138	National	DM54LS138 54LS138		SN54LS174	Motorola	SN54LS174 (2942)		SN54LS273	Motorola	SN54LS273 (2942)	
MCM6256	Toshiba	WCM41256 M881257		SN54LS138	SGS-Thomson	T54LS138 54LS138		SN54LS174	SGS-Thomson	T54LS174 54LS174		SN54LS273	Motorola	SN54LS273 (2941)	
MCM6257	Vitelc	HM50257 MCM6257B		SN54LS139	Motorola	SN54LS139 (2945)		SN54LS175	Motorola	SN54LS175 (2942)		SN54LS273	Motorola	SN54LS273 (2941)	
MCM6257	Western	V51C256 V51C257		SN54LS139	National	DM54LS139 54LS139		SN54LS175	SGS-Thomson	T54LS175 54LS175		SN54LS373	Motorola	SN54LS373 (2942)	
MCM6257	Fujitsu	MCM6257 MCM6257B		SN54LS148	SGS-Thomson	T54LS148 54LS148		SN54LS181	Motorola	SN54LS181 (2947)		SN54LS374	Motorola	SN54LS374 (2942)	
MCM6257	Hitachi	V51C256 V51C257		SN54LS151	Motorola	SN54LS151 (2944)		SN54LS181	SGS-Thomson	T54LS181 54LS181		SN54LS374	Motorola	SN54LS374 (2942)	
MCM6257	Motorola	MCM6257 MCM6257B		SN54LS151	National	DM54LS151 54LS151		SN54LS190	Motorola	SN54LS190 (2942)		SN54LS377	Motorola	SN54LS377 (2942)	
MCM6257	Vitelc	WCM41256 M881257		SN54LS151	SGS-Thomson	T54LS151 54LS151		SN54LS190	SGS-Thomson	T54LS190 54LS190		SN54LS377	Motorola	SN54LS377 (2942)	
M2018-33	Xilinx	XC2018-33 (4326)		SN54LS153	Motorola	SN54LS153 (2944)		SN54LS190	SGS-Thomson	T54LS190 54LS190		SN54LS378	Motorola	SN54LS378 (2942)	
M2018-50	Xilinx	XC2018-50 (4326)		SN54LS153	SGS-Thomson	T54LS153 54LS153		SN54LS191	Motorola	SN54LS191 (2942)		SN54LS378	Motorola	SN54LS378 (2942)	
M2018-70	Xilinx	XC2018-70 (4326)		SN54LS157	Motorola	SN54LS157 (2944)		SN54LS191	SGS-Thomson	T54LS191 54LS191		SN54LS379	Motorola	SN54LS379 (2942)	
M2064-20	AMD	M2064-33 (4326)		SN54LS157	National	DM54LS157 54LS157		SN54LS192	Motorola	SN54LS192 (2942)		SN54LS385	Motorola	SN54LS385 (2947)	
M2064-33	MMI	M2064-33 (4326)		SN54LS158	SGS-Thomson	T54LS158 54LS158		SN54LS192	SGS-Thomson	T54LS192 54LS192		SN54S189	Motorola	SN54S189 (2942)	
M2064-33	MMI	M2064-33 (4326)		SN54LS158	Motorola	SN54LS158 (2944)		SN54LS192	SGS-Thomson	T54LS192 54LS192		SN54S189	Motorola	SN54S189 (2942)	
M2064-50	MMI	M2064-50 (4326)		SN54LS158	National	DM54LS158 54LS158		SN54LS193	Motorola	SN54LS193 (2942)		SN54S289	Motorola	SN54S289 (2942)	
M2064-70	GoldStar	GM6370 M2064-70 (4326)		SN54LS158	SGS-Thomson	T54LS158 54LS158		SN54LS193	SGS-Thomson	T54LS193 54LS193		SN54S289	Motorola	SN54S289 (2942)	
M3020-50	Xilinx	XC3020-50 (4324)		SN54LS160A	Motorola	SN54LS160A (2942)		SN54LS194A	Motorola	SN54LS194A (2944)		SN74LS161	Hitachi	SN74LS161A (2942)	
M3020-70	Xilinx	XC3020-70 (4324)		SN54LS161A	Motorola	SN54LS161A (2942)		SN54LS194A	SGS-Thomson	T54LS194 54LS194A SN54LS194A		SN74LS161	Motorola	SN74LS161A (2942)	
NE592	Adv Analog GE/Intersil	A733 μA733 NE592-8 SE592		SN54LS161A	National	DM54LS161A 54LS161A		SN54LS195A	Motorola	SN54LS195A (2944)		SN74LS161	Panasonic	SN74LS161A (2942)	
NE592	Hitachi	HA17733 MC1733	(2953, 2989) (2991)	SN54LS161A	SGS-Thomson	T54LS161 54LS161A SN54LS161A		SN54LS240	Motorola	SN54LS240 (2939)		SN74LS240	Hitachi	SN74LS240 (2939)	
NE592	Motorola	NE592 μA733 LM733		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	National	SN54LS240 (2939)		SN74LS240	Motorola	SN74LS240 (2939)	
NE592	National	SE592 μA733 LM733		SN54LS162A	SGS-Thomson	T54LS162 54LS162A SN54LS162A		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	Panasonic	SN74LS240 (2939)	
NE592	Signetics	SE592 μA733 LM733		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
NE592	SiiconG	SG1401 μA733 μA733M		SN54LS162A	SGS-Thomson	T54LS162 54LS162A SN54LS162A		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
NE592	TI	NE592 NE592-8 SE592		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
N8T26	Motorola	MC6880A (2981) MC8T26 (2981)		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
N8T26	Signetics	N8T26 (3076)		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
N8T26A	Motorola	MC8T26A (2981)		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
N8T26A	National	μA8T26A DS8T26A		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
N8T26A	Signetics	N8T26A (3076)		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
N8T28	Motorola	MC8T28 (2981)		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
P80C31	Fujitsu	MBL80C31		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
P80C31	Intel	P80C31 P80C31BH		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
P80C31	OKI	M80C31 M80C31		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
P80C31	Siemens	SAB80C31 SC80C31		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
P8031AH-15	Siemens	SAB8031A-16		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
P8051	Fujitsu	MLB8051 (2635) MLB8051AH		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS240	SGS-Thomson	T54LS240 SN54LS240		SN74LS240	SGS-Thomson	SN74LS240 (2939)	
		(Continued)													(Continued)

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Advanced Micro Devices (Cont'd)				8156	Harris	HS81C56		8304	National	DP8304		99C88	STC	STC6264	
723	Raytheon	RC723		8156	Intel	8156			NEC	μPB8286			TI	SMJ68CE64	
723	Samsung	LM723	(3039)	8156-2	NEC	μPD8156-2		8304	OKI	μPD71086			Toshiba	TC5565	
	SGS-Thomson	μA723		82C284	Intel	82C284		9264	Microchip	MSM82C86				TC5565A	
		LM723			Samsung	KS82C284			Mitsubishi	R09464				TC5585	
		L123		82C54	UMC	UM82C284			National	MM52164				TC5588	
		SFC2723			Calmos	CA82C54			Signetics	26564				TMM2063	
723	Signetics	μA723			Harris	CP82C54		9280	Fujitsu	MB7118		99C88	Vitellic	TMM2064	
	SiliconG	SG723			Intel	82C54			Signetics	N82LS135				TMM2088	
	TI	μA723				8254			TI	28L22				V61C62	
		μA723M			Mitsubishi	M5M82C54		99C60	AMD	AM99CL68	(2580)			V62C64	
733	Adv Analog	A733			NEC	μPD71054C			Cypress	CY7C170		99C88	VLSI Tech	V65C64	
	GE/Intersil	μA733			OKI	MSM82C54			MicronTech	MT5C1605				VT20C98	
		NE592-8			S-MOS	SMC82C54A			Motorola	MCM6271				VT20C99	
		SE592				SMC82C54AC			Performance	P4C170					
733	Hitachi	HA17733	(2953, 2989)		Samsung	KS82C54			SGS-Thomson						
	Motorola	MC1733	(2951)		Unicorn	UC82C54A				MK41H78					
		NE592		82C88	UMC	UM8254		99C60		MK4170					
		SE592			VLSI Tech	VL82C54			Toshiba	TMM2978					
733	National	μA733			Intel	82288			VLSI Tech	CT2078					
733	Signetics	LM733			Samsung	KS82C288				VT20C78	(3345, 3352)				
		μA733		82005	UMC	UM82C288				VT20C79	(3343, 3352)				
		NE592		82025	SEEQ	82005				VT2079					
		SE592			SEEQ	82025		99C88	Cypress	CY7C185	(2580)				
733	SiliconG	SG1401		8216	Intel	8216				CY7C186	(2580)				
	TI	μA733			National	DP8216		99C88	Dense-Pac	DP588H08					
		μA733M				INS8216			Exar	XR8464	(2620)				
		NE592		8216	NEC	μPB8216			Fujitsu	MB8B464					
		NE592-8		8224	Intel	8224				MB81C78A					
		SE592			National	DP8224				MB8464					
747	GE/RCA	CA747	(2647)			INS8224		99C88	GE/RCA	MB8464A	(2644, 2653)				
	Hitachi	HA17747		8226	Signetics	S8224			GoldStar	GM76C88	(2696, 2703)				
	MicroPwr	MPOP04			Intel	8226			Harris	HM65642	(2747)				
	Motorola	MC1747	(2954, 2989)		Mitsubishi	DP8226			Hitachi	HM6264					
					National	INS8226				HM6464					
						INS8226				MB6264					
	National	μA747		8226	NEC	μPB8226				HY6264	(2778)				
		LM747		8228	Intel	8228				IMS1630	(2796)				
747	NEC	μPC1418			National	DP8228		99C88	Hyundai	IDT7165					
	PMI	PM747				μPB8228			Inmos	6264-100	(2877)				
747	Raytheon	RC747	(3024)		NEC	SN74S428			IDT	6264-120	(2877)				
747	Signetics	RM747	(3024)		TI	TIM8228			Krueger	6264-150	(2877)				
	TeledyneS	μA747		8237A	AMD	AM8237A				6264LP-100	(2877)				
	TI	TSC747				D8237A				6264LP-120	(2877)				
		μA747			Calmos	CA82C37A				6264LP-150	(2877)				
		μA747M			Harris	CP82C37A									
80186	Fujitsu	MBL80186	(2635)		Intel	8037A									
	Intel	80186				8237									
	Krueger	80186	(2877)			8237A-4									
	Siemens	SAB80186				8237A-5									
80188	Fujitsu	MBL80188	(2635)		Mitsubishi	M5M82C37A		99C88	Matra-Harris	HM2064					
	Intel	80188				M5M82C37AP				HM56162					
	Siemens	SAB80188				μPD8237				HM62641					
					NEC	μPD8237A				HM65641					
80286	Harris	80C286	(2735)			μPD8237A				HN65641					
	Intel	80286			OKI	MSM82C37A				ML8464					
	Krueger	80286	(2877)		S-MOS	SMC82C37AC-5		99C88	MicroLinear	MT5C6404					
					Samsung	KS82C37A			MicronTech	MT5C6408					
8035	Intel	INS8035			Toshiba	UM8237A				AM99C88					
	National	μPD8035			Unicorn	UM8237A		99C88	Mitsubishi	M5M165					
	NEC	SAB8031A			UMC	UM8737A				M5M5164					
	Siemens	SCN8035				VL82C37A				M5M5165					
	Signetics	TMP8035			VLSI Tech	P8251				M5M5178					
	Toshiba	8041A		8251	Intel	82C51				MS6264					
		μPD8041A				INS8251		99C88	Mosel	MCM6064					
8041	Intel	8048			National	μPD8251A			Motorola	MCM61164					
8048	National	INS8048			NEC	MSM82C51				MCM6164C					
	NEC	μPD8048			OKI	MSM82C51A				MCM6264					
	Signetics	SCN8048			S-MOS	SMC82C51AC		99C88	National	DP8464					
	Toshiba	TMP8048	(3339)		SMC	COM8251A				NMC6164					
8085	AMD	8085A			Toshiba	μPD8251	(3339)			μPD4364					
	Intel	8085		8257	Intel	8257				MSM5164					
					NEC	μPD8257				MSM5165					
8085	Toshiba	TMP8085			Intel	8279				MSM5188					
		TMP8085A		8279-5	Intel	μPD8279-5				P4C164					
8085A	Intel	8085			NEC	CP82C87H		99C88	Performance	P4C188					
				8287	Harris	82C87				SRM2064					
	Toshiba	TMP8085			Intel	8287				SRM2264					
		TMP8085A				μPD8287		99C88	Samsung	KM6264A	(3036)				
8088	EDI	EDH8088CL			NEC	μPS71087				KM6264A	(3036)				
	Fujitsu	8088	(2635)			MSM82C87				LH5164					
	Intel	8088		8304	OKI	DP8304				LH5165					
	Krueger	8088	(2877)		AMD	MBL8286	(2635)			CVK5864					
	Matra-Harris	8088			Fujitsu	CP82C86H		99C88	Sony	CVK5863P					
					Harris	82C86				CVK5865					
8155	Intel	HS81C55			Intel	8286				CVK5865P					
	NEC	μPD8155													
	Toshiba	TMP8155	(3339)												

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Analog Devices (Cont'd)				ADDAC71	Burr-Brown	DAC700 (2552) DAC701 (2552) DAC702 (2552) DAC703 (2552) DAC71 (2552) DAC72 (2552)		ADLH0033	Elantec	(Cont'd)		ADSHC85	Burr-Brown	SHC85 (2556)			
ADADC85S	Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401) ADADC84 (2417) ADADC85 (2417, 2462)										ADSP1008	TRWLSI	TDC1008 TMC2208 AM29C509 IDT LogicDev TRWLSI			
	AD			ADDAC80	MicroNet	MNDAC71 (2410) DAC80 (2553) DAC800 (2553) DAC85 (2553) DAC850 (2596) DACHZ12B (2596)			Harris Maxim	(2766)		ADSP1009	AMD	AM29C509 IDT LogicDev TRWLSI			
	Burr-Brown	ADADC87 (2557) ADC84 (2557) ADC85 (2557) ADC87 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)			Burr-Brown				Micra MicroPwr			ADSP1010	AMD	AM29L510 AM29510 ADSP1010A (2436, 2462)			
	Datel				Datel				National				AD				
	HybridSys	ADC581 ADC581B HSADC85 HSADC85C DDC5240 MNADC84 MNADC85 MNADC87 MN5240			HybridSys				OEI				Cypress	CY7C510 (2590)			
	ILC-DDC				HybridSys				TeledyneC				Intel	IM29C510 LMA1010 LMA2010			
	MicroNet				HybridSys				TeledyneP				LogicDev				
ADADC87	Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401) ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)		ADDAC85	MicroNet	DAC80 (2553) DAC800 (2553) DAC85 (2553) DAC850 (2596) DACHZ12B (2596)		ADOP07	AD				LSI Logic	L64010 (2888)			
	AD				AD				AD				Matra-Harris	MS2010 SN74HCT9510			
	Burr-Brown	ADC84 (2557) ADC85 (2557) ADC87 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)			National				GE/Intersil				TI	TDC1010 TMC2210 VL2010			
	Datel				TeledyneP				GE/RCA				VLSI Tech	WS59510 WS59610 WTL1010			
	HybridSys	ADC581 ADC581B HSADC85 HSADC85C DDC5240 MNADC84 MNADC85 MNADC87 MN5240			AD								Weitek	WTL1010 WTL2010 WTL2044 WTL2245			
	ILC-DDC				Burr-Brown				National				ADSP1010A	AMD	AM29L510 AM29510 ADSP1010 (2436)		
	MicroNet				AD								AD				
ADC10	Adv Analog	CYAD10		ADG200	MicroNet	DG200 (2671) IH200 IH200 SW05 DG200A PIC7513 DG201 DG201A IH201 H201 DG201A MAX331 MP201 LF11201 LF13201 SW201 DG201A TSC4201 TSC4202 H201HS DG202 TSC4202 DG212 DG309 TSC4201 TSC4202			Raytheon				Cypress	CY7C510 (2590)			
ADC1100	Adv Analog	ADC1100			GE/Intersil				PMI				Intel	IM29C510 LMA1010 LMA2010			
ADC1111	Adv Analog	ADC1111			HybridSys				LinearTech				LogicDev				
ADC12	Adv Analog	CYAD12			MicroNet				Harris				VLSI Tech	WS59510 WS59610 WTL1010			
ADC141	Adv Analog	ADC141			GE/Intersil				LinearTech				Weitek	WTL1010 WTL2010 WTL2044 WTL2245			
ADC16	Adv Analog	A856			MicroNet				Motorola				ADSP1012	IDT	IDT7112 IMI		
ADC171	Adv Analog	ADC171			MicroPwr				PMI				IMI	MPY12MI LMU12			
ADC71	Burr-Brown	ADC71 (2557)			National				Motorola				LogicDev	LMU12 MPY012H MPY12HJ			
ADC72	Burr-Brown	ADC72 (2557)			MicroPwr				PMI				TRWLSI	MPY016H MPY016K TMC216 TMC216H			
ADC8	Adv Analog	CYAD8			MicroPwr				LinearTech				ADSP1016	AMD	AM29C516 AM29516 CY7C516 (2590)		
ADC800	TeledyneS	TSC800			MicroPwr				LinearTech				Cypress	HMU16 IDT LogicDev			
ADAC-08	AD	AD1408 (2471)			MicroPwr				LinearTech				Harris	HMU16 IDT7216 LMU16 LMU216 L64016			
	Datel	DACIC8B (2596) DACIC8BC (2596) DAC08B (2596)			MicroPwr				LinearTech				IDT	LMU16 LMU216 L64016			
	Hitachi	HA17008 HA17408			MicroPwr				LinearTech				LSI Logic	L64016 L64016A MS2516			
	Motorola	DAC08 (2971, 2989) MC1408 (2971)			MicroPwr				LinearTech				Matra-Harris	MS2516 SN741616			
	National	μA0801 μA0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μPC624 DAC08 (3017)			MicroPwr				LinearTech				TI	SN741616 MPY016H MPY016K TMC216 TMC216H WTL1016 WTL1516 WTL2516			
	NEC				MicroPwr				LinearTech				TRWLSI	MPY016H MPY016K TMC216 TMC216H WTL1016 WTL1516 WTL2516			
	PMI				MicroPwr				LinearTech				ADSP1080	AMD	AM25S57 ADSP1081 (2436, 2462)		
	Raytheon				MicroPwr				LinearTech				AD				
	Samsung	KDA0800 KDA0801 KDA0802 KDA0806 KDA0807 KDA0808 DAC08 MC1408 DAC100			MicroPwr				LinearTech				LogicDev	LMU08 LMU8 MPY08HU TMC28KU			
	Signetics				MicroPwr				LinearTech				LogicDev	LMU08 LMU8 MPY112K VFC32 (2559)			
ADAC100	PMI				MicroPwr				LinearTech				AdvFVC32				
					MicroPwr				LinearTech				MCE	MCEVFC32			
					MicroPwr				LinearTech				Plessey	ADVFC32			
					MicroPwr				LinearTech				Brooktree	BT471			

* Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Analog Devices (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
ADV478	Brooktree	BT478		AD1408	Samsung	KDA0802		AD308	GE/Intersil	AD308		AD381	SGS-Thomson	LF155	
• ADX3554	Burr-Brown	3554	(2543)			KDA0806			Motorola	LM308	(2952, 2989)		TI	LF353	
AD0042	TeledyneP	TP3554			Signetics	KDA0808			National	μA308		AD3860	HybridSys	HS3860	
	AD	AD503	(2470)			DAC08			PMI	LM308		AD389	MicroNet	MN3860	
	GE/Intersil	AD503		AD1508	Datel	MC1408				OP97			Burr-Brown	SHC76	(2556)
	National	LH0042			Motorola	DACIC8BM	(2971)			PM1008		AD503	HybridSys	HS9716	
AD101	PMI	OP41			National	MC1508				PM1012			AD	AD0042	
	GE/Intersil	AD101		AD201	PMI	DAC1508			Raytheon	PM308			GE/Intersil	AD503	
	LinearTech	LM101			Signetics	MC1508			LinearTech	LM308A			National	LH0042	
	Motorola	LM101	(2952)		AD	ADOP07	(2427, 2429, 2462)		Motorola	LM308A	(2952, 2989)	AD504	PMI	OP41	
	National	μA101				AD707	(2427, 2429)						TeledyneP	OP05	
	PMI	OP77			GE/Intersil	ICL8008				National	μA308A	AD506	AD	TP1319-01	
	Raytheon	LM101	(3024)			OP07				LM308A				AD542	(2427, 2462)
	SGS-Thomson	LM101			GE/RCA	CA201	(2647)			PM308A			National	LH0022	
		LS101				CA301			AD311	GE/RCA	CA311	(2648)		LH740A	
AD108	SiliconG	SG101				CA307	(2647)			LinearTech	LM311		PMI	LM0052	
	GE/Intersil	LM108				CA3193	(2647)			Motorola	LM2903	(2958, 2989)		OP41	
	LinearTech	LM108			National	CA3493	(2647)				LM311	(2958, 2989)	TeledyneP	OP43	
	MicroPwr	MP108				μA207								TP1424	
	Motorola	LM108	(2952)			μA307								TP1425	
	National	μA108				LH0044				National	μA311		AD507	Burr-Brown	3508
		μA208				OP06					LM2903			Datel	AM462-1
	PMI	LM108				OP77				NEC	μPC311			AM462-2	(2598)
		OP97			PMI	OP77	(3024)			PMI	PM211			HA2620	(2598)
		PM1008			Raytheon	LM201				Raytheon	LM311			HA2622	
		PM108				RC725				SGS-Thomson	LM2903		AD509	PMI	OP64
AD108A	SiliconSys	SSI108				RM714					LM311			Burr-Brown	3507
	TI	LM208			AD2020	RM725				Signetics	LM2903			DataLinear	SP2520
	LinearTech	LM108A				CA3162					LM2903			Elahtec	EHA2520
	Motorola	LM108A	(2952)		AD208A	TSC04					LM311			Harris	HA2520
	National	μA108A				LM208A	(2952, 2989)			SiliconG	SG311		AD510	TeledyneP	TP1322
	PMI	PM108A				LM208A				TI	LM2903			AD	ADOP27
	TI	LM108A				OP97				Toshiba	TA75393				(2429, 2462)
AD111	LinearTech	LM111				PM208A				AMD	29520/1				AD517
	Motorola	LM111	(2958)		AD211	LM211	(2958, 2989)		AD3445		29520/1A			Burr-Brown	OPA27
	National	μA111				LM211				Hitachi	HA1393				2542, 2544)
	PMI	LM111				PM211				Maxim	AD3554			Harris	HAOP27
	Raytheon	LM111	(3025)			SGS-Thomson				Sprague	ULN3793			LinearTech	LT1007
	SGS-Thomson	LM111				LM211				Adv Analog	SH347	(2403)		OP27	
		LM111				LM211				HybridSys	HS346			Maxim	OP27
AD1148	Signetics	SG111				SG211			AD346	MicroNet	MN346			MicroPwr	MPOP27
AD1376	TI	TL111				LM211					MN347			Motorola	OP27
	DataLinear	SP1148				HS2700				AD3542	OPA111	(2540)		PMI	OP27
	AD	AD376	(2418, 2462)		AD2700	R675-4					3542				OP77
	Burr-Brown	ADC76	(2557)			HC2700					SPA111			Raytheon	OP27
		AD76				HC2710					HS362				(3024)
AD1403	LinearTech	LT1009				AD2700			AD362	HybridSys	AD371			TI	RC714
	Motorola	MC1400				HS2701			AD370		DAC346			Burr-Brown	OP27
		MC1500				R675-5					DAC347				AD515
	National	LM185-2.5				HC2701					DAC356			AD	OPA104
		LM236				HC2710					MN370			Harris	OP07
		LM285-2.5				AD2701					MN371				HA5130
		LM385-2.5				HS2702					AD371			LinearTech	HA5135
	PMI	REF03				R675-3				AD	AD370	(2470)		LT1001	
		REF43	(3012)			HC2702				HybridSys	DAC346			OP07	
	Raytheon	REF03				HC2712					DAC347			Maxim	MAX400
	SiliconG	SG3503				HC201					DAC356			OP07	
	TeledyneS	TSC05				AD2710					MN370			Micra	MC0021
AD1408	AD	ADDAC-08				AD2711					MN371			MicroPwr	MPOP07
	Datel	DACIC8B				AD301					AD1376	(2418)		National	μA714
		DACIC8BC	(2596)			GE/RCA	CA301A	(2647)			AD76	(2557)		PMI	OP77
		DACIC8B	(2596)			LinearTech	LM301				AD544	(2427, 2462)		Raytheon	OP07
	Hitachi	HA17008				Motorola	LM301A	(2952, 2989)		AD381		(2540, 2543)		TI	LT1001
	Motorola	DAC08	(2971, 2989)				LM301								OP07D
		MC1408	(2971)			National	μA301				LinearTech			GoldStar	GL317
		μA0801					μA301A							LinearTech	LM318
		μA0802					LM301								LT1023
		DAC08					LM301A							National	LM318
		DAC0801					LM301A							NEC	μPC317
		DAC0802					μPC301								μPC318
		DAC0806					μPC301A							PMI	OP42
		DAC0807					OP77								OP421
		DAC0808					Raytheon	LM301	(3024)					SGS-Thomson	LM318
		MA0802M					SGS-Thomson	LM301						Signetics	NE530
		μPC624						LM301A							NE538
AD1408	PMI	DAC08	(3017)					LM301A							SE530
		DAC1408						LM301							SE531
		DAC1508						LM301A							SE538
	Raytheon	DAC08	(3025)					LM310							LM318
	Samsung	KDA0800						μPC811						TI	IH5201
		KDA0801						OP15						GE/Intersil	MN5201
								OP215						MicroNet	MN5202
								OP42						MicroNet	MN5203
								OP43						MicroNet	MN5204
								PM155						MicroNet	MN5205
															(Continued)

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALT SOURCE DIRECTORY

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ALT. SOURCE DIRECTORY

◆ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALT. SOURCE DIRECTORY

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Atmel (Cont'd)				AT28C64 (Cont'd) (3038)				BT102 Adv Analog VDAC1842 (2404)				ADC84 MicroNet MNADC87 (2401)			
AT27C256 (Cont'd)				Samsung KM28C64 (3038)				BT103 National BT106				ADC85 Adv Analog ADC84 (2401)			
NEC μPD27C256A				SEEQ DQ2864				BT106 Adv Analog VDAC1842 (2404)				AD ADC85 (2401)			
OKI MSM27C256				DQ2864H				BT108 National FVG101				AD ADC87 (2401)			
SEEQ 27C256				DQ52B33				BT109 National FVG108				Burr-Brown ADADC84 (2417)			
SGS-Thomson				28C64				BT248 National TDC1018				Datel ADADC85 (2417, 2462)			
TS27C256				2864				BT248 National IDT75MB38				HybridSys ADC581 (2401)			
Signetics 27C256				Xicor X2864A (3412, 3452)				BT248 National IDT75MB38				ADC87 (2557)			
Sony CXK54256P				X2864B (3412, 3452)				BT248 National TDC1318				Datel ADCHX12B (2595)			
TI SMJ27C256 (3286)				X2864H (3412, 3452)				AD AD9048 (2419, 2446, 2462)				ADC581 (2595)			
TMS27C256 (3326)				AT2804 Microchip 28C04				ADC304 (2858)				ADC581B (2595)			
TMS27PC256 (3326)				SEEQ 2804				IDT IDT75C48 (2858)				HSADC85 (2595)			
TMS27C256 (3390)				Xicor X2804 (3410, 3450)				Sony CXA1096				ILC-DDC DDC5240			
TMS27C256F (3390)				Bell				TRWLSI TDC1048				MicroNet MNADC84			
AT27C512				BHA900 Asahi HW101A				Adv Analog VDAC444				ADC87 Adv Analog ADC84 (2401)			
Fujitsu MBM27C512				HW200A				ADC304 (2858)				AD ADADC84 (2417)			
Hitachi HN27C512G				HW300A				IDT IDT75C451				AD ADADC85 (2417, 2462)			
IDT IDT7M856S				HW300B				National FVG450				ADC87 (2401)			
Intel MD27512				H300A				IDT IDT75C451				AD ADADC84 (2417)			
Krueger 27C512-200				BHT900				Adv Analog RGBDAC4				AD ADADC85 (2417, 2462)			
Microchip 27C512 (2914)				BH200				IDT IDT75C458 (2857)				ADC87 (2401)			
Mitsubishi M5L27512				BH700				AD ADV471 (2412, 2444)				Burr-Brown ADADC87 (2557)			
NEC μPD27C512				FH301				AD ADV478 (2412, 2444)				Datel ADC85 (2557)			
Ricoh μPD27C512D				H300A				ADC574A Adv Analog ADC574 (2401)				HybridSys ADC581 (2401)			
TI SMJ27C512 (3286)				BHT900				AD AD574 (2460)				ADC87 (2401)			
TMS27C512 (3326)				Asahi HW101A				Datel ADC574A (2595)				AD ADADC84 (2417)			
TMS27PC512 (3326)				HW200A				GoldStar GL574 (2714)				ADC87 (2401)			
Toshiba TC54512				HW300A				Harris HI574 (2756)				ADC87 (2401)			
VLSI Tech VT27C512				H300A				HybridSys HS574				ADC87 (2401)			
Waferscale WS27C512L (3390)				BH200				Maxim MAX574				ADC87 (2401)			
GoldStar GL3320 (2711)				BH700				MCE MCE574				ADC87 (2401)			
ICT 27C641 (2875)				FH301				MicroNet MN574				ADC87 (2401)			
Microchip 27HC64 (2907)				H300A				MicroPwr MP574				ADC87 (2401)			
NEC μPC1401C				BHA900				TeledyneP TP574A				ADC87 (2401)			
Raytheon 39VP864				BHT900				AD AD674 (2460, 2462)				ADC87 (2401)			
Sharp LH5763				BH700				DataLinear SP674A				ADC87 (2401)			
Toshiba TA7644BP				FH301				Harris HI674A (2757)				ADC87 (2401)			
Waferscale WS5C49				H300A				Hitachi HA17824				ADC87 (2401)			
WS5C49B (3390)				BHA900				AD ADC71				ADC87 (2401)			
AT27HC641				BHT900				AD ADC72				ADC87 (2401)			
Crystal CS203				BH700				AD AD1376 (2418, 2462)				ADC87 (2401)			
Cypress CY7C261 (2585)				FH301				Burr-Brown AD76				ADC87 (2401)			
GE/RCA CD22203 (2645)				H300A				AD AD632 (2432, 2462)				ADC87 (2401)			
ICT 27C641 (2875)				BHA900				AD AD1376 (2418, 2462)				ADC87 (2401)			
Microchip 27HC641 (2908)				BHT900				AD AD1376 (2418, 2462)				ADC87 (2401)			
National 93Z667				BH700				AD AD1376 (2418, 2462)				ADC87 (2401)			
Sharp LH5749				Asahi HW101A				AD AD1376 (2418, 2462)				ADC87 (2401)			
Signetics LH5762				HW200A				AD AD1376 (2418, 2462)				ADC87 (2401)			
SiliconSys 27HC641				HW300A				AD AD1376 (2418, 2462)				ADC87 (2401)			
SSI203 (3255)				H300A				AD AD1376 (2418, 2462)				ADC87 (2401)			
Waferscale WS57C49 (3390)				BHA900				AD AD1376 (2418, 2462)				ADC87 (2401)			
WS57C49D (3390)				BHT900				AD AD1376 (2418, 2462)				ADC87 (2401)			
WS57C49T (3390)				BH200				AD AD1376 (2418, 2462)				ADC87 (2401)			
AT28C16 Samsung KM28C16				BH700				AD AD1376 (2418, 2462)				ADC87 (2401)			
AT28C17 Samsung KM28C17				FH301				AD AD1376 (2418, 2462)				ADC87 (2401)			
AT28C256 Microchip 28CP256A				H300A				AD AD1376 (2418, 2462)				ADC87 (2401)			
SEEQ 28C256				BHA900				AD AD1376 (2418, 2462)				ADC87 (2401)			

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Burr-Brown (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
DAC71	Burr-Brown	DAC703 (2552) DAC72 (2552)	(Cont'd)	DAC850	MicroNet	DAC80 DAC85	(2410, 2460, 2462)	OPA121	AD	AD547 (2427, 2429, 2462) GE/RCA CA3140 (2647, 2657) CA3160 (2647)	(2427, 2462)	OPA606	SGS-Thomson	LF155 LF353 LF411	(2429, 2461)
DAC72	MicroNet	MNDAC71	(2410)	DAC851	National	DAC1280 DAC1285	(2410, 2460, 2462)	OPA128	National	LH0052 OP41 OP43	(2427)	OPA633	TI	HOS100 ELH0033 ELH2004 ELH2005 EL2004 EL2005 EL2033	(2429, 2461)
DAC7241A	Burr-Brown	ADDAC71 (2410) DAC700 (2552) DAC701 (2552) DAC702 (2552) DAC703 (2552) DAC71 (2552)	(2410, 2462, 2470)	DAC87	TeledyneP	TPDAC80	(2410, 2460, 2462)	OPA156A	AD	AD549 (2427) AD544 (2427, 2462)	(2427)		AD		
	MicroNet	MNDAC71	(2410)		Burr-Brown	DAC87	(2410, 2460, 2462)		LinearTech	LF156 LF156A MP156 LF156 LF156A OPA101 OP16 OP43 PM156 PM156A	(2427)		Elantec		
	AD	AD7541 (2411, 2462, 2470)	(2411, 2462, 2470)		MicroNet	MNDAC87	(2410, 2460, 2462)		MicroPwr	MP156	(2427)				
	Datel	DAC7541 (2596)	(2596)		Burr-Brown	DAC851	(2410, 2460, 2462)		National	LF156	(2427)		Harris	HA5033 (2766)	(2766)
	GE/Intersil	AD7541 (2666)	(2666)		Harris	HI5687	(2410, 2460, 2462)		PMI	OP16 OP43 PM156	(2427)		Maxim	LH0033 MAX460 MAX460 MC0033 MP0033	(2766)
	Honeywell	HDAC7541	(2411, 2462, 2470)		HybridSys	DAC335 HSDAC87	(2410, 2460, 2462)						Micra	MP0033C	(2766)
	HybridSys	DAC331 HS7541 AD7541	(2411, 2462, 2470)		MicroNet	MNDAC87	(2410, 2460, 2462)		SGS-Thomson	LF156 TL081 OP21	(2429, 2462)		MicroPwr	MP2004 LH0033 AH001 LH0033 TP1359	(2429, 2461)
	Maxim	AD7541	(2411, 2462, 2470)		Harris	HI506A	(2410, 2460, 2462)		TI	OP21	(2429, 2462)		National	OEI TeledyneC TeledyneP	(2429, 2461)
	MicroPwr	MP7541	(2411, 2462, 2470)		TeledyneP	TP4551	(2410, 2460, 2462)		PMI	ADOP27 (2429, 2462)	(2429, 2462)		Apex	PA51 (2480) PA61 (2480) OPA501 (2544)	(2480, 2544)
	Siliconix	SI7541A	(2411, 2462, 2470)		Burr-Brown	MPC8S	(2410, 2460, 2462)						Burr-Brown	PGA100 LinearTech REF10	(2480, 2544)
	TeledyneP	TP7541	(2411, 2462, 2470)		Datel	MX808 (2600)	(2600)		Maxim	HAOP27 LT1007 OP27 OP27 MPOP27	(2954)		SCH804	SCH804 (2556) Datel SHM4860 (2597)	(2556, 2597)
	TeledyneS	TSC7541	(2411, 2462, 2470)		GE/Intersil	IHS108 (2670)	(2670)		Motorola	OP27 OP27 OP77 OP27	(3024)				
	AD	AD7545 (2411, 2460, 2462)	(2411, 2460, 2462)		Harris	HI508A	(2410, 2460, 2462)		PMI	OP77	(3024)		SHC298	Datel SHMLM2 National LF298 Datel SHM20 (2597)	(2597)
	Honeywell	HDAC7545	(2411, 2462, 2470)		Maxim	DG509A	(2410, 2460, 2462)		Raytheon	RC714 OP27 LF356A LF356A OP16 PM356A	(2429)		SHC5320	LSI Logic TeledyneP AD	(2423)
	HybridSys	HS7545	(2411, 2462, 2470)			DG509A	(2410, 2460, 2462)			HAOP37 HA5137 HA5147 MA5147	(2770)		SHC76	AD	(2423)
	Maxim	AD7545	(2411, 2462, 2470)		MicroPwr	MP7508DI	(2410, 2460, 2462)			OP37 OP37 OP37 OP37	(3024)		SHC804	HybridSys Burr-Brown Datel HybridSys ILC-DDC TeledyneP	(2597)
	MicroPwr	MP7545	(2411, 2462, 2470)		Fujitsu	MB5208	(2410, 2460, 2462)			OP37 OP37 OP37 OP37	(3024)				
	PMI	PM7545 (3019)	(3019)		GE/Intersil	IHS208 (2670)	(2670)			OP37 OP37 OP37 OP37	(3024)		SHC85	AD	(2423)
	SiliconG	SG7545A	(2411, 2462, 2470)		Harris	HI509A	(2410, 2460, 2462)			OP37 OP37 OP37 OP37	(3024)		VFC32	Maxim MCE Plessey Adv Analog AD	(2423)
	AD	ADDAC80 (2410) ADDAC85 (2410)	(2410)		Maxim	MAX359	(2410, 2460, 2462)			OP37 OP37 OP37 OP37	(3024)		3293	Adv Analog AD	(2423)
	Burr-Brown	DAC800 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)		PMI	MUX24 MPINA101	(2410, 2460, 2462)			OP37 OP37 OP37 OP37	(3024)		3313	Adv Analog AD	(2423)
	Datel	DACHZ12B (2596)	(2596)		INA101	MPINA101	(2410, 2460, 2462)			OP37 OP37 OP37 OP37	(3024)		3500	Adv Analog AD	(2423)
	Harris	HI5685	(2410, 2460, 2462)		INA110	AD521 (2431, 2462) AD624 (2431, 2462)	(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	HybridSys	HSDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	MicroNet	DAC800 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC1280 DAC1285	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	TeledyneP	TPDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	AD	ADDAC80 (2410) ADDAC85 (2410)	(2410)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Burr-Brown	DAC80 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Datel	DACHZ12B (2596)	(2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Harris	HI5685	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	HybridSys	DAC9356 HSDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	MicroNet	DAC800 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC1280 DAC1285	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	TeledyneP	TPDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	PMI	DAC8012	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	MicroNet	MNDAC812	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	AD	ADDAC80 (2410) ADDAC85 (2410)	(2410)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Burr-Brown	DAC80 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Datel	DACHZ12B (2596)	(2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Harris	HI5685	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	HybridSys	DAC9356 HSDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	MicroNet	DAC800 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC1280 DAC1285	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	TeledyneP	TPDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC8012	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	AD	ADDAC80 (2410) ADDAC85 (2410)	(2410)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Burr-Brown	DAC80 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Datel	DACHZ12B (2596)	(2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Harris	HI5685	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	HybridSys	DAC9356 HSDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	MicroNet	DAC800 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC1280 DAC1285	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	TeledyneP	TPDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC8012	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	AD	ADDAC80 (2410) ADDAC85 (2410)	(2410)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Burr-Brown	DAC80 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Datel	DACHZ12B (2596)	(2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Harris	HI5685	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	HybridSys	DAC9356 HSDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	MicroNet	DAC800 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC1280 DAC1285	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	TeledyneP	TPDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC8012	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	AD	ADDAC80 (2410) ADDAC85 (2410)	(2410)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Burr-Brown	DAC80 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Datel	DACHZ12B (2596)	(2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Harris	HI5685	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	HybridSys	DAC9356 HSDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	MicroNet	DAC800 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC1280 DAC1285	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	TeledyneP	TPDAC80	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	National	DAC8012	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	AD	ADDAC80 (2410) ADDAC85 (2410)	(2410)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Burr-Brown	DAC80 (2553) DAC85 (2553) DAC850 (2553) DACHZ12B (2596)	(2553, 2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Datel	DACHZ12B (2596)	(2596)				(2431, 2462)			OP37 OP37 OP37 OP37	(3024)				
	Harris	HI5685	(2410, 2460, 2462)				(2431, 2462)			OP37 OP37 OP37 OP					

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Burr-Brown (Cont'd)				CA82C37A (Cont'd)				CA82C84A (Cont'd)				CS1525A (Cont'd)			
3506	Motorola	MC1456	(2953)	OKI	MSM82C37A			OKI	MSM82C84			Motorola	SG1525A		(2964)
	TI	MC1456		S-MOS	SMC82C37AC-5			Samsung	UC82C84A			SiliconG	SG1525		
3507	AD	AD509	(2428, 2462)	Toshiba	KS82C37A		(3339)	Unicorn	UC82C84A			TI	SG1525A		
	DataLinear	SP2520		UMC	UM82C37A			UMC	UM82C84A			Unitrode	UC1525		
	Elahtec	EHA2520		VLSI Tech	UM8737A			VLSI Tech	UM8284A				UC1525A		
	Harris	HA2520		Exar	VL82C37A			AMD	VL82C84A			IPS	IP1527A		
	TeledyneP	TP1322		Harris	XR16C450		(2618)	Fujitsu	D82C88			LinearTech	LT1527		
3508	AD	AD507	(2428, 2462)	National	CP82C50A			Harris	DBL8288		(2635)		SG1527		
	Datel	AM462-1	(2598)		INS82C50A			Intel	CP82C88			Motorola	SG1527A		(2964)
		AM462-2	(2598)		NS16C450			Mitsubishi	82C88			SGS-Thomson	SG1527		
	GE/Intersil	A561			NS16450			NEC	M5L8288				SG1527A		
	Harris	HA2620		Samsung	KS82C50				M5L82885			SiliconG	SG1527		
		HA2622			LD1101				μPB8288				SG1527A		
		HA2625		Silicon Logic	SSI73M450		(3255)		μPD71088			TI	TL1527		
	PMI	OP64		UMC	UM8250A				μPD71088C			Unitrode	UC1527		
3522	Harris	HA5180		VLSI Tech	VL16C450		(3363)	OKI	MSM82C88				UC1527A		
3527	Harris	HA5180			VL82C50			Samsung	UC82C88			IPS	IP1842		
	PMI	OP43			VL82C50A			Unicorn	UC82C88			LinearTech	LT1842		
	TeledyneP	TP1346		Western	WD82C50A		(3395)	UMC	UM82C88			Motorola	UC1842A		
3542	AD	AD3542		Fujitsu	MBL8282		(2635)		UM8288			SGS-Thomson	UC1842		
	Burr-Brown	OPA111	(2540)	Harris	CP82C82			VLSI Tech	VL82C88				UC1842		
	DataLinear	SPA111		Intel	82C82		(2739)	AMD	Z8530			SiliconG	SG1842		
3554	TeledyneP	TP3554		NEC	82C82			Samsung	KS85C30			TeledyneS	TSC18C42		
3571	Apex	PA02	(2480)		μPB8282			SGS-Thomson	Z8530			Unitrode	UC1842		
		PA07	(2480)		μPD71082				Z8530				UC1842A		
	Burr-Brown	ELH0101		OKI	MSM82C82			SL144	L144			IPS	IP1843		
	Elahtec	ELH0101		Samsung	KS82C52			Catalyst Research				LinearTech	LT1843		
	Maxim	LH0101			82C54			CAT93C46	EXEL	XLS93C46		Motorola	UC1843A		
	National	LH0101			82C54				Gould/AMI	S93C46		SGS-Thomson	UC1843		
3572	Apex	PA02	(2480)	Intel	82C54				Hyundai	HY93C46	(2778)		UC1843		
		PA07	(2480)		8254				ICT	93C46	(2876)		UC1843A		
	Burr-Brown	3571		Mitsubishi	M5M82C54					93C46	(2876)				
	Elahtec	ELH0101			M5M82C54P				Microchip	ER5911		CS2000	XRE100		
	Maxim	LH0101		NEC	μPD71054C				National	COP495			MCEA20E		
	National	LH0101		OKI	MSM82C54					NMC93C46			MOE		
3573	Apex	PA73	(2480)	S-MOS	SMC82C54A					NMC9346			XRG100		
3580	Apex	PA80	(2480)		KS82C54					NCR59308			MCEA20G		
3581	Apex	PA81	(2480)	Samsung	UM82C54					NR59346			MOG		
3582	Apex	PA82	(2480)	Unicorn	UM82C54										
3584	Apex	PA84	(2480)	UMC	UM82C54										
4203	AD	AD530		VLSI Tech	VL82C54										
		AD533	(2470)	AMD	D8255A										
	Burr-Brown	MPY100	(2549)	Harris	CP82C55A										
	GE/Intersil	ICL8013	(2678)	Intel	P8255										
	AD	AD532	(2432, 2462)		82C55A										
				Mitsubishi	M5M82C55A										
4205	Burr-Brown	4213			M5M82C55AP										
		4214		NEC	μPD71055										
4213	AD	AD532	(2432, 2462)		μPD8255A										
					μPD8255A-21-5										
	Burr-Brown	4205		OKI	MSM82C55A										
		4214		S-MOS	SMC82C55A-5										
4214	AD	AD532	(2432, 2462)		SMC82C55AC										
				Samsung	KS82C55A										
	Burr-Brown	4205		Toshiba	TMP82C55		(3339)								
		4213			UM82C55A										
4341	AD	AD536	(2432)	Unicorn	UC82C55A										
	Maxim	AD536		UMC	UM82C55A										
				Fujitsu	MBL8259		(2635)								
Calmos Semiconductor				Harris	CP82C59A										
				Intel	82C59A										
CA29C128	GE/Intersil	IM29C128			8259A										
	SEEQ	20RA10Z		MicronTech	MT8259										
CA80C85B	AMD	AM8085AH		Mitsubishi	M5M82C59										
	Intel	P8085AH			M5M82C59AP										
	Krueger	8085A	(2877)		M5M8259AP										
		8085AH	(2877)	National	INS8259										
	Mitsubishi	M5M80C85A			μPD71059										
	NEC	μPD8085			μPD71059C										
CA82C12	OKI	MSM8085			μPD8259A										
	AMD	AM8212		OKI	MSM82C59A										
	GE/Intersil	ICL8212	(2677)	S-MOS	SMC82C59AC										
	Intel	8212		Samsung	KS82C59A										
	Maxim	MAX8212		Toshiba	TMP82C59		(3339)								
	NEC	μPB8212			TMP8259		(3339)								
CA82C37A	OKI	MSM82C12		Unicorn	UC82C59A										
	AMD	AM8237A		UMC	UM8259A										
		D8237A		VLSI Tech	VL82C59A										
	Harris	CP82C37A		Fujitsu	MBL8284		(2635)								
	Intel	8037A			82C84A										
		8237		Intel	8284A										
		8237A-4		Mitsubishi	M5L8284A										
		8237A-5			M5L8284AP										
	Mitsubishi	M5M82C37A		NEC	μPB8284										
		M5M82C37AP			μPB8284A										
	NEC	μPD8237			μPD71084										
		μPD8237A			μPD71084C										
			(Continued)				(Continued)				(Continued)				(Continued)

♦ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALT SOURCE DIRECTORY

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ALL COURSE DIRECTORY

◆ Discontinued The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Cypress Semiconductor (Cont'd)				CYPAL16R4	National	PAL16R4 CPL16R4L-25 (3031)	(Cont'd)	CY21L49	National	DM87SR474 DM87SR476 DM87SR476B AM2147 CY7C147 MBM2147 M2147H 2147 2147H 2147-35 2147-45 2147-55 2147-70 MCM6147 MM2147 NMC2141 NMC2147H NM2147	(2580)	CY3341	AMD	AM2841 AM3341 CY3341AC 3341 3341A MJ2841 CY7C128 IH6116 CDM6116 CDM6116A GM76C28 HM6516 HM65162 HM6116 HM6716 HM6719 HY61C16A IMS1433 IDT6116 IDT6116A IDT6116L IDT6116S IDT6166 81C28 2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
CYPALC22V10L-25	(Cont'd)			CYPAL16R6	Toshiba	TC53100		CY2147	AMD			CY6116	Plessey		
Lattice	GAL16V8-25L (4259)			AMD	Harris	AMPAL16R6 HPL16RC6 HPL16RC6-5 (2745)		Cypress	Fujitsu			Cypress	GE/Intersil	CY7C128 IH6116 CDM6116 CDM6116A GM76C28 HM6516 HM65162 HM6116 HM6716 HM6719 HY61C16A IMS1433 IDT6116 IDT6116A IDT6116L IDT6116S IDT6166 81C28 2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
MMI	PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL14L8 PAL14L8 CPL20L8-35 (3031)			ICT	Lattice	HPL16R6 PEEL18CV8 GAL16V8 GAL16V8-25L (4259)		Krueger	Intel			GoldStar		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
National				MMI	National	PAL16R6 PAL16R6 CPL16R6-35 (3031)		Motorola	National			Harris		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Samsung				Samsung		CPL16R6L-35 (3031)		SGS-Thomson				Hitachi		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Signetics	PLS173 (3209, 3226)			TI		TIBPAL16R6 TIBPAL16R6-20 TIBPAL16R6-30 AMPAL16R8 CYPALC16R8 HPL16RC8 HPL16RC8-5 (2745)		STC	Toshiba			Intel		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
TI	TIBPAL22V10 (3304)			AMD	Cypress			AMD	Cypress			Krueger		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
	TIBPAL22V10A (3283, 3304)			Harris		HPL16RC8-5 (2745)		Hitachi				Intel		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
CYPALC22V10L-35				ICT	Lattice	HPL16R8 PEEL18CV8 GAL16V8 GAL16V8-25L (4259)		Intel				Krueger		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
AMD	AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 PEEL22CV10 (4242)			MMI	National	PAL16R8 PAL16R8 CPL16R8-35 (3031)		National				Matra-Harris		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Cypress				TI		CPL16R8L-35 (3031)		Performance	Saratoga			MicronTech		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Gould/AMI						CPL16R8L-35 (3031)		SGS-Thomson				Mitsubishi		2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
ICT	PEEL22CV10 (4257)					CPL16R8L-35 (3031)		UMC						2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Lattice	GAL16V8-25L (4259)					CPL16R8L-35 (3031)		AMD						2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
MMI						CPL16R8L-35 (3031)		Intel						2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
National						CPL16R8L-35 (3031)		Krueger						2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Samsung						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Signetics	PLS173 (3209, 3226)					CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
TI	TIBPAL22V10 (3304)					CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
	TIBPAL22V10A (3283, 3304)					CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
CYPAL16L8	AMD	AMPAL16R8 AMPAL16L8 PALC16L8 HPL16LC8 HPL16LC8-5 (2745)				CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Cypress						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Harris						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
ICT	PEEL18CV8 (4257)					CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Lattice	GAL16V8 (4259)					CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
MMI						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
National						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Samsung						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Signetics	PLHS18P8 (3209, 3227)					CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Sprague						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
TI						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
CYPAL16R4	AMD	AMPAL16R4 CYPALC16R4 GM231024 HPL16R4 PEEL18CV8 (4257)				CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Cypress						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
GoldStar						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
Harris						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
ICT	PEEL18CV8 (4257)					CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
MMI						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
	PALC16R4Q-25 PAL16R4 PAL16R4D-4 (Continued)					CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)
						CPL16R8L-35 (3031)								2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2580)

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Cypress Semiconductor (Cont'd)				• CY7C129	Hitachi	HM6116 HM6716 HM6719		CY7C148		(Cont'd)		CY7C168	VLSI Tech	(Cont'd)		
CY7C128	GE/RCA	CDM6116	(2644, 2653)	• CY7C129	Hyundai	HY61C16A	(2778)	CY7C150	Signetics	5114		CY7C169	AMD	VT20C19	(3349)	
		CDM6116A	(2644, 2653)	• CY7C129	Inmos	IMS1433			AMD	AM9150	VT20C68			(3343, 3345, 3350)		
	GoldStar	GM76C28	(2696, 2700)		IDT	IDT6116 IDT6116A IDT6116L IDT6116S	(2835) (2835) (2835) (2835)	CY7C161	Performance	P4C150				VT20C69	(3343, 3345, 3350)	
	Harris	HM6516	(2747)	• CY7C129	Intel	IDT6166 81C28		CY7C162	Saratoga	SSM2150				VT2068		
	Hitachi	HM6116 HM6716 HM6719			Krueger	2128-100 2128-120 2128-150 2128-200	(2877) (2877) (2877) (2877)		MicronTech	MT5C6406				AM2169		
	Hyundai	HY61C16A	(2778)			6116-120 6116-150 6116-200 6116LP-120	(2877) (2877) (2877) (2877)	CY7C164	National	F100183				AM99CL68		
	Inmos	IMS1433				6116LP-150	(2877)		Performance	P4C1981				AM99C58		
	IDT	IDT6116 IDT6116A IDT6116L IDT6116S	(2835) (2835) (2835) (2835)			6116LP-200	(2877)		IDT	IDT71982				Cypress	CY7C168 (2580)	
	Intel	IDT6166 81C28		• CY7C129	Matra-Harris	HM6166 HM65161 HM65162 HM65163 HN65728			MicronTech	MT5C6407				Fujitsu	MB81C68 MB81C68A	
	Krueger	2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120	(2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877)			MS8725 M5M116 M5M5117 M5M5118 M58275 M58725			Saratoga	SSM7162				Hitachi	HM6168HP	
				• CY7C129	MicronTech	MT5C1608			Hitachi	HD74HC595	(2794)				HM6268	
					Mitsubishi	M5M116 M5M5117 M5M5118 M58275 M58725			Inmos	IMS1629					HM6268L	
				• CY7C129	Motorola	MCM2016 MCM2016H MCM2018P MCM6116			IDT	IDT7198					HY61C68	
				• CY7C129	National	MMC2116 MSM2128 MSM5126 MSM5128 MSM5129			MicronTech	MT5C6405					IMS1421C	
				• CY7C129	Performance	P4C116			Motorola	MCM6290					IDT6120	
					S-MOS	SMC6116			National	F100182					IDT6168	(2836)
					Saratoga	SSM6116			NEC	μPD4363					IDT6168L	(2836)
					SGS-Thomson	ET2128 MK2817 MK6116 LH5115			Performance	P4C198					IDT6168LA	(2836)
				• CY7C129	Sharp	NE5517			Saratoga	SSM7198					IDT6168S	(2836)
					Signetics	CXK5814P			TI	SN74HC595					IDT6168SA	(2836)
					Sony	UDN6116										
					Sprague	STC2018										
					STC	STC6116										
					TI	SMJ68CE16										
					Toshiba	TMM2015A TMM2018 TMM2018AP										
				• CY7C129	UMC	UM6116										
					Vitellic	V61C16 V62C16										
				• CY7C129	VLSI Tech	VT20C18	(3343, 3345, 3349)									
				CY7C130	IDT	IDT7130	(2840)									
				CY7C132	Mosel	MS6130										
					Fujitsu	MB7132										
					IDT	IDT7132	(2841)									
					VLSI Tech	VT7132	(3343, 3359)									
				CY7C136	IDT	IDT7132I	(2842)									
				CY7C142	IDT	IDT7142	(2841)									
					VLSI Tech	VT7142	(3343, 3359)									
				CY7C146	IDT	IDT7142I										
				CY7C147	Matra-Harris	HN65747										
• CY7C129	Cypress	CY6116			Performance	P4C147										
• CY7C129	GE/Intersil	CY7C128	(2580)		AMD	AM9124										
	GE/RCA	IH6116	(2670)		CMD Micro	G2114										
		CDM6116	(2644, 2653)		Harris	HA5114										
		CDM6116A	(2644, 2653)		Inmos	IMS1223	(2748) (2789)									
		GM76C28	(2696, 2700)		Intel	5114										
	GoldStar	HM6516	(2747)		Matra-Harris	HM6514										
	Harris	HM65162	(2747)		Mitsubishi	M58981										
					OKI	MSM5114										
					Sanyo	LC3514										
			(Continued)				(Continued)									

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Cypress Semiconductor (Cont'd)				CY7C185			(Cont'd)	CY7C186	Vitelc		(Cont'd)	CY7C198			(Cont'd)
CY7C172			(Cont'd)	STC	STC6264			V62C64				Inova	S32K8		(2807)
MicronTech	MT5C1607			TI	SMJ68CE64			V65C64				IDT	IDT7M856S		
Motorola	MC74HC4543			Toshiba	TC5565			VT20C98					IDT71256	(2837)	
		(2946)			TC5565A			VT20C99					IDT71256L	(2837)	
National	MM74HC4543				TC5585			MB81C71					IDT71256S	(2837)	
Performance	P4C1682				TC5588			MB81C71A					IDT8M824	(2872)	
Saratoga	SSM6172				TMM2063			MB81C87				Lattice	SR256K8		
SGS-Thomson	M74HC4543				TMM2064			GM76C64				MicronTech	MT5C2568		
	74HC4543	(3057)			TMM2088			HM6287				Mitsubishi	M5M5256		
Toshiba	TC74HC4543A				V61C62			HM6787				Mosel	MS62256		
		(3340)			V61C64			HY62C87				Motorola	MCM60256		
VLSI Tech	VT20C72	(3343)			V62C64			IMS1600	(2792)				MCM61256		
		3345, 3351)			V65C64			IMS1601	(2793)				MCM6206		
CY7C183				CY7C186	Cypress	CY7C185	(2580)	IDT	IDT7187	(2850)		National	NM44251		
Fujitsu	MB81C79			Dense-Pac	DPS88H08			MicronTech	MT5C6401			NEC	μPD43256A		
Mitsubishi	MB81C79A			Exar	XR8464	(2620)		Mitsubishi	M5M5187			S-MOS	SRM20256		
	M5M5179			Fujitsu	MB88464				M5M5187P				SRM20256C		
	M5M5179P				MB81C78A			Motorola	MCM6287			Samsung	KM62256	(3036)	
NEC	μPD4369				MB8464			National	F1600			Sharp	LH52259	(3054)	
Performance	P4C163				MB8464A				F1602			Sony	CKX58255		
Sony	CKX5971P			GE/RCA	CDM6264	(2644, 2653)		NEC	μPD4361			Toshiba	TC55257		
TI	SMJ69CE72				GM76C88	(2696, 2703)		OKI	MSM5187				TC55257A		
Toshiba	TC5589			GoldStar	GM76C88	(2696, 2703)		Performance	P4C187			Vitelc	V62C256		
	TMM2089			Harris	HM65642	(2747)		S-MOS	SRM2261			AMD	AM99C328		
CY7C185	Cypress	CY7C186	(2580)	Hitachi	HM6264			Saratoga	SSM7187			Cypress	CY7C197	(2580)	
	Dense-Pac	DPS88H08			HM6464			SGS-Thomson	MK41H87				CY7C198	(2580)	
	Exar	XR8464	(2620)		MB6264				LH5261			Dense-Pac	DPS412S88		
	Fujitsu	MB88464			MB6264			Sharp	Signetics	74HC4515	(3057)	GE/RCA	CDM62256	(2644)	
		MB81C78A		Hyundai	HY6264	(2778)		TI	SMJ61CD64			GoldStar	GM76C256	(2696)	
		MB8464		Inmos	IMS1630	(2796)		Toshiba	TC5562			Hitachi	HM62256		
		MB8464A		IDT	IDT7165				TMM5562				HM64456		
GE/RCA	CDM6264	(2644, 2653)		Krueger	6264-100	(2877)		AMD	AM27LS03			Hyundai	HY62C256		
GoldStar	GM76C88	(2696, 2703)			6264-120	(2877)			AM27S03			Inmos	IMS1830		
Harris	HM65642	(2747)			6264-150	(2877)		Cypress	CY27LS03M	(2580)		Inova	S32K8	(2807)	
Hitachi	HM6264				6264LP-100	(2877)			CY27S03			IDT	IDT7M856S		
	HM6464				6264LP-120	(2877)		National	CY74S189				IDT71256	(2837)	
	MB6264				6264LP-150	(2877)			DM74S189				IDT71256L	(2837)	
Hyundai	HY6264	(2778)		Matra-Harris	HM2064				DM7599				IDT71256S	(2837)	
Inmos	IMS1630	(2796)			HM56162				DM8599				IDT8M824	(2872)	
IDT	IDT7165				HM62641				SN54LS219A			Lattice	SR256K8		
Krueger	6264-100	(2877)			HM65641				SN74HCT189			MicronTech	MT5C2568		
	6264-120	(2877)			HN65641				SN54HCT189			Mitsubishi	M5M5256		
	6264-150	(2877)			ML8464				SN74HCT189			Mosel	MS62256		
	6264LP-100	(2877)		MicroLinear	ML8464				SN74HCT189			Motorola	MCM60256		
	6264LP-120	(2877)		MicronTech	MT5C6404				DM7599				MCM61256		
	6264LP-150	(2877)			MT5C6408				DM8599				MCM6206		
				Mitsubishi	AM99C88				CY27S07			National	NM44251		
					MSM165				DM75S07			NEC	μPD43256A		
					MSM5164				54F219			S-MOS	SRM20256		
Matra-Harris	HM2064				MSM5165				74F219				SRM20256C		
	HM56162				MSM5178				SN54LS219A			Samsung	KM62256	(3036)	
	HM62641				MSM6064				SN74HCT189			Sharp	LH52256		
	HM65641				MCM6164				HM6208P				LH52259	(3054)	
	HM65641				MCM6164C				HM6708			Sony	CKX58255		
MicroLinear	ML8464				MCM6164C				IMS1820				CKX58256		
MicronTech	MT5C6404				MCM6264				IDT71258L	(2839)		Toshiba	TC55257		
	MT5C6408				DP8464				IDT71258S	(2839)			TC55257A		
	AM99C88				NMC6164				MT5C2564			Vitelc	V62C256		
	M5M165				MSM6164				M5M5258			AMD	AM21L49		
	M5M5164				MSM5165				MCM6208				AM27S25		
	M5M5178				MSM5188				μPD43254				AM27S25A		
	MS6264				P4C164				MSM52464				AM27S255A		
Motorola	MCM6064				P4C188				P4C1258			Cypress	CY21L49		
	MCM6164				SRM2064				Sharp	LH52252	(3052)	MMI	PLE9R8		
	MCM6164C				SRM2264				MB81C86				53RA481		
	MCM6264				KM6264	(3036)			IDT61298				53RA481S		
	DP8464				KM6264A	(3036)			TC55465				63RA481		
National	NMC6164				LH5164				HM6207				63RA481AS		
NEC	μPD4364				LH5165				IMS1800				63RA481S		
OKI	MSM5164				CVK5864				IDT71257	(2838)		Motorola	MCM27S25		
	MSM5165				CKX5164P				IDT71257L	(2838)			DM77SR25		
	MSM5188				CKX5863P				IDT71257S	(2838)			DM77SR25B		
Performance	P4C164				CKX5865				MT5C2561				DM77SR476		
	P4C188				CKX5865P				M5M5257				DM87SR25		
S-MOS	SRM2064				STC	STC6264			MCM6207				DM87SR25B		
	SRM2264				SMJ68CE64				P4C1257				DM87SR474		
Samsung	KM6264	(3036)			TC5565				LH52251				DM87SR476		
	KM6264A	(3036)			TC5585				AM99C328				DM87SR476B		
Sharp	LH5164				TC5588				Cypress	CY7C197	(2580)				
	LH5165				TMM2063				CY7C199	(2580)		CY7C235	AMD	AM27S37	
Sony	CVK5864				TMM2064				GE/RCA	CDM62256	(2644)			53RS881	
	CKX5164P				TMM2088				GoldStar	GM76C256	(2696)			63RS881	
	CKX5863P				V61C62				Hitachi	HM62256				MCM27S35	
	CKX5865P				V61C64				Hyundai	HY62C256				DM87SR181	
									Inmos	IMS1830			Signetics	N82HS189	(3233)
														S82HS189	
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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Cypress Semiconductor (Cont'd)				CY7C282M	AMD	AM27S181		CY7C292AL	National	(Cont'd)		CY7C424			(Cont'd)	
					Gould/AMI	S25089							Dallas	DS2010		
					Hitachi	HN25089							IDT	IDT7202		
					MMI	63S881			Signetics	93Z512				IDT7202A		
CY7C245	AMD	AM27S45			National	DM77LS181				93Z511				IDT7202LA		
		AM27S45A				DM77S181				N82S191				IDT7202SA		
	Fujitsu	AM27S47				DM77S281			TI	82S191			MMI	67L4502		
		MB7238				DM87S181				TBP38L166			Plessey	MV61901		
		MB7238RA				DM87S281				TMS27C291			Saratoga	SSL7202		
	MMI	PLE11RA8				93Z451			Waferscale	WS57C191 (3390)			TI	74ACT7202		
		PLE11RS8				93Z451				WS57C291 (3390)						
		53RA1681			Raytheon	93Z451			CY7C341	Altera	EMP5064		CY7C510	LSI Logic	L64010 (2888)	
		53RA1681AS				932451			CY7C342	Altera	EMP5128			National	F100180	
		53RS1681				29631			CY7C344	Altera	EMP5032			Signetics	100180 (3074)	
		53RS1681S				29632			CY7C345	Altera	EMP5127			Waferscale	WS59510	
		63RA1681			Signetics	N82S181			CY7C401	IDT	IDT72401				WS59610	
		63RA1681AS				S82S181				MMI	C57L401		CY7C517	AMD	AM29517	
		63RS1681				28586-60					C57401			Harris	HMU17	
		63RS1681AS			TI	AM27S191					C67401			LogicDev	LMU17	
		63RS1681S			AMD	AM27S191SA					57401			LSI Logic	L64017	
						27S191					67C401			Weitek	WTL2517	
	Signetics	N82HS187 (3232)			Cypress	CY7C292 (2585)				National	DM77S401			IDT	IDT39C01	
		N82HS197				CY7C292A (2585)				TI	74F413			Motorola	LM2901 (2958, 2989)	
		N82HS199				CY7C292AL (2585)					SN74ALS236 (3300)					
		S82HS187				HN25169			CY7C402	IDT	IDT72402			National	MC3302	
	Waferscale	WS57C45				82S191				MMI	C57L402				μA2901	
CY7C245A	AMD	AM27S455A				53S1681					C57402				μA3302	
	Cypress	CY7C245 (2585)				MCM76101					C57402A				LM2901	
CY7C251	Waferscale	WS57C128F				MCM76160					C67402				LM3302	
CY7C253	AMD	AM27S51				DM77S191					C67402A			PMI	CMP04	
		AM27S51A				DM87S191					57402				PM139	
	Cypress	CY7C254 (2585)				DM87S291					67C402			Raytheon	PM339	
	Signetics	N82S195				DM87S291A					DM77S402				LM2901	
		S82S195				DM87S291B					DM77S402A			SGS-Thomson	RC3302	
	Waferscale	WS57C51 (3390)				93Z510					DM77S402A					
		WS57C51B (3390)				93Z511			CY7C403	IDT	IDT72403			Signetics	LM2901	
CY7C254	AMD	AM27S51				93Z512				MMI	67C4013				MC3302	
		AM27S51A				93Z511					67L4013D				LM2901	
	Cypress	CY7C253				N82S191					IDT72404				MC3302	
	Signetics	N82S195				N82S191A			CY7C404	IDT	67C4023				SG324A	
		S82S195				82S191				MMI	67C4023			SiliconG	LM2901	
	Waferscale	WS57C51 (3390)				TBP38L166				TRWLSI	TDC1030			TI	LM3302	
		WS57C51B (3390)				TMS27C291			CY7C409	AMD	67C4501				LM3302	
CY7C261	Atmel	AT27HC641				WS57C191 (3390)			CY7C412	Cypress	CY7C420			Toshiba	TA75339	
	Crystal	CS203				WS57C291 (3390)					DS2009			IDT	IDT39C09	
	Cypress	CY7C263 (2585)				DM87S291					Dallas	DS2009			National	IDM2909
		CY7C264 (2585)				TMS27C292 (3326)					IDT	IDT7201			SGS-Thomson	TS2909
	GE/RCA	CD22203 (2645)				WS57C191 (3390)					IDT	IDT7201A				AM2910A
	ICT	27CX641 (2875)				WS57C291 (3390)					IDT	IDT7201A			AMD	IDT39C10
		27CX642 (2875)				AM27S191					MMI	67L4501			Waferscale	WS5910A
	Microchip	27HC641 (2908)				AM27S191SA					Mosel	MS7201				WS5910B
	National	93Z667				27S191					Samsung	KM75C01A				AM29C101
	Sharp	LH5749				CY7C291 (2585)					Saratoga	SSL7201				CY2911
		LH5762				CY7C292 (2585)					SGS-Thomson	MK4501				IDT39C11
	Signetics	27HC641				CY7C292AL (2585)						SG4501				IDT39C11A
	SiliconSys	SSI203				HN25169						SG4501				AM29C116
		SSI75T203 (3255)				82S191						UC4501				AM29C116A
	Waferscale	WS57C49 (3390)				53S1681						UMC				AM29L116A
		WS57C49D (3390)				MCM76101						AMD	67C4502			AM29116
		WS57C49T (3390)				MCM76160							CY7C424			CY7C9117 (2592)
CY7C263	Atmel	AT27HC641				DM77S191							Dallas	DS2010		
	Crystal	CS203				DM87S191							IDT	IDT7202		
	Cypress	CY7C261 (2585)				DM87S291								IDT7202A		
		CY7C264 (2585)				DM87S291A								IDT7202LA		
	GE/RCA	CD22203 (2645)				DM87S291B								IDT7202SA		
	ICT	27CX641 (2875)				93Z510								67L4502		
		27CX642 (2875)				93Z511								MMI	67L4501	
	Microchip	27HC641 (2908)				93Z512								Plessey	67L4501	
	National	93Z667				93Z511								Saratoga	SSL7202	
	Sharp	LH5749				N82S191								TI	74ACT7202	
		LH5762				N82S191A								Dallas	DS2011	
	Signetics	27HC641				82S191								IDT	IDT7203 (2852)	
	SiliconSys	SSI203				TBP38L166									IDT7203LA (2852)	
		SSI75T203 (3255)				TMS27C291									IDT7203SA (2852)	
	Waferscale	WS57C49 (3390)				WS57C191 (3390)									SSL7203	
		WS57C49D (3390)				WS57C291 (3390)									67C4501	
		WS57C49T (3390)				AM27S191									CY7C412	
CY7C264	AMD	AM27S49				AM27S191SA								DS2009		
		27S49				27S191								DS2009		
	Fujitsu	MB7143				CY7C291 (2585)								IDT7201		
		MB7144				CY7C292 (2585)								IDT7201A		
		MB7144H				CY7C292A (2585)								IDT7201LA		
	Harris	HM76641				HN25169								IDT7201SA		
		HM76641A				82S191								67L4501		
	ICT	27CX641 (2875)				53S1681								Mosel	MS7201	
	National	32Z565				MCM76101								Samsung	KM75C01A	
		93Z565				MCM76160								Saratoga	SSL7201	
		93Z665				DM77S191								SGS-Thomson	MK4501	
	Raytheon	29VP864				DM87S191									SG4501	
	Signetics	N82S641				DM87S291								Unicorn	UC4501	
	Waferscale	WS5C49				DM87S291A								UMC	UM4501	
		WS5C49B				DM87S291B								AMD	67C4502	
CY7C281	AMD	AM27S281				93Z510								Cypress	CY7C414	
		(Continued)				93Z511								(Continued)		

• Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

WELT: SOONER THAN YOU THINK

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THE HISTORY OF THE UNITED STATES

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THE HISTORY OF THE UNITED STATES

WATER: SOURCE DIRECTIVITY♦ Discontinued

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Dense-Pac (Cont'd)				DPS88H08 Fujitsu (Cont'd)				DPS92256 (Cont'd)				D1604A (Cont'd)			
DPS412S88	Cypress	CYM1421HD				MB81C78A			S-MOS	SMM23256				Signetics	NE604
	Dense-Pac	DPS41288 (2607)				MB8464				SMM6325				Sprague	ULN3820
	EDI	EDH8M8128C			GE/RCA	MB8464A	(2644, 2653)			SMM6326				National	DM8897
		EDH8832			GoldStar	GM76C88	(2696, 2703)			23256					DS8897
		EDH8M8128C								23256A					504
	Harris	HM8832 (2750)			Harris	HM65642	(2747)			TC53257				ITT	MC3494
	Hitachi	HM628128			Hitachi	HM6264				VT23256				Motorola	DS884A
	Inova	S128K8 (2806)				HM6464				VT23257				National	
		S32K8 (2807)				MB6264									
	IDT	IDT7M856S			Hyundai	HY6264 (2778)			Dense-Pac	DPS8808 (2607)			EG&G Reticon		
		IDT71256			Inmos	IMS1630 (2796)			EDI	EDH8808			RM5632A	EG&G-Reticon	
		IDT8M824			IDT	IDT7165			GE/RCA	CA8808					R5632
		IDT8M824L			Krueger	6264-100 (2877)			Harris	HM8808A (2750)				Exar	XR2126
						6264-120 (2877)			National	DS8808					XR2127 (2618)
						6264-150 (2877)				MH8808				Gould/AMI	S35212A
						6264LP-100 (2877)								Hitachi	HA17815
DPS41257	Mosel	MS88128												Mitel	MT35212A
	Dense-Pac	DPS32H8 (2607)												Sierra	SC11000
	IDT	IDT7M856												Sierra	SC11005
		IDT8M856													
DPS41288	Cypress	CYM1421HD				6264LP-120 (2877)									
	Dense-Pac	DPS412S88				6264LP-150 (2877)									
	EDI	EDH8M8128C													
		EDH8832			Matra-Harris	HM2064									
		EDH8M8128C				HM56162									
	Harris	HM8832 (2750)				HM62641									
	Hitachi	HM628128				HM65641									
	Inova	S128K8 (2806)				HN65641									
		S32K8 (2807)													
	IDT	IDT7M856S			MicroLinear	ML8464									
		IDT71256			MicronTech	MT5C6404									
		IDT8M824				MT5C6408									
		IDT8M824L				AM99C88									
						M5M165									
						M5M5164									
						M5M5165									
						M5M5178									
						M5M5178									
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◆ **Discontinued**

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Ericsson (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
♦ PBD352304	SGS-Thomson	(Cont'd)		XRA100	Plessey	MOA	(Cont'd)	XR1458	National	LM1458	(Cont'd)	XR1489A	SiliconG	SG75188	(Cont'd)
						MOM				LM1558				SG75788	
				XR100	MCE	MCEA20B			NEC	μPC1458			TI	MC1488	
♦ PBD352304	SiliconG	ULN2002		XRC100A	Plessey	MOB			PMI	μPC4558				MC1489	
	Sprague	ULN2002	(3258)		MCE	MCEA20C				OP14			Cherry Semi	SN75188	
		ULS2002		XRC277	Plessey	MOC				OP270			IPS	CS1524	
♦ PBD352304	TI	ULN2002			PMI	RPT82			Raytheon	RC1458				IP1524	
		ULN2002A		XRD100	MCE	MCEA40D				RC4558	(3024)		LinearTech	IP1524B	
♦ PBD352304	Toshiba	TD62002			Plessey	MOD				RM1558				LT1524	
♦ PBD352311	SiliconG	SG2021		XRE100	Cherry Semi	CS2000			Samsung	RM4558	(3024)		National	SG1524	
	Sprague	ULN2021	(3258)		MCE	MCEA20E			SGS-Thomson	MC4558	(3039)			μA1524	
		ULS2021			Plessey	MOE				LS4558			SGS-Thomson	LM1524	
♦ PBD352311	TI	SN75466		XRF100	Cherry Semi	CS3000				MC4558				SG1524	
♦ PBD352312	SiliconG	SG2024			MCE	MCEA20F			Signetics	MC1458				SG1524A	
	Sprague	ULN2024	(3258)		Plessey	MOF				MC1558			SiliconG	UC1524A	
		ULS2024		XR100	Cherry Semi	CS2500				NE4558				SG1524	
♦ PBD352312	TI	SN75469			MCE	MCEA20G				SA4558			Unitrode	UC1524	
♦ PBD3524-14	SiliconG	SG2002		XR100	Plessey	MOG			TI	SE4558				UC1524A	
		SG2022		XR100	MCE	MCEA20H				MC1458			Cherry Semi	CS1525A	
♦ PBD3524-14	Sprague	ULN2022	(3258)		Plessey	MOH				MC1558C			IPS	IP1525A	
		ULS2022		XR100	MCE	MCEA20J				RC4558			LinearTech	LT1525	
♦ PBD3524-14	TI	SN75467			Plessey	MOJ				RM4558				LT1525A	
♦ PBD353811	Motorola	ULN2801	(2984)	XRL100	Cherry Semi	CS3200				RV4558			Motorola	SG1525	(2964)
	SGS-Thomson	ULN2801			MCE	MCEA20L				TL4558			SiliconG	SG1525A	
		ULN2801		XRL555	Plessey	MOL			Toshiba	TA75458				SG1525	
	SiliconG	ULN2804			GE/Intersil	ICL7555				TA75558			TI	TL1525	
	Sprague	ULN2804				ICM7555	(2685)		XR146	National	LM140		Unitrode	UC1525	
	Toshiba	TD62081				ICM7555M	(2685)		XR1468	Exar	XR4195			UC1525A	
♦ PBD353812	Motorola	ULN2804	(2984)		Maxim	ICL7555				GoldStar	GD75189	(2708)	XR1543	IPS	IP1543
	SGS-Thomson	ULN2804				ICL7555				Motorola	MC1468			SiliconG	SG1543
		ULN2804		XRL556	GE/Intersil	ICL7556				National	μA212A			Unitrode	UC1543
	SiliconG	ULN2804			Maxim	ICL7556					μA750			Motorola	MC1568
	Sprague	ULN2804	(3258)		TI	TL5941				Raytheon	RC4195	(3025)	XR1568	SiliconG	SG1501A
		ULS2804				XR2567	(2619)			SiliconG	SG1468				SG1568
♦ PBD353812	Toshiba	TD62084				XR567	(2619)				SG2501A				CA82C50A
♦ PBD353813	SGS-Thomson	ULN2803			GoldStar	GL567					SG3501A		XR16C450	Calmos	CP82C50A
		SG2803			MCE	MCE567					SG75189			Harris	INS82C50A
	SiliconG	SG2813			National	LM567				TI	SN75189A			National	NS16C450
♦ PBD353813	Sprague	ULN2803	(3258)		Samsung	LM567	(3040)				XR1488				NS16450
		ULS2803				LM567L	(3040)				Exar	XR1489A	(2619)	Samsung	KS82C250
♦ PBD353813	Toshiba	TD62083			Signetics	NE567					GoldStar	GD75188	(2708)		KS82C50
♦ PBD353814	SGS-Thomson	ULN2802		XRM100	Exar	XRA100					Motorola	MC1488	(2983, 2989)	Silicon Logic	LD1101
		ULN2802			MCE	MCEA20								SiliconSys	SS173M450
	SiliconG	ULN2802				MCEA20A								UMC	UM8250A
	Sprague	ULN2802	(3258)		Plessey	MOA				National	μA1489			VLSI Tech	VL16C450
		ULS2802				MOM					μA1489A				(3363)
♦ PBD353814	Toshiba	TD62082		XRT8205	Cherry Semi	CS8205					μA212A				VL82C50
PBL3535	AD	ADSP1080	(2436)		Samsung	K2411	(3040)				μA750			Western	WD82C50A
	LogicDev	LMU08			Fujitsu	MB47082					DS1488			Exar	XR2001C
	TRWLSI	MPY008H		XR082	GE/RCA	CA082	(2647)				DS1489				(2619)
		TMC208K			SGS-Thomson	LF353					DS1489A			Mitsubishi	M54524
PBL3717	SGS-Thomson	PBL3717				TL082					MC1488			Motorola	MC1411
		TA3717				HA17082					MC1489				(2984)
	Unitrode	UC3717			TI	TL082				SGS-Thomson	MC1488			National	μA9665
PBL3736	AMD	AM7950		XR083	Hitachi	HA17083					MC1489			Sanyo	LB1231
PBL3770	Unitrode	UC3770			TI	TL083				Signetics	MC1488			SGS-Thomson	L201
PBL3770A	Unitrode	PBL3770A		XR084	GE/RCA	CA084	(2647)				MC1489				ULN2001
PBL3781	GoldStar	GL6981			National	μAF774					MC1489A			SiliconG	SG2001
	SGS-Thomson	LS356			SGS-Thomson	TL084					SG1489			Sprague	ULN2001
		CS3525A				TL084					SG75188				(3258)
RL3525A	Cherry Semi	XR3525A		XR1001	National	MF10-100					SG75788			TI	ULN2001
	Exar	IP3525A				MF4				TI	MC1488				ULN2001A
	IPS	LT3525		XR1002	National	MF10-50					MC1489			Toshiba	TD62001
	LinearTech	LT3525A		XR1010	LinearTech	LT1060					SN75188				TD62101
		SG3525			Maxim	MF10								Exar	XR2001
	Motorola	SG3525A	(2964)		MicroLinear	ML2110			XR1489A	Exar	XR1488	(2619)			(2619)
	SGS-Thomson	SG3525		XR117	Elantec	ELH0002				GoldStar	GD75188	(2708)		Mitsubishi	M54524
		SG3525A			Harris	HA5002	(2765)			Motorola	MC1488	(2983, 2989)		Motorola	MC1411
	SiliconG	SG3525			MicroLinear	ML117					MC1489	(2989)			(2984)
	TI	SG3525A			SiliconSys	SSI117				National	μA1489			National	μA9665
		UC3525				SSI32R117	(3254)				μA1489A			Sanyo	LB1231
	Unitrode	UC3525A				VM117	(3385)				μA212A			SGS-Thomson	L201
RL3846	LinearTech	UC3846		XR1310	National	LM1310					μA750				ULN2001
	SiliconG	SG3846			TI	SN76115					DS1488			SiliconG	SG2001
	Siliconix	SG3846		XR13600	National	LM13600					DS1489			Sprague	ULN2001
	TeledyneS	TSC170	(3268)	XR14412	Motorola	MC14412					DS1489A				(3258)
		TSC38C46		XR1458	Exar	XR4558	(2619)				MC1488				ULQ2001
	Unitrode	UC3846			GE/RCA	CA1558	(2647)				MC1489				ULS2001
					GoldStar	GL4558	(2714)				MC1488			TI	ULN2001
					Hitachi	HA17458				SGS-Thomson	MC1488				ULN2001A
						HA17558					MC1489			Toshiba	TD62001
					Motorola	MC1558	(2955)				MC1489				TD62101
						MC4558	(2955, 2990)				MC1488			XR2002	SG2002
						SE4558				Signetics	MC1489			Exar	XR2202
						μA1458					MC1489				(2619)
						μA4558					MC1489A			Mitsubishi	M54525
											SG1489			Motorola	MC1412
											SG1489A				(2984)
															ULN2002

♦ Discontinued

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Exar (Cont'd)				XR2202 (Cont'd)				XR2527A (Cont'd)				XR3524 (Cont'd)			
XR2002C	National	μ A9666 MC1412	(Cont'd)	XR2203	NEC	μ PA2002 LB1232	(2619)	XR2543	Unitrode	SG2527A TL2527	(2619)	XR3525A	SGS-Thomson	SG3524	(2964)
	NEC	μ PA2002			SGS-Thomson	L202			IPS	UC2527A			Signetics	SG3524A	
	Sanyo	LB1232				ULN2002			SiliconG	IP2543			SiliconG	SG3524	
	SGS-Thomson	L202				ULN2002			Unitrode	SG2543			Sprague	SG3524B	
		ULN2002				SG2002			Exar	UC2543			TI	SG3524	
	SiliconG	SG2002	(3258)			Sprague	ULN2002	(3258)		XR1567	(2619)		Toshiba	TA76524	
	Sprague	ULN2002				TI	ULN2002			XR567	(2619)		Unitrode	UC3524	
	TI	ULN2002					ULN2002A			GoldStar	GL567			UC3524A	
		ULN2002					ULN2002			MCE	MCE567			CS3525A	
		ULN2002A					ULN2002A			National	LM567			RL3525A	
	Toshiba	TD62002					ULN2002			Samsung	LM567	(3040)		IP3525A	
	SiliconG	SG2023					ULN2002				LM567L	(3040)		LT3525	
	Sprague	ULN2023	(3258)				ULN2002				NE567			LT3525A	
		ULQ2003					ULN2003				SE567			SG3525	
	TI	ULS2023					ULN2003				CS2917			Motorola	SG3525A
		SN75468					ULN2003				LM2917			SGS-Thomson	(2964)
	Exar	XR2203	(2619)				ULN2003				CS1300			SG3525A	
	Mitsubishi	M52523					ULN2003				XR3503			SG3525A	
		M54523					ULN2003				MB3614			SG3525	
	Motorola	MC1413	(2984, 2989)				ULN2003				GE/RCA	CA224	(2647, 2653, 2658)	SG3525A	
							ULN2003					CA324	(2647, 2653, 2658)	UC3525	
	National	μ A9667					ULN2003					LM324	(2647)	UC3525A	
		MC1413					ULN2003					LM324	(2956, 2989)	CS3527	
	Sanyo	LB1233					ULN2003					MC33174	(2957, 2990)	CS3527A	
	SGS-Thomson	L203					ULN2003							SG3527	
		ULN2003					ULN2003							SG3527A	
	SiliconG	SG2003	(3258)				ULN2003							SG3527A	
	Sprague	ULN2003					ULN2003							SG3527A	
	TI	ULN2003					ULN2003							SG3527A	
		ULN2003					ULN2003							SG3527A	
	Toshiba	TD62003					ULN2003							SG3527A	
		TD62103					ULN2003							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004							SG3527A	
		TD62103					ULN2004							SG3527A	
	Sprague	ULQ2004					ULN2004							SG3527A	
	SiliconG	SG2011					ULN2004							SG3527A	
	Sprague	ULN2011	(3258)				ULN2004							SG3527A	
	TI	ULN2011					ULN2004							SG3527A	
		ULN2011					ULN2004							SG3527A	
	Toshiba	TD62003					ULN2004			</					

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Exar (Cont'd)				XR555 (Cont'd)				XR8464 (Cont'd)				XL2864A (Cont'd)				
XR4558	Signetics	MC1458	(3412)	Hitachi	HA17555	(2989)	Mitsubishi	M5E555	Dense-Pac	DPS88H08	(2644, 2653)	Microchip	28C64A	(2918)		
		MC1558														
		NE4558														
		SA4558														
		SE4558														
	TI	MC1458			NEC			μPC1555	GoldStar	GM76C88	(2696, 2703)	SEEQ	QD2864H	(3038)		
		MC1558														
		MC4558C														
		RC4558														
		RM4558														
XR4560	Toshiba	TA75458		Sanyo	LB8555	(3039)	SGS-Thomson	NE555	Hyundai	HY6264	(2778)	Xicor	X2864B	(3412, 3452)		
		TA75558														
		μPCA560														
		RC4560														
		TC4560B														
	National	μA739			NE555		TI	SE555M	Inmos	IMS1630	(2796)	Catalyst	CAT93C46	(2778)		
		μA749														
		LM1303														
		RC4739														
		TBA231														
XR4741	TI	SN76131		GE/Intersil	NE555	(2619)	Hitachi	HA17555	Matra-Harris	HM2064	(2777)	NCR	NCR59346	(3412, 3452)		
		SN76149														
		HA4741														
		LT1014														
		MPOP11														
	Motorola	LM148			NE555		Mitsubishi	M5E555	MicroLinear	MLB464	(2777)	Sierra	EXEL	(2621)		
		LM248														
		MC33174														
		MC4741														
		μA148														
XR4751	National	μA248		NEC	μPC1555	(3039)	Raytheon	RC555	Samsung	NE555	(3039)	Microchip	28C16A	(2916)		
		LM148														
		μPC4741														
		OP11														
		OP400														
	PMI	OP421			RC555		Samsung	NE555	Sanyo	LB8555	(3039)	SEEQ	M2816A	(3038)		
		OP470														
		PM148														
		PM248														
		HA14741														
XR494	Raytheon	HA34741	(3025)	TI	SE555	(3325)	Hitachi	HA17555	Mitsubishi	M5E555	(2989)	National	μA148	(2956, 2990)		
		HA4741														
		LM148														
		RM4158														
		LM148														
	GE/Intersil	LM348			TA7555		Toshiba	TA7555	Signetics	NE555	(3040)	S-MOS	SRM2064	(3036)		
		GL348														
		LM348														
		CS494M														
		IP494A														
XR500	Motorola	TL494	(2964)	Cherry Semi	CS594C	(3040)	Dionics	DI513B	Samsung	LM567	(3040)	Sharp	LH5164	(3411, 3451)		
		UC494A														
		MCE15B														
		ML541														
		FGC8000														
	National	DAC88			MC3490		Motorola	DM8887	Signetics	NE567	(3040)	STC	STC6264	(3411, 3451)		
		SSI541														
		MP5532														
		OP270														
		NE5532														
XR5532	Signetics	SE5532	(3144)	TI	NE5532	(3258)	Hitachi	HA17555	Mitsubishi	M5E555	(2989)	Microchip	28C17A	(2917)		
		SE5532A														
		NE5532														
		NE5532A														
		NE5533														
	TI	NE5533			NE5533		National	LM5534	Raytheon	RC5534	(3024)	SEEQ	QD2817A	(3038)		
		NE5532A														
		NE5533														
		NE5533A														
		NE5534														
XR5534	Motorola	LM5534	(2619)	GE/Intersil	NE555	(2656)	Hitachi	HA17555	Mitsubishi	M5E555	(2713)	Microchip	28C64A	(2918)		
		MC5534														
		LM5534														
		MC5534														
		RC5534														
	National	LM5534			NE555		Hitachi	HA17555	Mitsubishi	M5E555	(2713)	Microchip	28C64A	(2918)		
		MC5534														
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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
EXEL Microelectronics (Cont'd)				MBL8259	Calmos Harris Intel	CA82C59A CP82C59A 82C59A		MBM100422A	NEC	μPB100422	(Cont'd)	MBM2147H	Krueger	2147-55 2147-70 (2877)	(Cont'd)
XL2864A	Xicor	X2864A	(3412, 3452)					MBM100470A	Fujitsu Inmos	MB100470 IMS2800		MBM2147H	Motorola National	MCM6147 MM2147 NMC2141 NMC2147H NM2147	
		X2864B	(3412, 3452)		MicronTech Mitsubishi	MT8259 M5M82C59 M5M82C59AP M5M8259AP			NEC Vitellic	IMS2801 μPB100470 V51C256					
		X2864H	(3412, 3452)			INS8259		MBM100474	AMD	AM100474		MBM2147H	SGS-Thomson	ET2147	
XL2865A	Hitachi NCR	HN58C65 NCR5264			National NEC	μPD71059 μPD71059C μPD8259A			Fujitsu	MBM100474A MB100474			STC	STC2147	
	Samsung	KM28C65 KM2865A KM2865AH	(3038)			MSM82C59A SMC82C59AC KS82C59A			National NEC	F100474 μPB100474 μPB100474A		MBM2148	AMD	TMM3150 AM2148	
XL46C16	Cypress GE/Intersil Harris National	CY7C291 IM6716 HM6617 DM77S291 DM77S291A	(2585)		OKI S-MOS Samsung Toshiba	TMP82C59 TMP8259 UC82C59A UM8259A	(3339)		Saratoga	SSM100474			Cypress	CY21L49 CY2148	
		932511M			Unicorn UMC	VL82C59A		MBM100474A	AMD	AM100474		MBM2148	Hitachi	HM6148 HM6148H HM6148HL	
		29681			VLSI Tech	VL82C59A			National NEC	F100474 μPB100474			Intel	2148H	
		29681A			Calmos Harris	CA82C52 CP82C82	(2739)			SSM100474A		MBM2148	Krueger	2148-35 2148-45 2148-70	(2877)
		29683			Intel	82C82			Saratoga	SSM100474					
		29683A			NEC	μPB8282		MBM100480	AMD	AM100480		MBM2148	National	NMC2148 NM2148	(2877)
	Waferscale	WS57C191 WS57C291	(3390)			μPD71082			Fujitsu	MB100480					
XL68C681	Exar	XR88C681	(2618)		OKI	MSM82C82		MBM100484	NEC	μPB100480		MBM2148	Performance	P4C149	
	Motorola	MC68681	(2926)		Calmos	CA82C84A		MBM100490	NEC	μPB100484			Saratoga	SSM2148	
	Signetics	SCN68681	(3108)		Harris	CP82C84A		MBM100490-15	SMC	HDC9224			SGS-Thomson	ET2148	
Fujitsu				MBL8284	Intel	82C84A 8284A			Hitachi IDT	HM100490-15 IDT100490-15	(2827)	MBM2149	UMC	UM2148	
MBL80C31	AMD	P80C31			Mitsubishi	M5L8284A			Saratoga	SSM100490-15			AMD	AM2149	
	Intel	P80C31 P80C31BH			NEC	M5L8284AP		MBM10415	Motorola	MCM10146	(2948)	MBM2149	Cypress	CY2149	
		80C31				μPB8284			National	DM10415			Intel	2149H	
	OKI	M80C31				μPB8284A			Siemens	GXB10415				2149HL	
	Siemens	SAB80C31				μPD71084		MBM10422A	National	DM10422		MBM2149	Saratoga	SSM2149	
	Signetics	SC80C31			OKI	MSM82C84			NEC	μPB10422		MBM27C1000	NEC	μPD27C1000A	
MBL80C51	Fujitsu	MLB80C51			Samsung	UC82C84A		MBM10470A	Fujitsu	MB10470			Toshiba	TC571001	
	Intel	P80C51			Unicorn	UC82C84A			Motorola	MCM10470					
		P80C51BH			UMC	UM82C84A			National	DM10470					
		80C51				UM8284A			NEC	μPB10470					
	Matra-Harris	P80C51			VLSI Tech	VL82C84A		MBM10474A	Saratoga	SSM10470					
	OKI	M80C51			AMD	DP8304			AMD	AM10474					
	Siemens	SAB80C51			Harris	CP82C86H			Fujitsu	MB10474					
	Signetics	SCC80C51B	(3126)		Intel	82C86			Motorola	MCM10474					
		SC80C51				8286			National	DM10474					
MBL80186	AMD	80186			National	DP8304			NEC	μPB10474		MBM27C1024	AMD	AM27C1024	
	Intel	80186			NEC	μPB8286				μPB10474A			Atmel	AT27C1024	
	Krueger	80186	(2877)			μPD71086		MBM10480	Saratoga	SSM10474			Hitachi	HN27C1024	
	Siemens	SAB80186			OKI	MSM82C86			AMD	AM10480					
MBL80188	AMD	80188			AMD	D82C88			Inova	S32K8	(2807)		Microchip	27C1024	
	Intel	80188			Calmos	CA82C88			National	F10480			National	μPD27C1024	
	Siemens	SAB80188			Harris	CP82C88			NEC	μPB10480				NMC27C1024	
MBL8031	Fujitsu	MLB8031AH			Intel	82C88		MBM10484	Fujitsu	MB10484			NEC	μPD27C1024	
	Intel	AMD8031				8288			National	F10484			OKI	MSM27C1024	
		P8031AH			Mitsubishi	M5L8288			NEC	μPB10484			SGS-Thomson		
	Siemens	SAB8031				M5L8288S			Saratoga	SSM10484				M27C1024	
		SAB8031A			NEC	μPB8288		MBM10490-15	Hitachi	HM10490-15		MBM27C256	VLSI Tech	VT27C1024	
	Signetics	SCN8031				μPD71088			IDT	IDT10490-15			AMD	AM27C256	
		SCN8031AH			OKI	MSM82C88			Saratoga	SSM10490-15			Atmel	AT27C256	
MBL8035	Intel	8035			Samsung	KS82C88			AMD	AM2147			Fujitsu	MBM27C256A	(2628)
	National	INS8035			Unicorn	UC82C88		MBM2147	Cypress	CY2147	(2580)				
	NEC	μPD8035			UMC	UM82C88				CY2147					
	Siemens	SAB8031A				UM8288			Intel	M2147H					
	Signetics	SCN8035				VL82C88				2147					
	Toshiba	TMP8035			VLSI Tech	CP82C89			Krueger	2147-35 2147-45 2147-55 2147-70	(2877) (2877) (2877) (2877)	MBM27C256	Microchip	RO9256	
MBL8048	Intel	8048			Intel	8289				2147H					
	National	INS8048			NEC	μPB8289				2147-35 2147-45 2147-55 2147-70	(2877) (2877) (2877) (2877)	MBM27C256	Microchip	27C256-200 27C256-250 27C256-300	
	NEC	μPD8048				AM100415									
	Signetics	SCN8048			National	F100415									
	Toshiba	TMP8048	(3339)		Fujitsu	MBM100422A									
MBL8049	Intel	8049				MB8118			Motorola	MCM6147					
	National	INS8049			Krueger	2118-120 2118-150	(2877) (2877)		National	MM2147 NMC2141 NMC2147H NM2147					
	NEC	μPD8049				Motorola	MCM100422								
	Signetics	SCN8049	(3130)			National	DM100422								
	Toshiba	TMP8049	(3339)				NMC5295								
MBL8051	AMD	P8051				μPB100422			SGS-Thomson	ET2147					
	Fujitsu	MLB8051AH							STC	STC2147					
	Intel	P8051							Toshiba	TMM3150					
		P8051AH							AMD	AM2147					
	Matra-Harris	8051							Cypress	CY2147					
	Siemens	SAB8051								CY7C147	(2580)				
		SAB8051A								MBM2147					
	Signetics	SCN8051			Krueger	2118-120 2118-150	(2877) (2877)			2147H					
		SCN8051AH								2147H					
MBL8088	AMD	8088								2147H					
	EDI	EDH8088CL								2147H					
	Intel	8088								2147-35 2147-45	(2877) (2877)				
	Krueger	8088	(2877)												
	Matra-Harris	8088													

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page				
Fujitsu (Cont'd)				MBM27128A Intel M27128 N27128A P27128 P27128A 27128 27128A 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson			
MBM27C256A				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
AMD AM27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Atmel AT27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Hitachi HN27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Intel M27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Krueger 27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27C256-200				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27C256-250				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27C256-300				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
RO9256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27C256 (2913)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Microchip M5L27256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
National NMC27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
NEC μPD27C256A				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
OKI MSM27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
SEEQ 27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
SGS-Thomson				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TS27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Signetics 27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Sony CXK54256P				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TI SMJ27C256 (3286)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TMS27C256 (3326)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TMS27PC256 (3326)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Toshiba TC54256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TC57256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
VLSI Tech VT27C256				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Waferscale WS27C256 (3390)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
WS57C256 (3390)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
WS57C256F (3390)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
MBM27C512				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Atmel AT27C512				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Hitachi HN27C512G				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
IDT IDT7M856S				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
IDT71256 (2837)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
IDT8M824 (2872)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Intel MD27512				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Krueger 27C512-200				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27C512-250				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Microchip 27C512 (2914)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Mitsubishi M5L27512				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
NEC μPD27C512				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
μPD27C512D				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Ricoh TMS27C512				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TI SMJ27C512 (3286)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TMS27C512 (3326)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TMS27PC512 (3326)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Toshiba TC54512				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TC57512				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
VLSI Tech VT27C512				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Waferscale WS27C512L (3390)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
MBM27C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Intel M27C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
87C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Krueger 27C64-200				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27C64-250				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27C64-300				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Microchip 27C64 (2911)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
OKI MSM27C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
S-MOS SPM27C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
SGS-Thomson				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TS27C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Signetics 27C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TI TMS27C64 (3326)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
VLSI Tech VT27C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
Waferscale WS27C64				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
MBM27128 AMD				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
AM27128				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
N27128A				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
P27128				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
P27128A				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128A				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
MBM27128 Krueger				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128-200 (2877)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128-250 (2877)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128-300 (2877)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128-450 (2877)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128A-200 (2877)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128A-250 (2877)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128A-300 (2877)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128A-450 (2877)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
MBM27128 Mitsubishi				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
M5L27128				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
SEEQ M27128				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
27128				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
SGS-Thomson				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
M27128				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
TMM24128				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
MBM27128 AMD				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
AM27128				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
AM27128A				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
(Continued)				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							
				MBM27128A Krueger				MBM27128A Mitsubishi SEEQ				MBM27128A SGS-Thomson							

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Fujitsu (Cont'd)				MB4118-6	Fujitsu	MB4118-4		MB7115	MMI	63S240		MB7138H			(Cont'd)		
MB3615	Motorola	MC3303	(2957)	MB4204	SiliconSys	SSI118			National	DM74S570			Raytheon	29683A			
	PMI	OP421			GE/RCA	CA339	(2648, 2653)		Signetics	N82S130			TI	TBP38A166			
	SGS-Thomson					CA339A	(2648, 2653)			S82S130				TBP38S166			
		MC3303				LM339			MB7116	GE/Intersil	ICL7116	(2667)		Waferscale	WS57C191 (3390)		
	Signetics	MC3303			GoldStar	GL339	(2714)		Maxim	ICL7116				WS57C291 (3390)			
	TI	MC3303			Motorola	LM339	(2958, 2989)		TeledyneS	TSC7116	(3279)		MB7142	AMD	AM27PS43		
MB3752	Fujitsu	MB723							GE/Intersil	ICL7117	(2667)			AM27S43			
	GE/Intersil	LM723			National	μA339			Maxim	ICL7117				AM27S43A			
	GE/RCA	CA723	(2651, 2657, 2659)		NEC	μPC137			TeledyneS	TSC7117	(3279)						
		LM723				μPC177			Signetics	N82LS135			ICT	27CX321	(2875)		
	Hitachi	HA17723				μPC339			TI	28L22			MMI	53S3281			
	Motorola	MC1723	(2962, 2989)		PMI	CMP04			MB7121	National	DM54251			63S3281			
	National	μA723				PM139					DM7121			National	DM77S321		
		μA723M				PM339				TI	SN54251			DM87S321			
	Raytheon	RC723				PM339A				AMD	AM27S33			R29671D			
		RM723			Raytheon	LM339	(3025)			MMI	63S441			29671A			
	Samsung	LM723	(3039)		SGS-Thomson	LM339				National	DM54S73			N82H321			
	SGS-Thomson	μA723				LM339				AMD	AM27S29			WS57C43 (3390)			
		LM723			TI	TA75339				MMI	63S481			WS57C43B (3390)			
		L123			Toshiba	TA75339				National	DM74S472			WS57C43D (3390)			
		SFC2723			Exar	XR082	(2619)			Raytheon	29623						
	Signetics	μA723			GE/RCA	CA082	(2647)			Signetics	N82S147		MB7143	AMD	AM27S49		
	SiliconG	SG723			SGS-Thomson	LF353					N82S147A			Cypress	CY7C264 (2585)		
	TI	μA723				TL082				AMD	S82S147			Fujitsu	MB7144		
		μA723M				HA17082					AM27S185				MB7144H		
MB3759	IPS	IP494			TI	TL082				Hitachi	HN25085			Harris	HM76641A		
	TI	TL494				CA358A	(2647, 2653)			MMI	63S841			ICT	27CX641 (2875)		
		TL494M				LM358	(2647)			National	DM87S185			National	32Z565		
	Unitrode	UC494A			GoldStar	GL358	(2714)			Raytheon	29651				93Z665		
MB3760	Cherry Semi	CS595			Hitachi	HA17358				Signetics	N82S185			Raytheon	29VP864		
MB4001	GE/RCA	CD4001	(2637)		Motorola	LM358	(2954, 2989)				S82S185			Signetics	N82S641		
		CD4001UB	(2637)			LM358A			MB7131	AMD	24S81-55			Waferscale	WS5C49		
	Motorola	MC14001	(2938)			μPC1251				National	AM27S180				WS5C49B		
		MC14001UB	(2938)			μPC358					DM87S180		MB7144	AMD	AM27S49		
	National	CD4001			NEC	OP221					DM87S229				27S49		
		CD4001UB			PMI	LA6358					Cypress	CY7C132 (2580)		Cypress	CY7C264 (2585)		
		F4001			SGS-Thomson	LM358					IDT	IDT7132 (2841)		Fujitsu	MB7143		
	OKI	MM74C02				LM358					VLSI Tech	VT7132 (3343, 3359)			MB7144H		
	Sanyo	MSM4001				NE532			MB7137	GE/Intersil	ICL7137 (2667)			Harris	HM76641A		
	SGS-Thomson	LC4001B				LM348				Maxim	ICL7137			ICT	27CX641 (2875)		
		HCC/HCF4001				LM358				AMD	AM27S191			National	32Z565		
	Signetics	HEF4001				TA75358					AM27S291				93Z665		
	Solitron	CM4001				HA17393					AM27S291A			Raytheon	29VP864		
	Toshiba	TC4001B (3341)				μPC277					AM27S291SA			Signetics	N82S641		
		TC4001UB (3341)				TA75393					CY7C291 (2585)			Waferscale	WS5C49		
MB4002	GE/RCA	CD4002 (2637)				National	LM833				Fujitsu	MB7138E				WS5C49B	
	Motorola	MC14002 (2938)				Burr-Brown	HI509A				MMI	63S1681		MB7144H	AMD	AM27S49	
	National	CD4002				GE/Intersil	IH5208 (2670)			Motorola	MCM76				Cypress	CY7C264 (2585)	
		F4002				Harris	HI509A			National	DM878291				Fujitsu	MB7143	
	SGS-Thomson	HCC/HCF4002				Maxim	HI509A				932511					MB7144	
		HEF4002					MAX359			Raytheon	29683A			Harris	HM76641		
	Solitron	CM4002					MUX24			TI	TBP38A166			ICT	HM76641A		
	Toshiba	TC4002B (3341)				PMI	ADC5210				TBP38S166			National	27CX641 (2875)		
MB40576	Sony	CXD1172P				Adv Analog	AD5210 (2417)				Waferscale	WS57C191 (3390)					
MB4063	GE/RCA	CD4063 (2639)				HybridSys	HS5210					WS57C291 (3390)					
	SGS-Thomson	HCC/HCF4063				MicroNet	MN5210			MB7138E	AMD	AM27S191					
		TC4063B (3341)				Hitachi	HD44234					AM27S291					
	GE/RCA	CD4072 (2637)				Hitachi	HD44233					AM27S291A					
		CD4072B (2637)				Hitachi	HD44232					AM27S291SA					
	Motorola	MC14072 (2937)				Hitachi	HD44231					CY7C291 (2585)					
	National	CD4072				AMD	AM27S18					Fujitsu	MB7138		MB7152	AMD	AM27S41
		F4072				National	DM74S188						MB7138H				AM27S41A
	NEC	μPC4072				AMD	AM27LS19				MMI	63S1681					27S41
	SGS-Thomson	HCC/HCF4072					AM27S19					63S1681A					
		HEF4072					27S19				Motorola	MCM76					
	Toshiba	TC4072B					53S081				National	DM878291					
	SiliconSys	SSI104					63S081					932511					
		SSI105					MCM27S19				Raytheon	29683A					
	Cherry Semi	CS117					DM74S288				TI	TBP38A166					
	Fujitsu	MB4117-6					N82S123					TBP38S166					
	MicroLinear	ML117					N82US123					Waferscale	WS57C191 (3390)				
	National	SSI117					S82S123						WS57C291 (3390)				
	SiliconSys	SSI117					82S123						AM27S291				
		CS117					DM74S387						AM27S291A				
	Fujitsu	MB4117-4					AM27S21						AM27S291SA				
	MicroLinear	ML117					27S21						CY7C291 (2585)				
	National	SSI117					63S141						Fujitsu	MB7138E			
	SiliconSys	SSI117					63S141A							63S1681			
		MB4118-6					DM74S287							63S1681A			
	Fujitsu	SSI118					N82S129A							MCM76			
	SiliconSys	SSI118					S82S129							DM878291			
			(Continued)				S82S129							932511			(Continued)

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Fujitsu (Cont'd)				MB8B464 Krueger (Cont'd)				MB81C1000 Toshiba (Cont'd)				MB81C68 IDT (Cont'd)					
MB723			(Cont'd)			6264LP-120	(2877)			TC511001C				IDT6168LA	(2836)		
	GE/RCA	CA723	(2651, 2657, 2659)			6264LP-150	(2877)	MB81C1001	Hitachi	HM511001				IDT6168S	(2836)		
		LM723			Matra-Harris	HM2064			MicronTech	MT4C1025				IDT6169			
	Hitachi	HA17723				HM56162			Mitsubishi	M5M4C1001			Matra-Harris	HM65682			
	Motorola	MC1723	(2962, 2989)			HM62641			Motorola	MCM511001				HM65768			
						HM65641			NEC	μPD421001			MicronTech	MT5C1604			
	National	μA723			MicroLinear	HN65641			OKI	MSM41001				MT5C1605			
		μA723M							Siemens	HYB511001				MT5C1608			
		LM723			MicronTech	ML8464			TI	TMS4C1025	(3326)		Mitsubishi	M5M21C68P			
	Raytheon	RC723				MT5C6404			Toshiba	TC511001			Mosel	MS6168			
		RM723				MT5C6408			Hitachi	HM511002			Motorola	MCM6168			
	Samsung	LM723	(3039)		Mitsubishi	AM99C88			MicronTech	MT4C1026				MCM6269			
	SGS-Thomson					M5M165			Mitsubishi	M5M4C1002			NEC	μPD4314			
		μA723				M5M5164			Motorola	MCM511002				μPD4314C			
		LM723				M5M5165			NEC	μPD421002			Performance	P4C168			
		L123				M5M5178			OKI	MSM41002				P4C169			
		SFC2723			Mosel	MS6264			Samsung	KM41C1002			Ricoh	PS6168			
		μA723			Motorola	MCM6064			TI	TMS4C1027	(3326)		Saratoga	SSM6168			
	Signetics	SG723				MCM61L64			Toshiba	TC511002			SGS-Thomson				
	SiliconG	μA723				MCM6164			MB81C258	MB81C4258				MK41H68			
	TI	μA723				MCM6164C				Hitachi	HM51258				MK41H69		
		μA723M				MCM6264				Mitsubishi	M5M44258A				MK41L68		
MB7232	GE/Intersil	ICM7232	(2686)			DP8464				NEC	μPD424258			Sony	CKX5416P/K		
	LSI Comp	LS7232	(2883)		NEC	NMC6164				Samsung	KM44C258			TI	SMJ64C16		
	Maxim	ICM7232			OKI	μPD4364				Vitellic	V51C256				SMJ68CE64		
MB7238	AMD	AM27545				MSM5164			MB81C4251	Hitachi	HM534251			Toshiba	TMM2018		
		AM27545A				MSM5188				Mitsubishi	M5M442256				TMM2068		
		AM27547			Performance	P4C164				NEC	μPD42274				TMM2068AP		
	Cypress	CY7C245	(2585)			P4C188				TI	TMS44C251			UMC	UM6168		
	Fujitsu	MB7238RA			S-MOS	SRM2064				Toshiba	TC524256			Vitellic	V61C68		
	MMI	PLE11RA8				SRM2264			MB81C4252	Hitachi	HM534252			VLSI Tech	VT20C19	(3349)	
		PLE11RS8			Samsung	KM6264	(3036)			Toshiba	TC524257				VT20C68	(3343)	
		53RA1681				KM6264A	(3036)		MB81C4256	Hiachi	HM514256				VT20C69	(3343, 3350)	
		53RA1681AS			Sharp	LH5164				Hyundai	HY51C4256						
		53RS1681				LH5165				MicronTech	MT4C256						
		53RS1681S			Sony	CVK5864				Mitsubishi	M5M44C256				VT20C98		
		63RA1681				CKX5164P				Motorola	MCM514256				VT2069		
		63RA1681AS				CKX5863P				NEC	μPD424256				AM2169		
		63RS1681				CKX5865				OKI	MSM41005				AM99C168		
		63RS1681AS				CKX5865P				Samsung	MSM514256			Cypress	CY7C168	(2580)	
		63RS1681S			STC	STC6264				Sharp	LM64257				CY7C169	(2580)	
	Signetics	N82HS187	(3232)		TI	SMJ68CE64			MB81C4258	Toshiba	TC514256			Fujitsu	MB81C68		
		N82HS197			Toshiba	TC5565				Hitachi	HM51258			Hitachi	HM6168HP		
		N82HS199				TC5565A				Mitsubishi	M5M44258A				HM6268		
		S82HS187				TC5585				NEC	μPD424258				HM6268L		
MB7238RA	Waferscale	WS57C45				TMM2063				Samsung	KM44C258			Hyundai	HY61C68		
	AMD	AM27545				TMM2064				Vitellic	V51C256			Inmos	IMS1421C		
		AM27545A				TMM2088					V51C257			IDT	IDT6120		
		AM27547				V61C62			MB81C67	AMD	SSM6167				IDT6168	(2836)	
	Cypress	CY7C245	(2585)			V61C64				Cypress	CY7C167	(2580)			IDT6168A	(2836)	
	Fujitsu	MB7238				V62C64				Fujitsu	MB8167A				IDT6168L	(2836)	
	MMI	PLE11RA8				V65C64				GE/RCA	CDM5167				IDT6168LA	(2836)	
		PLE11RS8				VT20C98				Harris	HM65262	(2747)			IDT6168S	(2836)	
		53RA1681			VLSI Tech	VT20C99				Hitachi	HM6267				IDT6168SA	(2836)	
		53RA1681AS				VT20C99				Inmos	IMS1400				IDT6169		
		53RS1681			MB81C1000	DPD411M	(2608)				IMS1403	(2790)					
		53RS1681S			Fujitsu	TH22568			MB81C67	IDT	IDT6167			Matra-Harris	HM65682		
		63RA1681			GoldStar	GM7C1024				Intel	51C67				HM65768		
		63RA1681AS			Hitachi	HB561003				Matra-Harris	HM65262			MicronTech	MT5C1604		
		63RS1681				HM511000					HM65263				MT5C1605		
		63RS1681AS				HM51101					HM65263				MT5C1608		
		63RS1681S				HM51102				MB81C67	MicronTech	MT5C1601			Mitsubishi	M5M21C68P	
	Signetics	N82HS187	(3232)			HM561003					Mitsubishi	M5M21C67			Mosel	MS6168	
		N82HS197			Hyundai	HY51C1000	(2778)					M5M2167			Motorola	MCM6168	
		N82HS199				HY51C1002	(2778)				NEC	μPD4311				MCM6269	
		S82HS187				MT1259					S-MOS	SRM2267			NEC	μPD4314	
MB8B464	Waferscale	WS57C45				MT4C1024					SRM2367				μPD4314C		
	Cypress	CY7C185	(2580)			MH25608				MB81C67	SGS-Thomson			Performance	P4C168		
		CY7C186	(2580)			MH25609						MK41H66			P4C169		
	Dense-Pac	DPS88H08				M5M4C1000						MK41H67					
	Exar	XR8464	(2620)			M5M41000S				MB81C67	Sharp	LH5167			Ricoh	PS6168	
	Fujitsu	MB81C78A				M5M410000					STC	STC2167			Saratoga	SSM6168	
		MB8464			Motorola	MCM511000						STC6167			SGS-Thomson		
		MB8464A				μPD421000					TI	SMJ61CD16				MK41H68	
	GE/RCA	CDM6264	(2644, 2653)		NEC	MC421000					UMC	UM6167				MK41H69	
						MSM41000						AM2169				MK41L68	
	GoldStar	GM76C88	(2696, 2703)		OKI	MSM41000					AMD	AM99C168			Sony	CKX5416P/K	
			(2747)		Panasonic	MN411000						AM99C58			TI	SMJ64C16	
	Harris	HM65642			Samsung	KM41C1000	(3036)				Cypress	CY7C168	(2580)			SMJ68CE64	
	Hitachi	HM6264				KM41256A	(3036)					CY7C169	(2580)		Toshiba	TMM2018	
		HM6464				HYB511000									TMM2068		
		MB6264			Siemens	TMS4C1024	(3326)				Fujitsu	MB81C68A				TMM2068AP	
					TI	TMX4C1025					Hitachi	HM6168HP			UMC	UM6168	
	Hyundai	HY6264	(2778)			TMX4C1026						HM6268			Vitellic	V61C68	
	Inmos	IMS1630	(2796)			TMX4C1029						HM6268L			VLSI Tech	VT20C19	(3349)
	IDT	IDT7165				TM4256FC1					Hyundai	HY61C68				VT20C68	(3343)
	Krueger	6264-100	(2877)			TM5256					Inmos	IMS1421C				VT20C69	(3343, 3350)
		6264-120	(2877)			TM5256					IDT	IDT6120				VT20C98	
		6264-150	(2877)			TM5256						IDT6120				VT2069	
		6264LP-100	(2877)			TM5256						IDT6168	(2836)				
						TM5256						IDT6168A	(2836)				
						TM5256						IDT6168L	(2836)				
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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Fujitsu (Cont'd)				MB81C71A (Cont'd)				MB81C78 (Cont'd)				MB81C78A (Cont'd)			
MB81C69	AMD	AM2168			GoldStar	GM76C64			OKI	MSM5165			Sony	CXK5863P	
		AM99CL68			Hitachi	HM6287				MSM5188				CXK5865	
	Cypress	CY7C168	(2580)			HM6787			Performance	P4C164				CXK5865P	
		CY7C169	(2580)		Hyundai	HY62C87				P4C188			STC	STC6264	
	Fujitsu	MB81C69A			Inmos	IMS1600	(2792)			SRM2064			TI	SMJ68CE64	
		MB8168				IMS1601	(2793)			SRM2264			Toshiba	TC5565	
	GoldStar	GM76C164			IDT	IDT7187	(2850)			KM6264	(3036)			TC5565A	
	Inmos	IMS1420				IDT7187L	(2850)			KM6264A	(3036)			TC5585	
		IMS1421			MicronTech	MT5C6401				LH5164				TC5588	
		IMS1424			Mitsubishi	M5M5187				LH5165				TMM2063	
	IDT	IDT6120				M5M5187AP				CVK5864				TMM2064	
		IDT6169				M5M5187P				CXK5863P				TMM2088	
	Matra-Harris	HMI65769			Motorola	MCM6287				CXK5865P			Vitellic	V61C62	
		HM65682			National	F1600				CXK5865P				V61C64	
						F1602				STC6264				V62C64	
	MicronTech	MT5C1604			NEC	μPD4361				TI	SMJ68CE64			V65C64	
		MT5C1605			OKI	MSM5187				Toshiba	TC5565		VLSI Tech	VT20C99	
	Motorola	MCM1423			Performance	P4C187					TC5565A			CY7C183	
	National	F1620			S-MOS	SRM2261					TC5585			MB81C79A	
	NEC	μPD4314			Saratoga	SSM7187					TC5588			M5M5179	
	S-MOS	SRM2274			SGS-Thomson						TMM2063			M5M5179P	
	SGS-Thomson										TMM2064			μPD4369	
		MK41H68				MK41H87					TMM2088			NEC	P4C163
	STC	STC2168			Sharp	LH5261					V61C62			Performance	CXK5971P
	TI	SMJ64C16			Signetics	74HC4515	(3057)				V61C64			Sony	SMJ69CE72
	Toshiba	TMM2068			TI	SMJ61CD64					V62C64			TI	TC5589
	Vitellic	V61C62			Toshiba	TC5562					V65C64			Toshiba	TMM2089
	VLSI Tech	VT20C19	(3349)			TMM5562					VT20C98				
		VT20C69	(3343, 3345, 3350)			MT5C6404					VT20C99				
						MT5C6405									
MB81C69A	AMD	AM2168				TCC55417									
		AM99CL68				TC55417	(3335)								
	Cypress	CY7C168	(2580)			TMM55417									
		CY7C169	(2580)			V61C62									
	Fujitsu	MB81C69				MT5C6404									
		MB8168				MT5C6405									
	GoldStar	GM76C164				TCC55417									
	Inmos	IMS1420													
		IMS1421				TC55417	(3335)								
		IMS1424				TMM55417									
	IDT	IDT6120				V61C62									
		IDT6169				CY7C185	(2580)								
	Matra-Harris	HMI65769			MB81C78	CY7C186	(2580)								
		HM65682				DPS88H08	(2620)								
	MicronTech	MT5C1604				XR8464									
		MT5C1605				MB88464									
	Motorola	MCM1423				MB81C78A									
	National	F1620				MB8464									
	NEC	μPD4314				MB8464A									
	S-MOS	SRM2274				CDM6264	(2644, 2653)								
	SGS-Thomson					GM76C88	(2696, 2703)								
		MK41H68				HM65642	(2747)								
	STC	STC2168				HM6264									
	TI	SMJ64C16				HM6464									
	Toshiba	TMM2068				MB6264									
	Vitellic	V61C62				HY6264	(2778)								
	VLSI Tech	VT20C19	(3349)			IMS1630	(2796)								
		VT20C69	(3343, 3345, 3350)			IDT7165									
						6264-100	(2877)								
						6264-120	(2877)								
						6264-150	(2877)								
						6264LP-100	(2877)								
						6264LP-120	(2877)								
						6264LP-150	(2877)								
MB81C71	Cypress	CY7C187	(2580)			6264LP-120	(2877)								
	Fujitsu	MB81C71A				6264LP-150	(2877)								
		MB81C87													
	GoldStar	GM76C64													
	Hitachi	HM6287													
	Hyundai	HY62C87													
	Inmos	IMS1600	(2792)												
		IMS1601	(2793)												
	IDT	IDT7187	(2850)												
		IDT7187L	(2850)												
	MicronTech	MT5C6401													
	Mitsubishi	M5M5187													
		M5M5187AP													
		M5M5187P													
	Motorola	MCM6287													
	National	F1600													
		F1602													
	NEC	μPD4361													
	OKI	MSM5187													
	Performance	P4C187													
	S-MOS	SRM2261													
	Saratoga	SSM7187													
	SGS-Thomson														
		MK41H87													
	Sharp	LH5261													
	Signetics	74HC4515	(3057)												
	TI	SMJ61CD64													
	Toshiba	TC5562													
		TMM5562													
MB81C71A	Cypress	CY7C187	(2580)												
	Fujitsu	MB81C71													
		MB81C87													
		</													

◆ **Discontinued**

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Fujitsu (Cont'd)				(Cont'd)				Krueger (Cont'd)				MB8164A (Cont'd)			
MB81C88	TI	TIBPAL20L8 TIBPAL20L8-20 (3283)	(Cont'd)	MB8114	Sanyo	LC3514 5114	(2877)	MB8128	6116LP-150 6116LP-200 (2877)	MB8164A	TI	SMJ61CD16 V61C67			
• MB811000	VLSI Tech Dense-Pac Fujitsu	VT64KS4 DPD411M (2608)		• MB8116	ITT	ITT4116	(2877)	• MB8128	Matra-Harris	HM6166 HM65161 HM65162 HM65163 HN65728 MT5C1608 MS8725	• MB8167	AMD	SSM6167		
• MB811000	GoldStar Hitachi	MB81C1000 TH22568 GM7C1024 HB561003 HM511000 HM51101 HM51102 HM561003		• MB8116	National	F16K F4116 MM5290 MSM3716	(2877)	• MB8128	MicronTech Mitsubishi	M5M116 M5M117 M5M118 M58275 M58725	• MB8167	Cypress	CY7C167	(2580)	
• MB811000	Hyundai	HY51C1000 (2778) HY51C1002 (2778)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	GE/RCA	CDM5167	(2747)	
• MB811000	MicronTech	MT1259 MT4C1024 MH25608 MH25609		• MB8116	Siemens	STC STC4116 Toshiba		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	Hitachi	HM6267		
• MB811000	Mitsubishi	MT4C1024 MH25608 MH25609 M5M4C1000 M5M41000S M5M410000 MCM511000 μPD421000 MC421000		• MB8116	Siemens	STC STC4116 Toshiba		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	Inmos	IMS1400	(2790)	
• MB811000	Motorola	MC421000 μPD421000 MC421000 MCM511000 μPD421000 MC421000		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	NEC	μPD4311 SRM2267 SRM2367		
• MB811000	NEC	MC421000 μPD421000 MC421000 MCM511000 μPD421000 MC421000		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	S-MOS	SRM2267 SRM2367		
• MB811000	OKI	MSM41000 MN411000 KM41C1000 (3036)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	SGS-Thomson	MK41H66 MK41H67		
• MB811000	Panasonic	MSM41000 MN411000 KM41C1000 (3036)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	Sharp	STC2167 STC6167		
• MB811000	Samsung	MSM41000 MN411000 KM41C1000 (3036)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	STC	STC2167 STC6167		
• MB811000	Siemens	HYB511000 TMS4C1024 (3326) TMX4C1025 TMX4C1026 TMX4C1029 TM4256FC1 TM5256 TX4C1024 TC511000 TC511000C TC511001C TMM411001C		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	Dense-Pac Fujitsu	DPD411M (2608) MB81C1000 TH22568		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	GoldStar Hitachi	GM7C1024 HB561003 HM511000 HM51101 HM51102 HM561003 HY51C1000 (2778) HY51C1002 (2778)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	Hyundai	HY51C1000 (2778) HY51C1002 (2778)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	MicronTech	MT1259 MT4C1024 MH25608 MH25609		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	Mitsubishi	MT4C1024 MH25608 MH25609 M5M4C1000 M5M41000S M5M410000 MCM511000 μPD421000 MC421000		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	Motorola	MC421000 MCM511000 μPD421000 MC421000		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	NEC	MC421000 MCM511000 μPD421000 MC421000		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	OKI	MSM41000 MN411000 KM41C1000 (3036)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	Panasonic	MSM41000 MN411000 KM41C1000 (3036)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	Samsung	MSM41000 MN411000 KM41C1000 (3036)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	Siemens	HYB511000 TMS4C1024 (3326) TMX4C1025 TMX4C1026 TMX4C1029 TM4256FC1 TM5256 TX4C1024 TC511000 TC511000C TC511001C TMM411001C		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB811001	Toshiba	MT1259 MT4C1024 MH25608 MH25609		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB8114	AMD	AM9124 G2114 CY7C148 (2580)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB8114	CMD Micro	HA5114 HM6514 (2748)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB8114	Harris	HM6514 (2748)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB8114	Inmos	IMS1223 (2789)		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB8114	Intel	5114		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB8114	Matra-Harris	HM6514		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB8114	Mitsubishi	MS8981		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)
• MB8114	OKI	MSM5114		• MB8116	SGS-Thomson	M4116 HYB4116 2690		• MB8128	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129	• MB8167	TI	UMC AMD	UM6167 SSM6167	(2580)

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Fujitsu (Cont'd)				MB8265	OKI	MSM3764		MB8404	Hitachi	HM4315		MB8464	Krueger	(Cont'd)	
MB8171	National	F1600	(Cont'd)	MB8265	Panasonic	MN4164			Intel	5104				6264LP-120	(2877)
	SGS-Thomson	F1602		MB8265	Samsung	MM4864	(3036)		Matra-Harris	HM6504				6264LP-150	(2877)
	TI	TK41H87		MB8265	Saratoga	SSM7164	(3036)		Mitsubishi	M58981			Matra-Harris	HM2064	
	Toshiba	TC5562			SGS-Thomson	MKB4564			National	NMC6504				HM56162	
	VLSI Tech	VT20C98				MK45H64		MB8411	Rockwell	R6504	(2749)			HM62641	
MB8227	Motorola	MCM4027		MB8265	Siemens	TS4164			Toshiba	TMM315				HM65641	
	National	M4027			TI	HYB4164	(3286)	MB8414	Harris	HM6561			MicroLinear	ML8464	
	STC	STC4027		MB8265		SMJ4164			Matra-Harris	HM6561			MicronTech	MT5C6404	
MB8264	Toshiba	TC4013B	(3341)	MB8265		SM4164			AMD	AM9124				MT5C6408	
	Harris	HA5104		MB8265	Toshiba	TMM4164			CMD Micro	G2114	(2580)		Mitsubishi	MSM5164	
	Inmos	IMS2600		MB8265A		TMM4164A			Cypress	CY7C148	(2580)			MSM5165	
	IDT	IDT7164	(2848)	MB8265A	Vitellic	V51C64			Harris	HA5114	(2748)			MSM5178	
	Intel	M2164A		MB8265A	Harris	HA5104				HM6514	(2789)			MS6264	
	Krueger	4164-120	(2877)		Inmos	IMS2600				IMS1223			Mosel	MCM6064	
		4164-150	(2877)		IDT	IDT7164	(2848)			5114			Motorola	MCM61164	
		4164-200	(2877)		Intel	M2164A			Sanyo	LC3514				MCM6164	
MB8264	MicronTech	MT4264			Krueger	4164-120	(2877)		Signetics	5114				MCM6164C	
	Motorola	MCM4164		MB8265A		4164-150	(2877)		UMC	UM6104				MCM6264	
		MCM4164C				4164-200	(2877)			MBM8418			National	DP8464	
		MCM6665		MB8265A	Motorola	MT4264		MB8418	Fujitsu	SRM2018				NMC6164	
MB8264	National	F4164				MCM4164			S-MOS	SCM20C16			NEC	μPD4364	
		F64K		MB8265A		MCM6665		MB84256	Sprague	AM99C328			OKI	MSM5164	
		NMC4164				F4164			AMD	CY7C197	(2580)			MSM5165	
		MSM3764		MB8265A		F64K			Cypress	CY7C198	(2580)			MSM5188	
		MN4164				NMC4164				CY7C199	(2580)		Performance	P4C164	
		MN4864		MB8265A	OKI	MSM3764		MB84256	Dense-Pac	DPS412588				P4C188	
MB8264	Samsung	KM4164A	(3036)		Panasonic	MN4164			GE/RCA	CDM62256	(2644)		S-MOS	SRM2064	
		KM4164B	(3036)			MN4864			GoldStar	GM76C256	(2696)			SRM2264	
MB8264	Saratoga	SSM7164		MB8265A	Samsung	KM4164A	(3036)		Hitachi	HM62256			Samsung	KM6264	(3036)
	SGS-Thomson	MKB4564				KM4164B	(3036)			HM64456				KM6264A	(3036)
		MK45H64		MB8265A	Saratoga	SSM7164		MB84256	Hyundai	HY62C256			Sharp	LH5164	
		TS4164			SGS-Thomson	MKB4564			Inmos	IMS1830				LH5165	
		HYB4164				MK45H64			Inova	S32K8	(2807)		Sony	CVK5864	
MB8264	Siemens	SMJ4164	(3286)	MB8265A		TS4164			IDT	IDT7M856S				CXK5164P	
	TI	SM4164				HYB4164				IDT71256	(2837)			CXK5863P	
		TMS4164		MB8265A	Siemens	SMJ4164	(3286)			IDT71256L	(2837)			CXK5865	
		TMM4164			TI	SM4164				IDT71256S	(2837)			CXK5865P	
		TMM4164A		MB8265A		SM4164				IDT8M824	(2872)		STC	STC6264	
MB8264	Toshiba	TMS4164				TMS4164		MB84256	Lattice	SR256K8			TI	SMJ68CE64	
		TMM4164A		MB8265A	Toshiba	TMM4164			MicronTech	MT5C2568			Toshiba	TC5565	
MB8264	Vitellic	V51C64				TMM4164A			Mitsubishi	M5M5256				TC5565A	
MB8264A	Harris	HA5104		MB8265A	Vitellic	V51C64			Mosel	MS62256				TC5585	
	Inmos	IMS2600		MB8266A	Lansdale	SL8266			Motorola	MCM60256				TC5588	
	IDT	IDT7164	(2848)		Raytheon	RC8266				MCM61256				TMM2063	
	Intel	M2164A		MB8266A		RM8266				MCM6206				TMM2064	
	Krueger	4164-120	(2877)		Signetics	N8266	(3076)	MB84256	National	NM44251				TMM2088	
		4164-150	(2877)			S8266			NEC	μPD43256A			Vitellic	V61C62	
		4164-200	(2877)	MB831000	Fujitsu	MB831124			S-MOS	SRM20256				V61C64	
MB8264A	MicronTech	MT4264			Hitachi	HM62301		MB84256	Samsung	KM62256	(3036)			V62C64	
	Motorola	MCM4164			NEC	μPD23C1000A			Sharp	LH52256			VLSI Tech	V65C64	
		MCM4164C				μPD23C1010				LH52259	(3054)			VT20C98	
		MCM6665				TC531000		MB84256	Sony	CKX58255				VT20C99	
MB8264A	National	F4164			Toshiba	VT23C1024				CKX58256					
		F64K		MB831124	Fujitsu	MB831000		MB84256	Toshiba	TC55257					
		NMC4164			Hitachi	HM62301				TC55257A					
MB8264A	OKI	MSM3764			NEC	NCR23C1000A				TC55328			Dense-Pac	DP588H08	
	Panasonic	MN4164				μPD23C1000A				V62C256			Exar	XR8464	(2620)
		MN4864				μPD23C1010		MB84256	Vitellic	HM62256L			Fujitsu	MB8B464	
MB8264A	Samsung	KM4164A	(3036)		Toshiba	TC531000			Hitachi	HM62256L				MB81C78A	
		KM4164B	(3036)		VLSI Tech	VT23C1024		MB84256-L	Mitsubishi	M5M5256-L				MB8464	
MB8264A	Saratoga	SSM7164				DP592256	(2609)		Motorola	MCM60L256			GE/RCA	CDM6264	(2644, 2653)
	SGS-Thomson	MKB4564		MB83256	Dense-Pac	S23256			NEC	μPD43256-L	(3036)		GoldStar	GM76C88	(2696, 2703)
		MK45H64			Gould/AMI	M5M23256			Samsung	KM62256L	(3036)			HM65642	(2747)
		TS4164			Mitsubishi	NCR23256			Toshiba	TC55257AL			Harris	HM6264	
		HYB4164			NCR	NCR23257		MB8464	Cypress	CY7C185	(2580)		Hitachi	HM6464	
MB8264A	Siemens	SMJ4164	(3286)			NCR23257				CY7C186	(2580)			MB6264	
	TI	SM4164		MB83256	OKI	MSM38256			Dense-Pac	DP588H08				HY6264	(2778)
		TMS4164			Panasonic	MN23256			Exar	XR8464	(2620)			IMS1630	(2796)
		TMM4164		MB83256		MN23257			Fujitsu	MB8B464			Inmos	IDT7165	
MB8264A	Toshiba	TMM4164A				SMM23256				MB81C78A			IDT	6264-100	(2877)
		V51C64				SMM6325				MB8464A			Krueger	6264-120	(2877)
MB8264A	Vitellic	HA5104				SMM6326			GE/RCA	CDM6264	(2644, 2653)			6264-150	(2877)
MB8265	Harris	IMS2600		MB83256	Signetics	23256			GoldStar	GM76C88	(2696, 2703)			6264LP-100	(2877)
	Inmos	IMS2600				23256A				HM65642	(2747)			6264LP-120	(2877)
	IDT	IDT7164	(2848)	MB83256	Toshiba	TC53257			Harris	HM6264				6264LP-150	(2877)
	Intel	M2164A			VLSI Tech	VT23257			Hitachi	HM6464					
	Krueger	4164-120	(2877)	MB8401	GE/Intersil	IM6508-1				MB6264					
		4164-150	(2877)			6508				HY6264	(2778)				
		4164-200	(2877)			HM6508	(2748)		Hyundai	IMS1630	(2796)				
MB8265	MicronTech	MT4264			National	MM74C929			Inmos	IDT7165			Matra-Harris	HM2064	
	Motorola	MCM4164		MB8404		NM2102			IDT	6264-100	(2877)			HM56162	
		MCM4164C				AM2141			Krueger	6264-120	(2877)			HM62641	
		MCM6665		MB8404	AMD	AM9244				6264-150	(2877)			HN65641	
MB8265	National	F4164			Cypress	CY7C147	(2580)			6264LP-100	(2877)			ML8464	
		F64K			Harris	HM6504	(2748)						MicroLinear	MT5C6404	
		NMC4164				MA5104							MicronTech	MT5C6408	

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Fujitsu (Cont'd)				MB85201	Toshiba	TC511001C TMM411001C	(Cont'd)	MLB80C51	Intel	P80C51BH 80C51	(Cont'd)	μA733	Hitachi	HA17733	(Cont'd)				
MB8464A	(Cont'd)			MB85203	Dense-Pac	DPD44256			Matra-Harris	P80C51			Motorola	MC1733	(2953, 2989)				
Mitsubishi	AM99C88			MB85204	Dense-Pac	TM4256EC4			OKI	P80C51				NE592	(2991)				
	M5M165				TI	DPD44256			Siemens	SAB80C51			National	SE592					
	M5M5164			MB85211	Dense-Pac	DPD5124	(2608)	MLB8031AH	Fujitsu	SCC80C51B	(3126)			μA733					
	M5M5165				TI	TM4256HE4			Intel	SC80C51			Signetics	LM733					
	M5M5178			MB85214	Dense-Pac	DPD411M	(2608)			MBL8031	(2635)			μA733					
Mosel	MS6264				Fujitsu	MB81C1000				AMD8031				NE592					
Motorola	MCM6064					TH22568			Siemens	P8031AH				SE592					
	MCM61164			MB85214	GoldStar	GM7C1024				SAB8031			SiliconG	SG1401					
	MCM6164C				Hitachi	HB561003			Signetics	SAB8031A			TI	μA733					
	MCM6264					HM511000				SCN8031				μA733M					
	DP8464					HM51101		MLB8051AH	AMD	SCN8031AH				NE592					
	NMC6164			MB85214	Hyundai	HM51102			Fujitsu	P8051	(2635)		ADC0801	NE592-8					
	μPD4364				TI	HM561003			Intel	P8051AH			National	SE592					
NEC	MSM5164			MB85214		HY51C1000	(2778)			8051			ADC0801	ADC0801					
OKI	MSM5165				MicronTech	HY51C1002	(2778)			SAB8051			National	ADC0802					
	MSM5188			MB85214		MT1259			Matra-Harris	SAB8051A			ADC0802	ADC0802					
	P4C164				Mitsubishi	MT4C1024			Siemens	SAB8051A			Datel	ADC0802					
Performance	P4C188			MB85214		MH25608			Signetics	SCN8051			National	ADC0803					
	SRM2064					MH25609		P51C68		SCN8051AH			Signetics	ADC0803					
S-MOS	SRM2264					M5M4C1000			Hitachi	P51C68			TeledyneS	TSC8701					
						M5M41000S			Intel	MB2168			TI	ADC0803					
Samsung	KM6264	(3036)		MB85214	Motorola	M5M410000				P51C68			National	ADC0804					
	KM6264A	(3036)			NEC	MCM511000		P51C69	Commodore	MPS2332			Signetics	ADC0804					
Sharp	LH5164			MB85214		μPD421000			Hitachi	P51C69			TI	ADC0804					
	LH5165				OKI	MC421000			Intel	UM2168			AD101	AD	(2470)				
Sony	CKV5864			MB85214	Panasonic	MSM41000				51C69				AD101					
	CKX5164P					MN411000			Microchip	R09432				LM101					
	CKX5863P				Samsung	KM41C1000	(3036)		Mitsubishi	M58333			Motorola	LM101	(2952)				
	CKX5865					KM41256A	(3036)		National	F3532			National	μA101					
	CKX5865P			MB85214	Siemens	HYB511000				NM52132			PMI	OP77					
	STC6264				TI	TMS4C1024	(3326)		NCR	NCR2332			Raytheon	LM101	(3024)				
STC	SMJ68CE64					TMX4C1025			Panasonic	MN2332			SGS-Thomson	LM101					
TI	TC5565					TMX4C1026			Sharp	LH2332				LM101					
Toshiba	TC5585					TMX4C1029			Siemens	SAB8332				LM101					
	TC5588					TM4256FC1				SA88332				LM101					
	TMM2063					TM5256			Signetics	2332				LM101					
	TMM2064			MB85214	Toshiba	TX4C1024				2632A			AD301	SG101					
	TMM2088					TC511000			SiliconG	SG3532				AD301					
Vitellic	V61C62					TC511000C			Supertex	CM3200				CA301A	(2647)				
	V61C64					TC511001C				23SC32			LinearTech	LM301					
	V62C64					TMM411001C			TI	D51C69				LM301A					
	V65C64			MB85227	Dense-Pac	DPD411M	(2608)			P51C69			Motorola	LM301	(2952, 2989)				
VLSI Tech	VT20C98				Fujitsu	MB81C1000				TMM333P				LM301					
	VT20C99					TH22568			Toshiba	VT2332			National	μA301					
MB8464A-L	HM6264L			MB85227	GoldStar	GM7C1024		TH22568	VLSI Tech	DPD411M	(2608)			μA301A					
	IDT8M864L				Hitachi	HB561003				MB81C1000				LM301					
Mitsubishi	M5M5165-L					HM511000			Fujitsu	GM7C1024				LM301A					
Motorola	MCM6064					HM51101			GoldStar	HB561003			NEC	μPC301					
NEC	μPD4364-L					HM51102			Hitachi	HM511000				μPC301A					
Samsung	KM6264AL	(3036)				HM561003				HM51101			PMI	OP77					
Toshiba	TC5565AL			MB85227	Hyundai	HY51C1000	(2778)			HM51102			Raytheon	LM301	(3024)				
Vitellic	V65C64L					HY51C1002	(2778)			HM561003			SGS-Thomson	LM301					
MB85201	Dense-Pac	DPD411M	(2608)	MB85227	MicronTech	MT1259			Hyundai	HY51C1000	(2778)			LM301A					
	Fujitsu	MB81C1000				MT4C1024				HY51C1002	(2778)			SG301					
MB85201	GoldStar	GM7C1024		MB85227	Mitsubishi	MH25608			MicronTech	MT1259			SiliconG	μA301					
	Hitachi	HB561003				MH25609				MT4C1024			TI	LM301					
		HM511000				M5M4C1000			Mitsubishi	MH25608				LM301A					
		HM51101				M5M41000S				MH25609			Toshiba	TA7506					
		HM51102		MB85227	Motorola	MCM511000				M5M4C1000			AD	AD308	(2470)				
MB85201	Hyundai	HY51C1000	(2778)		NEC	μPD421000				M5M41000S			Burr-Brown	3501					
		HY51C1002	(2778)	MB85227		MC421000			Motorola	MCM511000				3501					
MB85201	MicronTech	MT1259			OKI	MSM41000			NEC	μPD421000			GE/Intersil	LM308					
		MT4C1024		MB85227	Panasonic	TMX4C1026				MC421000			Motorola	LM308	(2952, 2989)				
MB85201	Mitsubishi	MH25608			Samsung	TMX4C1029			OKI	MSM41000			National	μA308					
		MH25609				TM4256FC1			Panasonic	MN411000				LM308					
		M5M4C1000				TM5256			Samsung	KM41C1000	(3036)		PMI	OP97					
		M5M41000S		MB85227	Siemens	HYB511000				KM41256A	(3036)			PM1008					
MB85201	Hyundai	HY51C1000	(2778)		TI	TMS4C1024	(3326)		Siemens	HYB511000				PM1012					
		HY51C1002	(2778)			TMX4C1025			TI	TMS4C1024	(3326)			PM308					
MB85201	MicronTech	MT1259				TMX4C1026				TMX4C1025			Raytheon	LM308					
		MT4C1024				TMX4C1029				TMX4C1026			AD	AD0042					
MB85201	Mitsubishi	MH25608				TM4256FC1				TMX4C1029				AD503					
		MH25609				TM5256				TM4256FC1			GE/Intersil	LH0042					
		M5M4C1000				TX4C1024				TM5256			National	LH0042					
		M5M41000S		MB85227	Toshiba	TC511000				TX4C1024			PMI	OP41					
		M5M410000				TC511000C				TC511000			AD	AD590	(2434, 2461)				
MB85201	Hyundai	HY51C1000	(2778)			TMM411001C			Toshiba	TC511000C				REF03					
		HY51C1002	(2778)	MB87017A	CMD Micro	G8870	(2567)			TC511001C			PMI	DAC1020					
MB85201	Motorola	MCM511000			Crystal	CS8870				TMM411001C				DAC1021					
	NEC	μPD421000				M88870			GE/Intersil				Maxim	AD7520					
		MC421000			Plessey	MV8870			Adv Analog	A733			MicroPwr	MP7520					
		MSM41000			Sierra	SC11270			GE/Intersil	NE592-8			Motorola	MC7520					
		MN411000				SC11271				SE592			National	AD7520					
MB85201	Toshiba	TC511000		MLB80C51	Fujitsu	MBL80C51								DAC1020					
		TC511000C			Intel	P80C51								DAC1021					
(Continued)				(Continued)				(Continued)				(Continued)				(Continued)			

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The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/Intersil (Cont'd)				AS7531 (Cont'd)				DG191 (Cont'd)				ICL7109 (Cont'd)			
AD7520	National	DAC1022 7520	(Cont'd)	A561	National PMI Unitrode AD	AD7531 PM7531 PIC7531 AD507	(2428, 2462)	DG191	GE/Intersil Harris Maxim Siliconix	IH5043 IH5043 IH5043 DG191 DG243 DG5043	(2471)	ICL7109	Siliconix TeledyneS	TSC7109A TSC7109	(2471)
AD7521	Sanyo Unitrode AD	LA7520 PIC7520 AD7521	(2462, 2470)		Burr-Brown Datel	3508 AM462-1 AM462-2	(2543) (2598) (2598)	DG200	AD GE/Intersil Harris PMI Siliconix Unitrode AD	ADG200 IH200 HI200 SW05 DG200A PIC7513 ADG201	(2471)	ICL7116	Fujitsu Maxim TeledyneS	MB7116 MB7117 TSC7116	(3279)
	HybridSys Maxim MicroPwr Motorola National	DAC331-12 AD7521 MP7521 MC7521 AD7521 DAC1220 DAC1221 DAC1222 7521		DG118	PMI	OP64		DG201	GE/Intersil Harris Maxim	DG201A IH201 HI201 DG201A MAX331 MP201 LF11201 LF13201	(2450, 2461, 2470)	ICL7117	Fujitsu Maxim TeledyneS	MB7117 ICL7117 TSC7117	(3279)
AD7523	PMI AD Datel Maxim MicroPwr Motorola National PMI Raytheon Unitrode AD	AD7521 AD7523 DAC7523 AD7523 MP7523 MC7523 LM7523 PM7523 RC7523 PIC7523 AD7524	(2470) (2596)	DG123	Siliconix	DG172			MicroPwr National	MP201 LF11201 LF13201		ICL7126	Maxim Samsung TeledyneS	ICL7126 KS7126 TSC7126	(3040) (3279)
	Maxim MicroPwr Motorola National PMI Signetics TI AD	AD7524 MP7524 MC7524 DS75524 PM7524 7524 TLC7524 AD7530	(3019) (3325) (2470)	DG129	Siliconix	DG129		DG201A	AD	ADG201	(2450, 2461, 2470)	ICL7135	TeledyneS Maxim Siliconix TeledyneS	TSC7129 ICL7135 SI7135 TSC7135	
AD7524	Maxim MicroPwr Motorola National PMI Signetics TI AD	AD7524 MP7524 MC7524 DS75524 PM7524 7524 TLC7524 AD7530	(3019) (3325) (2470)	DG133	National	AH0133			PMI Siliconix TeledyneS	SW201 DG201A TSC4201 TSC4202		ICL7136	Intel Maxim TeledyneS	ICL7136 ICL7136 TSC7136	(3279)
	Maxim MicroPwr National Sanyo Unitrode AD	AD7530 AD7530 MP7530 AD7530 LA7530 PIC7530 AD7531		DG134	National	AH0134		DG211	AD	ADG202	(2462)	ICL7137	Maxim GE/Intersil GE/RCA	ICM7211 ICM7211 CD7211	(2686) (2639, 2653, 2656)
AD7531	AD	AD7531 AD8531	(2470)	DG139	National	AH0139			TELEDYNE S	TSC4201 TSC4202		ICL7211	Hughes	HLCD7211 H7211	
	GE/Intersil Maxim MicroPwr National PMI Unitrode AD	AS7531 AD7531 MP7531 AD7531 PM7531 PIC7531 AD7533	(2411, 2462) (2596)	DG140	National	AH0140		DG212	AD	ADG202	(2462)	ICL7555	Maxim TeledyneS Exar GE/Intersil	ICM7211 TSC7211 XRL555 ICM7555 ICM7555M	(2619) (2685) (2685)
AD7533	AD	AD7533 AD7533 MP7533 MP7533 AD7533 PM7533 PIC7533 AD7541	(2411, 2462) (2596)	DG141	Siliconix	AH0141		D125	Maxim Siliconix TeledyneC	DG201A MAX331 MP201 LF11201 LF13201		ICL7556	Maxim Exar Maxim TI	ICM7555 ICM7555 XRL556 ICL7556 TL5941	(2619)
	Maxim MicroPwr National Sanyo Unitrode AD	AD7533 AD7533 MP7533 MP7533 AD7533 LA7530 PIC7530 AD7531		DG142	National	AH0142		G118	AD	AD509	(2428, 2462) (2543)	ICL7611	Maxim Maxim Maxim Maxim	ICL7611 ICL7612 ICL7614 ICL7616	
AD7533	AD	AD7533 AD7533 MP7533 MP7533 AD7533 LA7530 PIC7530 AD7531	(2411, 2462) (2596)	DG144	National	AH0144		G119	AD	AD509	(2428, 2462) (2543)	ICL7612	Maxim AMD Maxim MicroPwr National	ICL7612 AM27S13 ICL7621 MP7621 63S241	
	Maxim MicroPwr National PMI Unitrode AD	AD7533 AD7533 MP7533 MP7533 AD7533 LA7530 PIC7530 AD7531		DG145	GE/Intersil Harris	IH5048 HI381 IH5048 IH5048 DG381A IH5048 DG381A	(2671)	ICL6108	Burr-Brown DataLinear Elantec Harris TeledyneP Burr-Brown Datel	3507 SP2520 EHA2520 HA2520 TP1322 MPC8S MUX808		ICL7631	Maxim Maxim AMD Harris Maxim MMI National Signetics	ICL7631 ICL7632 AM27S31 HM6642 ICL7641 63S485 DM74S474 N82S141 S82S141	(2752)
AD7541	AD	AD7541 AD7541 DAC7541A DAC7541 DA867541	(2411, 2462, 2470) (2552) (2596)	DG180	Siliconix	AM0154			GE/Intersil Harris Maxim	IXH6108 IH508 DG508A MAX358 MAX368 MP7508DI MC6108 LF11508 LF13508	(2600) (2670)	ICL7642	Maxim Datel LinearTech	ICL7642 AM7650 LTC1052 LTC7652	(2598)
	Burr-Brown Datel	DAC7541A DAC7541 DA867541	(2552) (2596)	DG181	GE/Intersil Harris	IH5048 HI381 IH5048 IH5048 DG381A IH5048 DG381A			MicroPwr Motorola National	MP7508DI MC6108 LF11508 LF13508	(2970)	ICL7650	Maxim Datel LinearTech	ICL7650 AM7650 LTC1052 LTC7652	
AD7541	AD	AD7541 AD7541 DAC7541A DAC7541 DA867541	(2411, 2462, 2470) (2552) (2596)	DG182	Siliconix	AM0164			PMI	DMX88 MUX88 MUX88 DG508A TP4554		ICL7650	Maxim Datel LinearTech	ICL7650 AM7650 LTC1052 LTC7652	
	GE/Intersil Honeywell HybridSys	AD7641 HDAC7541 DAC331 HS7541		DG184	GE/Intersil Harris	IH5049 HI384 IH5049 IH5049 DG384A IH5049 DG384A		ICL6109	GE/Intersil TeledyneP Harris Maxim	IXH6108 IH508 DG508A MAX358 MAX368 MP7508DI MC6108 LF11508 LF13508	(2670)	ICL7660	Maxim Datel LinearTech	ICL7660 AM7660 LTC1052 LTC7660	
AD7641	AD	AD7641 AD7641 DAC7541A DAC7541 DA867541	(2411, 2462, 2470) (2552) (2596)	DG185	GE/Intersil Harris	IH5045 IH5045 IH5045 IH5045 DG185 DG5045			MicroPwr National	MP7508DI MC6108 LF11508 LF13508	(2970)	ICL7662	Siliconix TeledyneS	SI7135 SI7652 TSC7650 TSC7652	
	Maxim MicroPwr Siliconix TeledyneP TeledyneS	AD7541 MP7541 SI7541A TP7541 TSC7541		DG186	TI	TL185			PMI	DMX88 MUX88 MUX88 DG508A TP4554		ICL7662	LinearTech TI	LTC1052 LTC1052	
AD7641	AD	AD7641 AD7641 DAC7541A DAC7541 DA867541	(2411, 2462, 2470) (2552) (2596)	DG187	GE/Intersil Harris	IH5050 HI387 IH5050 IH5050 DG387A IH5050 DG387A			Siliconix TeledyneP	DG508A TP4554 IH6208	(2670)	ICL7667	Maxim National Siliconix TeledyneS TeledyneS Motorola National	ICL7667 LMC7660 SI7660 TSC7660 TSC7662 MMH0026 DS0026 NMH0026	
	Burr-Brown Datel	DAC7541A DAC7541 DA867541	(2552) (2596)	DG188	Maxim	DG387A			Maxim	DG509A MAX359 MAX369 MP7509DI LF11509 LF13509		ICL7662	SGS-Thomson	SG1626 SG2626 SG3626 SG1626 SG2626 SG3626	
AD7641	AD	AD7641 AD7641 DAC7541A DAC7541 DA867541	(2411, 2462, 2470) (2552) (2596)	DG189	Siliconix	DG5042			MicroPwr National	MP7509DI LF11509 LF13509		ICL7667	SGS-Thomson	SG1626 SG2626 SG3626 SG1626 SG2626 SG3626	
	GE/Intersil Honeywell HybridSys	AD7541 HDAC7541 DAC331 HS7541	(2666)	DG190	GE/Intersil Harris	IH5051 IH5051 IH5051 IH5052 DG190			PMI Siliconix	MUX24 DG509A ICL7106		ICL7106	Siliconix	SG1626 SG2626 SG3626 SG1626 SG2626 SG3626	
AS7531	AD	AD7531 AD8531	(2470)		Maxim	IH5051			TeledyneS	TSC7106	(3279)	ICL7107	Maxim	ICL7107	
	GE/Intersil Maxim MicroPwr	AD7531 AD7531 MP7531	(2666)		Siliconix	DG190			TeledyneS Datel	TSC7107 ADC7109	(3279) (2595)	ICL7109	Maxim	ICL7109	

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GE/Intersil (Cont'd)				ICM7212	IDT	IDT7212		IH5040	Harris	HI5040		IH5148			(Cont'd)	
ICL8007	AD	AD8007			Maxim	ICM7212			Maxim	IH5040			OKI	MSM514257		
	PMI	OP41		ICM7217	TeledyneS	TSC7212			Siliconix	DG5040				MSM514258		
ICL8008	AD	ADOP07	(2427, 2429, 2462)		Maxim	IDT7217		IH5041	Harris	HI5041			Samsung	KM44C258		
		AD201		ICM7218	Maxim	ICM7217			Maxim	HI5041			Sharp	LH64258		
		AD707	(2427, 2429)	ICM7224	Datel	DD7218		IH5042	Siliconix	DG5041			TI	TMS44C257	(3326)	
	GE/Intersil	OP07			Maxim	ICM7218	(2410, 2462)		GE/Intersil	DG188		IH5200	Toshiba	TC514258		
	GE/RCA	CA201	(2647)			AD7224			Harris	HI5042				TC51428		
		CA301				ICM7224			Maxim	HI5042			Siliconix	SD5200		
		CA307	(2647)		PMI	PM7224	(3019)	IH5043		DG188				SI5200		
		CA3193	(2647)	ICM7225	AD	AD7225	(2413, 2462)		GE/Intersil	DG191		IH5201	AD	AD5201	(2462)	
		CA3493	(2647)						Harris	HI5043		IH5208	MicroNet	MN5201		
	National	μA207			Maxim	AD7225			Maxim	HI5043			Burr-Brown	HI509A		
		μA307		ICM7231		ICM7225			Siliconix	DG191			Fujitsu	MB5208		
		LH0044			LSI Comp	LS7231	(2883)			DG243			Harris	HI509A		
	PMI	OP06		ICM7232	Maxim	ICM7231		IH5044	Harris	HI5044			Maxim	HI509A		
		OP77			LSI Comp	LS7232	(2883)		Maxim	HI5044		IH5341	PMI	MXJ24		
	Raytheon	LM201	(3024)	ICM7233	Maxim	ICM7232			Siliconix	DG5044		IH5352	Maxim	IH5352		
		RC725			LSI Comp	LS7233	(2883)	IH5045	GE/Intersil	DG185		IH6108	Burr-Brown	MPC8S		
		RM714			Maxim	ICM7233			Harris	HI5045			Datel	MUX808		
		RM725		ICM7234	Micrel	MIC7233			Maxim	HI5045				MX808	(2600)	
ICL8013	AD	AD530	(2470)		LSI Comp	LS7234	(2883)		Siliconix	DG185			GE/Intersil	ICL6108		
		AD533	(2549)		Maxim	ICM7234				DG5045			Harris	HI508		
	Burr-Brown	MPY100	(2549)	ICM7240	Siemens	S576D		IH5046	TI	TL185			Maxim	DG508A		
		4203			Exar	XR2240	(2619)		Harris	HI5046				MAX358		
ICL8021	GE/Intersil	ICL7611	(2673, 2675)		Maxim	ICM7240			Maxim	HI5046				MAX368		
		LM4250		ICM7250	Maxim	ICM7250		IH5047	Harris	HI5047			MicroPwr	MP7508DI		
		HA2720		ICM7260	Maxim	ICM7260		IH5048	GE/Intersil	DG181			Motorola	MC6108	(2970)	
		HA2725		ICM7555	Exar	XRL555	(2619)		Harris	HI381			National	LF11508		
	Maxim	ICL7611			GE/Intersil	ICL7555				HI381				LF13508		
	Motorola	MC1776	(2953, 2989)	ICM7555M		ICM7555			Maxim	HI5048			PMI	DMX88		
		MC3476	(2953)		Exar	XRL555	(2619)		Siliconix	DG181				MUX88		
		μA776			GE/Intersil	ICL7555	(2685)			DG381A		IH6116	Siliconix	DG508A		
	National	LF441			Maxim	ICM7555	(2685)		GE/Intersil	DG184			TeledyneP	TP4554		
		LM4250		ICM7556		ICL7555			Harris	HI384			Cypress	CY6116		
	NEC	μPC4250			AdvLinear	ICM7555			Maxim	HI5049				CY7C128	(2580)	
		μPC812				ICL7555				DG384A			GE/RCA	CDM6116	(2644, 2653)	
	PMI	OP20			GE/Intersil	ICM7556M	(2685)		Siliconix	DG184				CDM6116A	(2644, 2653)	
		OP22			Maxim	ICM7556		IH5050		DG384A				GoldStar	GM76C28	(2696, 2700)
		OP43			NEC	μPD556			GE/Intersil	DG187			Harris	HM6516	(2747)	
	SGS-Thomson	μA776			TI	TLC552C			Harris	HI387				HM65162	(2747)	
		MC1776				TLC552M			Maxim	HI5050			Hitachi	HM6116		
	Solitron	UC4250		ICM7556M		TLC556C		IH5051		DG387A				HM6716		
	TI	TLC251			AdvLinear	TLC556M			Siliconix	HI5050			Hyundai	HY61C16A		
		TLC271				ALD2502			GE/Intersil	DG190				HY61C16A		
ICL8023	AD	AD558	(2410, 2461)		GE/Intersil	ICM7556	(2685)		Harris	HI5051				HY6116A	(2778)	
		TL061			Maxim	ICM7556			Maxim	HI5051			Inmos	IMS1433		
	Plessey	ZN558			NEC	μPD556				HI5052			IDT	IDT6116	(2835)	
ICL8038	SiliconG	SG1253			TI	TLC552C		IH5108	Burr-Brown	DG190				IDT6116A	(2835)	
	Exar	XR8038	(2619)			TLC552M				HI508A				IDT6116S	(2835)	
	SGS-Thomson					TLC556C			Datel	MX808	(2600)			IDT6166		
		Z8038		IH200	AD	ADG200	(2471)		Harris	HI508A			Intel	81C28		
	Zilog	Z8038			GE/Intersil	DG200	(2671)		Maxim	DG509A			Krueger	2128-100	(2877)	
ICL8069	AD	AD589	(2426, 2462)		Harris	HI200				DG509A				2128-120	(2877)	
					PMI	SW05				HI508A				2128-150	(2877)	
	LinearTech	LT1004			Siliconix	DG200A		IH5140	MicroPwr	MP7508DI	(2646)			2128-200	(2877)	
	Maxim	ICL8069			Unitrode	PIC7513	(2450, 2461, 2470)		GE/RCA	CD22212				6116-120	(2877)	
	MicroPwr	MP5010		IH201	AD	ADG201			LSI Logic	LL5140				6116-150	(2877)	
	National	LM113							Maxim	HI5140				6116-200	(2877)	
		LM313			GE/Intersil	DG201			Motorola	M5140						
		LM313				DG201A			SiliconSys	SSI212						
	Plessey	ZN404			Harris	HI201		IH5141	Siliconix	DG5140				6116LP-150	(2877)	
		ZN423			Maxim	DG201A			Crystal	CS202				6116LP-200	(2877)	
	TeledyneS	TSC04				MAX331			GE/RCA	CD22202	(2645)					
		TSC05							Maxim	HI5141						
		TSC9491			MicroPwr	MP201			SiliconSys	SSI202			Matra-Harris	HM6166		
		LT1004			National	LF11201				SSI75T202	(3255)			HM65161		
ICL8211	TI	MAX8211				LF13201				DG5141				HM65162		
ICL8212	Maxim	AM8212			PMI	SW201		IH5142	Siliconix	HI5142				HM65163		
	AMD	CA82C12			Siliconix	DG201A				HI5142				HN65728		
	Calmos	82C12			TeledyneS	TSC4201		IH5143	Maxim	HI5143			MicronTech	MT5C1608		
	Intel	8212				TSC4202			Siliconix	DG5143				MS8725		
	Maxim	MAX8212		IH5009	National	AH5009			GE/RCA	CD22223	(2646)			M5M116		
	NEC	μPB8212				AM97C09		IH5144	Maxim	HI5144				M5M5116		
	OKI	MSM82C12				AM9709			SiliconSys	SSI223				M5M5117		
ICL8240	Exar	XR2240	(2619)	IH5010	National	AH5010				DG5144				M5M5118		
	National	μA2240				AM9710		IH5145	Maxim	HI5145				M58275		
	TI	μA2240		IH5011	National	AH5011			Siliconix	DG5145				M58275		
ICM7211	GE/Intersil	ICL7211	(2639, 2653, 2656)			AM9711		IH5148	Hitachi	HM514258			Motorola	MCM2016		
	GE/RCA	CD7211				AM9712			Maxim	HI5148				MCM2016H		
		HLCDD7211				AM9712			MicronTech	MT4C4258				MCM2018P		
		H7211		IH5013	National	AH5013				M5M44C258				MCM6116		
	Maxim	ICM7211				AH5014			Mitsubishi	MCM514258				MMC2116		
	TeledyneS	TSC7211		IH5014	National	AH5014			Motorola	μPD424258			National	MSM2128		
				IH5015	National	AH5015			NEC	μPD424258			OKI	MSM5126		
				IH5016	National	AH5016				μPD42458						

• Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/Intersil (Cont'd)				SE555 (Cont'd)				CA111 (Cont'd)				CA1558 (Cont'd)			
NE555 (Cont'd)				Raytheon RC555 (3039)				SiliconG TI SG111 TL111				Samsung MC4558 (3039)			
GE/Intersil SE555 (2656)				Samsung NE555 (3039)				SGS-Thomson TDA1190Z				SGS-Thomson LS4558			
GoldStar GLC555 (2713)				Sanyo LB8555				CA1190 TDA3190				Signetics MC1458			
GL555 (2713)				SGS-Thomson NE555				CA1190 ULN2290				TI MC1558			
Hitachi HA17555				Signetics NE555				CA124 LinearTech LT1014				NE4558			
Mitsubishi M5E555				TI SE555				National μA124				SA4558			
M51841				SE555				PMI LM124A				SE4558			
M51848				SE555M				OP400				MC1458			
Motorola MC1455 (2989)				TLC555 (3325)				OP421				MC1558			
National μA555				Toshiba TA7555				SiliconG TI SG124				MC4558C			
LM555				Adv Analog A733				CA139 Motorola LM139 (2958)				RC4558			
μPC1555				GE/Intersil μA733				National LM139				RM4558			
μPC617				NE592-8				PMI CPM04				RV4558			
μPD555				Hitachi HA17733				PMI39				TL4558			
Raytheon RC555				Motorola MC1733 (2953, 2989)				Raytheon LM139 (3025)				Toshiba TA75458			
RM555				NE592 (2991)				Signetics LM139				TA75558			
Samsung NE555 (3039)				SE592				TI LM139				CA158A Adv Analog A158			
Sanyo LB8555				μA733				Motorola LM139A (2958)				LinearTech LT1013			
SGS-Thomson NE555				LM733				National LM3302				Maxim MAX158			
Signetics NE555				μA733				PMI LM139A				Motorola LM158A (2955)			
SE555				NE592				CMP04				National LM158A			
TI NE555				SE592				PMI39A				PMI OP200			
SE555				SG1401				Signetics LM339				Raytheon RM4139			
SE555M				TI μA733				TI LM139A				Signetics LM158			
TLC555 (3325)				μA733M				CA1391 Motorola NC1391 (2951)				TI LM158			
Toshiba TA7555				NE592				National LM1391				CA2004 National LM2002			
Adv Analog A733				NE592-8				CA1394 National LM1394				CA2004 National LM2002A			
GE/Intersil μA733				SE592				Fujitsu MB3607				LM383			
SE592				MB8401				Harris HA21458				LM383A			
Hitachi HA17733				GE/Intersil IM6508-1				HA5102				ULN3701			
Motorola MC1733 (2953, 2989)				Harris HM6508 (2748)				MPOP14				ULN3702			
NE592 (2991)				National MM74C929				Motorola MC1458 (2954, 2989)				CA201 AD ADOP07 (2427, 2429, 2462)			
SE592				NM2102				National μA1458HC				AD201			
μA733				GE/RCA				LF412				AD707 (2427, 2429)			
LM733				CA081 PMI OP16				NEC μPC1458				GE/Intersil ICL8008			
μA733				SGS-Thomson LF351				μPC251				OP07			
NE592				CA082 Exar XR082 (2619)				OP14				GE/RCA CA301			
SE592				Fujitsu MB47082				OP215				CA307 (2647)			
SG1401				SGS-Thomson				OP270				CA3193 (2647)			
μA733				LF353				Raytheon RC2041				CA3493 (2647)			
μA733M				TL081				Samsung MC1458 (3039)				National μA207			
NE592				TI HA17082				Signetics MC1458				μA307			
NE592-8				TL082				SA1458				LH0044			
SE592				CA084 Exar XR084 (2619)				SE5512				PMI OP06			
OP05 AD AD510 (2462, 2470)				National μAF774				TI LF412				OP77			
LinearTech OP05				SGS-Thomson				TA75458				Raytheon LM201			
MicroPwr MPOP05				TI TL084				TA75558				OP77 (3024)			
PMI OP05				CA101 AD AD101 (2470)				CA1524 Cherry Semi CS1524				RC725			
Raytheon OP05				GE/Intersil AD101				Exar XR1524 (2619)				RM714			
OP07 AD ADOP07 (2427, 2429, 2462)				LinearTech LM101				IPS IP1524				RM725			
GE/Intersil ICL8008				Motorola LM101 (2952)				CA1524 LinearTech LT1524				CA211 AD AD211 (2470)			
GE/RCA CA201 (2647)				National μA101				CA1524 SG1524				AD1211 (2958, 2989)			
CA301				PMI OP77				CA1524 National μA1524				National LM211			
CA307 (2647)				OP77				LM1524				PMI PM211			
CA3193 (2647)				CA101 Raytheon LM101 (3024)				SGS-Thomson SG1524				SGS-Thomson LM211			
CA3493 (2647)				SGS-Thomson LM101				SG1524A				Signetics LM211			
National μA207				LS101				UC1524A				SiliconG SG211			
μA307				CA101 SiliconG SG101				SG1524				TI LM211			
LH0044				CA107 AD AD7415 (2427, 2462)				SG1524B				CA2111A National LM2111			
OP06				Burr-Brown 3500				UC1524				LM2113			
OP77				LinearTech LM107				UC1524A				Signetics N5111			
Raytheon LM201				National LH741A				XR1458				Sprague ULN2111			
OP77 (3024)				LM107				GoldStar XR4558 (2619)				TI SN76642			
RC725				OP02				Hitachi HA17458				SN76643			
RM714				OP77				HA17558				CA224 Exar XR3403 (2619)			
RM725				PM741				Motorola MC1558 (2955)				Fujitsu MB3614			
SE555 Exar XR555 (2619)				Raytheon RC741 (3024)				MC4558 (2955, 2990)				GE/RCA CA324 (2647, 2653, 2658)			
XR555M (2619)				SGS-Thomson LM107				SE4558				Hitachi LM324 (2956, 2989)			
NE555				SiliconG SG107				μA1458				Motorola LM324 (2957, 2990)			
GE/Intersil CA555 (2656)				TI SN74154				μA4558				National μA324			
GoldStar GLC555 (2713)				AD AD111 (2470)				LM1458				μA3403			
GL555 (2713)				LinearTech LM111				LM1558				LM224			
Hitachi HA17555				Motorola LM111 (2958)				μPC1458				LM324			
Mitsubishi M5E555				National μA111				OP14				NEC μPC3403			
M51841				PMI PM111				OP270				OP400			
M51848				Raytheon LM111 (3025)				Raytheon RC1458				OP421			
Motorola MC1455 (2989)				SGS-Thomson LM111				RC4558 (3024)							
National μA555				Signetics LM111				RM1558							
LM555								RM4558 (3024)							
μPC1555															
μPC617															
μPD555															
(Continued)				(Continued)				(Continued)				(Continued)			

◆ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/RCA (Cont'd)				CA301A (Cont'd)				CA307 (Cont'd)				CA3193 (Cont'd)			
CA224		(Cont'd)		CA301A	National	μA301A LM301 LM301A μPC301 μPC301A OP77	(3025) (3039)	CA307	Raytheon	RM714 RM725 SN76242 SN76243 LM3075 SN76675	(2965)	CA3193	GE/RCA	CA201 CA301 CA307 CA3493 μA207 μA307 LH0044 OP06 OP77 LM201 OP77 RC725 RM714 RM725 GL3130 μA705 LM1800 LA705 LA758 μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	(2647) (2647) (2647)
	Raytheon	HA14741 LM248 LM348 LM324	(3025) (3039)		NEC	μA301A LM301 LM301A μPC301 μPC301A OP77	(3024)	CA3070 CA3071 CA3075	TI TI National	SN76242 SN76243 LM3075 SN76675			National	μA207 μA307 LH0044 OP06 OP77 LM201 OP77 RC725 RM714 RM725 GL3130 μA705 LM1800 LA705 LA758 μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	(2647) (2647)
	Samsung SGS-Thomson	LM324 MC3403 SG324 LM239	(2958, 2989)		PMI	μA301 LM301 LM301A TA7506 MC1590 LM3011		CA3079 CA3081 CA3082 CA3083	Motorola Sprague Sprague SiliconG	CA3079 ULN2081 ULN2082 SG3083 SG3183 ULN2083 LM3086 LA3086	(2965)		PMI	OP06 OP77 LM201 OP77 RC725 RM714 RM725 GL3130 μA705 LM1800 LA705 LA758 μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	(2647) (2647)
CA239		μA239 μA250 LM239 CMP04 PM139 PM239 LM239	(2958, 2989)	CA3011	SiliconG TI	LM301 μA301 LM301 LM301A TA7506 MC1590 LM3011		CA3086	Sprague National Sanyo SGS-Thomson	ULN2083 LM3086 LA3086		CA3195	GoldStar National	μA705 LM1800 LA705 LA758 μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	(2711)
	National	μA239 μA250 LM239 CMP04 PM139 PM239 LM239		CA3012	Toshiba Motorola National	LM301 μA301 LM301 LM301A TA7506 MC1590 LM3011	(2657)	CA3089 CA311	SiliconG Sprague Signetics AD GE/RCA LinearTech Motorola	SFC2086 SG3086 SG3886 ULN2086 CA3089 AD311 LM311 LM311 LM2903	(2470)	CA3195	Sanyo	μA705 LM1800 LA705 LA758 μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA239A	SGS-Thomson	LM239 Signetics TI	(2958, 2989)	CA3018	Motorola National	LM301 LM3011 LM3018			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Signetics Sprague	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	National	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2619)	CA3019	National	SFC2018 LM3019 MC1709	(2952)		AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA2524	PMI	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2619)	CA3038	Motorola National	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709	(2952)		AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	Cherry Semi	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524		CA3046	NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA2524	Exar	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2619)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA2524	LinearTech	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524			NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA2524	National	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524			NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA2524	SGS-Thomson	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524			NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA2524	SiliconG	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524			NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA2524	TI	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524			NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA2524	Unitrode	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524			NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA258A	Motorola	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2955, 2989)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	National	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524			NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA290	PMI	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524			NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA290	Motorola	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2955)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA2904	Motorola	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2955, 2989)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	National	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524			NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA301	AD	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2427, 2429, 2462)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	GE/Intersil	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2427, 2429)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	GE/RCA	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2647) (2647) (2647) (2647)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	National	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2647) (2647) (2647) (2647)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	PMI	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2647) (2647) (2647) (2647)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	Raytheon	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(3024)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
CA301A	AD	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2952, 2989)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	GE/Intersil	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2952, 2989)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	GE/RCA	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2952, 2989)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	LinearTech	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2952, 2989)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	Hitachi IPS National SGS-Thomson	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	Motorola	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2952, 2989)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola	AD311 LM311 LM311 LM2903	(2958, 2989)	CA3195	TI	μA758 ULN3809 ULN3812 SN76111 SN76116 HA13007 IP3658 DS3658	
	National	LM239A CMP04 CS2524 XR2524 IP2524 LT2524 SG2524	(2952, 2989)		NEC PMI TI	LM3019 MC1709 μA709 LM1709 LM709 μPC55 OP06 μA709 μ709			AD GE/RCA LinearTech Motorola						

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/RCA (Cont'd)				CA358A (Cont'd)				CA748 (Cont'd)				CDM53128 (Cont'd)			
CA339	PMI	CMP04 PM139 PM339 PM339A	(Cont'd)		Signetics	LM358 NE532 LM348 LM358 TA75358 5422 SN5422	(2619)	CA748	TI	LM201 LM748 SN72748P	(2711)	CDM53128	VLSI Tech	VT23131 VT23138	(2609)
	Raytheon	LM339	(3025)	CA5422	Toshiba	LM358		CA748	GoldStar	GL13130		CDM53256	Dense-Pac	DPS92256	
	SGS-Thomson	LM339			National	TA75358			National	μ A705			Gould/AMI	M5M23256	
CA339A	TI	LM339		CA555	TI	SN5422	(2619)		Sanyo	LA705		CDM53256	OKI	NCR23257	
	Toshiba	TA75339			GE/Intersil	NE555	(2619)		Signetics	LA758			Panasonic	MSM38256	
	Fujitsu	MB4204			GoldStar	SE555	(2713)		Sprague	μ A758		CDM53256	S-MOS	MM23256	
	GE/RCA	CA339	(2648, 2653)		GLC555	GL555	(2713)		TI	ULN3812			SMM6325	SMM6326	
		LM339			Hitachi	HA17555		CA810	National	SN76116		CDM53256	Signetics	23256	
	GoldStar	GL339	(2714)		Mitsubishi	M5E555			SGS-Thomson	TBA810		CDM53256	Toshiba	23256A	
	Motorola	LM339	(2958, 2989)			M51841		CA8808	Telefunken	TDA810			VLSI Tech	TC53257	
	National	μ A339			Motorola	M51845	(2989)		Dense-Pac	DPS8808	(2607)	CDM5332	Commodore	VT23256	
	NEC	LM339			National	LM555			EDI	DPS9264	(2609)		Microchip	VT23257	
		μ PC137			NEC	μ PC1555			Harris	EDH8808		CDM5333	National	MP52333	
		μ PC177				μ PC617			HM8808	HM8808A	(2750)		Supertex	R09433	
	PMI	PM339			Raytheon	RC555			National	DS8808	(2750)	CDM5333	UMC	UM2333	
		PM339			Samsung	RM555	(3039)	CDHC125	GE/RCA	CD54HC125	(2640)		Commodore	23C32	
	Raytheon	LM339	(3025)		SGS-Thomson	NE555			Motorola	MC54HC125	(2939)		UMC	UM2333	
	SGS-Thomson	LM339			Signetics	NE555			National	MM54HC125		CDM5333	Hitachi	51C69	
CA3401	TI	LM339			TI	SE555			Signetics	54HC125			Intel	51C69	
	Toshiba	TA75339				SE555		CDM5104	TI	74HC125	(3057)	CDM5333	Microchip	51C69	
	Motorola	MC3401	(2956, 2990)			SE555M	(3325)		AMD	SN54HC125			Mitsubishi	51C69	
	National	LM3401		CA723	Toshiba	TLC555			AM9244	AM2141		CDM5333	National	51C69	
		LM3900			Fujitsu	TA7555		CDM5104	Cypress	CY7C147	(2580)		Sharp	51C69	
	Raytheon	LM3900	(3025)			MB3752			Harris	HM6504	(2748)	CDM5333	Siemens	51C69	
	TI	RC3401			GE/Intersil	MB723		CDM5104	Hitachi	MA5104			Signetics	51C69	
CA3493	AD	AD0P07	(2427, 2429, 2462)		GE/RCA	LM723			Intel	HM4315		CDM5333	TI	51C69	
		AD201			Hitachi	HA17723			Matra-Harris	5104			SiliconG	51C69	
		AD707	(2427, 2429)		Motorola	MC1723	(2962, 2989)		Mitsubishi	HM6504		CDM5333	Supertex	51C69	
	GE/Intersil	ICL8008			National	μ A723		CDM5167	National	M58981			TI	51C69	
	GE/RCA	OP07	(2647)			μ A723M			Rockwell	MSM5104		CDM5333	Toshiba	51C69	
		CA201			Raytheon	LM723			Toshiba	R6504			VLSI Tech	51C69	
		CA301			RM723				TMM315	MT5C1601		CDM5365	Gould/AMI	51C69	
	CA307	(2647)			Samsung	LM723	(3039)		AMD	AM2167			Microchip	51C69	
	CA3193	(2647)			SGS-Thomson	μ A723			Cypress	CY7C167	(2580)	CDM5365	Hitachi	51C69	
	National	μ A207				LM723			Fujitsu	MB8164A			Mitsubishi	51C69	
		μ A307				L123			Inmos	IMS1400		CDM5365	National	51C69	
		LH0044				SFC2723			Intel	51C66			TI	51C69	
	PMI	OP06			Signetics	μ A723			Matra-Harris	HM65263		CDM5365		51C69	
		OP77			SiliconG	SG723			MicronTech	MT5C1601			Toshiba	51C69	
	Raytheon	LM201			TI	μ A723			Motorola	MC2167			Gould/AMI	51C69	
	OP77	(3024)				μ A723M			NEC	μ PD4311			Microchip	51C69	
		RC725		CA741	Burr-Brown	OPA11	(2543)		SGS-Thomson	MK41H66		CDM5365	OKI	51C69	
		RM714			MicroPwr	MPOPO2			Sharp	LH5167			Panasonic	51C69	
		RM725			PMI	OP02			STC	STC2167			SGS-Thomson	51C69	
CA3524	Cherry Semi	CS3524				PM741			TI	SMJ61CD16			Supertex	51C69	
	Exar	XR3524	(2619)		Signetics	SA741		CDM52356	VLSI Tech	VT20C68	(3343, 3345, 3350)	CDM5365	TI	51C69	
	IPS	IP3524			Hitachi	HA17747			Dense-Pac	DPS92256	(2609)		UMC	51C69	
		IP3524B			MicroPwr	MPOPO4			Gould/AMI	S23256		CDM5365	Cypress	51C69	
	LinearTech	LT3524			Motorola	MC1747	(2954, 2989)		NCR	M5M23256				51C69	
	SGS-Thomson	LM3524			National	μ A747			Mitsubishi	NCR23257		CDM6116		51C69	
		SG3524				LM747			NCR	NCR23257			GE/Intersil	GE/RCA	
		UC3524A			NEC	μ PC1418			OKI	MSM38256			GE/Intersil	GE/RCA	
	Signetics	SG3524			PMI	OP04		CDM52356	Panasonic	MM23256			GoldStar	GM76C28	
		SG3524				PM747				MM23257					
		SG3524B			Raytheon	RC747	(3024)	CDM52356	S-MOS	SMM23256					
	Sprague	SG3524			RM747	(3024)				SMM6325					
	TI	SG3524			Signetics	μ A747		CDM52356	Signetics	SMM6326					
	Toshiba	TA76524			TeledyneS	TSC747				23256					
	Unitrode	UC3524			TI	μ A747		CDM52356	Toshiba	TC53257					
		UC3524A				μ A747M			VLSI Tech	VT23256					
CA358A	Fujitsu	MB47358		CA748	Motorola	LM201	(2952, 2989)			VT23257		CDM53128	AMD	AM9128	
	GE/RCA	LM358	(2647)			MC1748	(2952)			VT23257			Gould/AMI	S23128	
	GoldStar	GL358	(2714)		National	μ A201				VT23257			Microchip	R09128	
	Hitachi	HA17358				LM748				VT23257			Mitsubishi	M5M23128	
	Motorola	LM358	(2954, 2989)		PMI	OP06				VT23257			NCR	NCR23128	
		LM358				OP77				VT23257			Signetics	23128	
	National	LM358			SGS-Thomson	PM1008				VT23257			Supertex	CM1310	
		LM358A				LM201				VT23257			UMC	UM23128	
	NEC	μ PC1251				LM748				VT23257			VLSI Tech	VT23128	
		PC358				LS148				VT23257				VT23129A	
	PMI	OP221				SG201				VT23257				VT23130	
	Sanyo	LA6358				μ A748									
	SGS-Thomson	LM358													
(Continued)				(Continued)				(Continued)				(Continued)			

◆ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page			
GE/RCA (Cont'd)				CDM6116A Matra-Harris (Cont'd)				CDM6164 Cypress (2580)				CDM62256 IDT (Cont'd)						
CDM6116	Krueger	(Cont'd)		MicronTech Mitsubishi		HM65163	(2837)	Dense-Pac Exar Fujitsu		CY7C185	(2580)	Lattice MicronTech Mitsubishi Mosel Motorola		IDT71256	(2837)			
		6116-150	HN65728			CY7C186				IDT71256L								
		6116-200	MT5C1608			XR8464				IDT71256S								
		6116LP-120	MS8725			MB8B464				IDT8M824								
		6116LP-150	M5M116			MB81C78A												
		6116LP-200	M5M5116			MB8464				SR256K8								
			M5M5117			MB8464A				MT5C2568								
			M5M5118							M5M5256								
			M58275							MS62256								
			M58275							MCM60256								
			M58275							MCM61256								
	Matra-Harris	HM6166	(2877)	Motorola		MCM2016	(2877)	GoldStar		GM76C88	(2644, 2653)	National NEC S-MOS		MCM6206	(2696, 2703)			
		HM65161				MCM2016H								MCM6206				
		HM65162				MCM2018P								MCM6206				
		HM65163				MCM6116								MCM6206				
		HN65728				MMC2116								MCM6206				
		MT5C1608				MCM2018P								MCM6206				
		MS8725				MCM6116								MCM6206				
		M5M116				MCM2018P								MCM6206				
		M5M5116				MCM2018P								MCM6206				
		M5M5117				MCM2018P								MCM6206				
	MicronTech Mitsubishi	M5M5118		National OKI		MCM2018P		Harris Hitachi		HM65642	(2747)	Samsung Sharp		NM44251	(3036)			
		M58275				MCM2018P				HM6264				μPD43256A				
		M58275				MCM2018P				HM6464				SRM20256				
		M58275				MCM2018P				MB6264				SRM20256C				
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		Motorola				MCM2016				Performance S-MOS Saratoga SGS-Thomson						ET2128	(3343, 3345, 3349)	Hyundai Inmos IDT Krueger
	MCM2016H			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	National OKI	MMC2116		Sharp Signetics Sony Sprague STC		ET2128	MicroLinear MicronTech		ML8464	(2778)	Dense-Pac Exar Fujitsu		DP8464	(2620)				
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
	Performance S-MOS Saratoga SGS-Thomson	MSM5126		TI Toshiba		ET2128	Mitsubishi		AM99C88	(2796)	GoldStar		AM99C88	(2696, 2703)				
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
	Saratoga SGS-Thomson	SMC6116		VLSI Tech		ET2128	National		DP8464	(2778)	Matra-Harris		HM2064	(2620)				
		SSM6116				ET2128			DP8464				HM2064					
		SSM6116				ET2128			DP8464				HM2064					
		SSM6116				ET2128			DP8464				HM2064					
	CDM6116A	Krueger		(Cont'd)		MicronTech Mitsubishi		HM65163	(2837)	Dense-Pac Exar Fujitsu		CY7C185	(2580)	Lattice MicronTech Mitsubishi Mosel Motorola		IDT71256		(2837)
				6116-150	HN65728			CY7C186				IDT71256L						
				6116-200	MT5C1608			XR8464				IDT71256S						
				6116LP-120	MS8725			MB8B464				IDT8M824						
				6116LP-150	M5M116			MB81C78A										
				6116LP-200	M5M5116			MB8464				SR256K8						
					M5M5117			MB8464A				MT5C2568						
					M5M5118							M5M5256						
					M58275							MS62256						
					M58275							MCM60256						
			M58275		MCM61256													
Matra-Harris		HM6166	(2877)	Motorola		MCM2016	(2877)	GoldStar		GM76C88	(2644, 2653)	National NEC S-MOS		MCM6206	(2696, 2703)			
		HM65161				MCM2016H								MCM6206				
		HM65162				MCM2018P								MCM6206				
		HM65163				MCM6116								MCM6206				
		HN65728				MMC2116								MCM6206				
		MT5C1608				MCM2018P								MCM6206				
		MS8725				MCM6116								MCM6206				
		M5M116				MCM2018P								MCM6206				
		M5M5116				MCM2018P								MCM6206				
		M5M5117				MCM2018P								MCM6206				
MicronTech Mitsubishi		M5M5118		National OKI		MCM2018P		Harris Hitachi		HM65642	(2747)	Samsung Sharp		NM44251	(3036)			
		M58275				MCM2018P				HM6264				μPD43256A				
		M58275				MCM2018P				HM6464				SRM20256				
		M58275				MCM2018P				MB6264				SRM20256C				
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		Motorola				MCM2016				Performance S-MOS Saratoga SGS-Thomson						ET2128	(3343, 3345, 3349)	Hyundai Inmos IDT Krueger
MCM2016H				ET2128	HY6264	V62C256												
MCM2018P				ET2128	HY6264	V62C256												
MCM2018P				ET2128	HY6264	V62C256												
MCM2018P				ET2128	HY6264	V62C256												
MCM2018P				ET2128	HY6264	V62C256												
MCM2018P				ET2128	HY6264	V62C256												
MCM2018P				ET2128	HY6264	V62C256												
MCM2018P				ET2128	HY6264	V62C256												
MCM2018P				ET2128	HY6264	V62C256												
MCM2018P				ET2128	HY6264	V62C256												
National OKI		MMC2116		Sharp Signetics Sony Sprague STC		ET2128	MicroLinear MicronTech		ML8464	(2778)	Dense-Pac Exar Fujitsu		DP8464	(2620)				
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
Performance S-MOS Saratoga SGS-Thomson		MSM5126		TI Toshiba		ET2128	Mitsubishi		AM99C88	(2796)	GoldStar		AM99C88	(2696, 2703)				
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
Saratoga SGS-Thomson		SMC6116		VLSI Tech		ET2128	National		DP8464	(2778)	Matra-Harris		HM2064	(2620)				
		SSM6116				ET2128			DP8464				HM2064					
		SSM6116				ET2128			DP8464				HM2064					
		SSM6116				ET2128			DP8464				HM2064					
CDM6116A		Krueger		(Cont'd)		MicronTech Mitsubishi		HM65163	(2837)	Dense-Pac Exar Fujitsu		CY7C185	(2580)	Lattice MicronTech Mitsubishi Mosel Motorola		IDT71256		(2837)
				6116-150	HN65728			CY7C186				IDT71256L						
				6116-200	MT5C1608			XR8464				IDT71256S						
				6116LP-120	MS8725			MB8B464				IDT8M824						
				6116LP-150	M5M116			MB81C78A										
				6116LP-200	M5M5116			MB8464				SR256K8						
					M5M5117			MB8464A				MT5C2568						
					M5M5118							M5M5256						
					M58275							MS62256						
					M58275							MCM60256						
			M58275		MCM61256													
	Matra-Harris	HM6166	(2877)	Motorola		MCM2016	(2877)	GoldStar		GM76C88	(2644, 2653)	National NEC S-MOS		MCM6206	(2696, 2703)			
		HM65161				MCM2016H								MCM6206				
		HM65162				MCM2018P								MCM6206				
		HM65163				MCM6116								MCM6206				
		HN65728				MMC2116								MCM6206				
		MT5C1608				MCM2018P								MCM6206				
		MS8725				MCM6116								MCM6206				
		M5M116				MCM2018P								MCM6206				
		M5M5116				MCM2018P								MCM6206				
		M5M5117				MCM2018P								MCM6206				
	MicronTech Mitsubishi	M5M5118		National OKI		MCM2018P		Harris Hitachi		HM65642	(2747)	Samsung Sharp		NM44251	(3036)			
		M58275				MCM2018P				HM6264				μPD43256A				
		M58275				MCM2018P				HM6464				SRM20256				
		M58275				MCM2018P				MB6264				SRM20256C				
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		M58275				MCM2018P												
		Motorola				MCM2016				Performance S-MOS Saratoga SGS-Thomson						ET2128	(3343, 3345, 3349)	Hyundai Inmos IDT Krueger
	MCM2016H			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	MCM2018P			ET2128	HY6264	V62C256												
	National OKI	MMC2116		Sharp Signetics Sony Sprague STC		ET2128	MicroLinear MicronTech		ML8464	(2778)	Dense-Pac Exar Fujitsu		DP8464	(2620)				
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
		MMC2116				ET2128			ML8464				DP8464					
	Performance S-MOS Saratoga SGS-Thomson	MSM5126		TI Toshiba		ET2128	Mitsubishi		AM99C88	(2796)	GoldStar		AM99C88	(2696, 2703)				
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
		MSM5126				ET2128			AM99C88				AM99C88					
	Saratoga SGS-Thomson	SMC6116		VLSI Tech		ET2128	National		DP8464	(2778)	Matra-Harris		HM2064	(2620)				
		SSM6116				ET2128			DP8464				HM2064					
		SSM6116				ET2128			DP8464				HM2064					
		SSM6116				ET2128			DP8464				HM2064					
	CDM6116A	Krueger		(Cont'd)		MicronTech Mitsubishi		HM65163	(2837)	Dense-Pac Exar Fujitsu		CY7C185	(2580)	Lattice MicronTech Mitsubishi Mosel Motorola		IDT71256		(2837)
				6116-150	HN65728			CY7C186				IDT71256L						
				6116-200	MT5C1608			XR8464				IDT71256S						
				6116LP-120	MS8725			MB8B464				IDT8M824						
				6116LP-150	M5M116			MB81C78A										
				6116LP-200	M5M5116			MB8464				SR256K8						
					M5M5117			MB8464A				MT5C2568						
					M5M5118							M5M5256						
					M58275							MS62256						
					M58275							MCM60256						
			M58275		MCM61256													
Matra-Harris		HM6166	(2877)	Motorola														

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/RCA (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
CDM6264	Toshiba	TC5585 TC5588 TMM2063 TMM2064 TMM2088 V61C62 V61C64 V62C64 V65C64	(Cont'd)	CD22212	Cypress	CY93L422 CY93L422A 93L422 93L422A	(Cont'd)	CD4007	SGS-Thomson	HCC/HCF4007 Signetics HEF4007 Solitron CM4007	(Cont'd)	CD4011UB	National	F4011 MM74C00 MSM4011 LC4011	(Cont'd)
	Vitellic	V61C62 V61C64 V62C64 V65C64		CD22221	SiliconSys	SSI212 DS55470 SG55470 SSI221 SNJ55470 SN55470		CD4008	Toshiba Motorola	TC4007UB (3341) MC14008 (2947) CD4008 F4008 MM74C83			Signetics Solitron Toshiba	HCC/HCF4011 HEF4011 CM4011 TC4011B (3341) TC4011UB (3341)	
	VLSI Tech	VT20C98 VT20C99		CD22223	National	F100175 100175 (3074) SSI223 SSI22301			SGS-Thomson	HCC/HCF4008 Signetics HEF4008 Solitron CM4008		CD40110	Cypress ICT	CY7C264 (2585) 27CX641 (2875)	
CDP1822	AMD	AM2101 AM91101 AM9101		CD22301	SiliconSys	SSI22301		CD4009	Toshiba Motorola	TC4008B (3341) MC14009 National CD4009			SGS-Thomson	HCC/HCF40110	
CDP1822	Datel	ADC5101 (2595) HA5101 (2767)		CD4000	GE/RCA Motorola	CD4000B (2637) MC14000 (2938) MC14000B (2938)			SGS-Thomson	HCC/HCF4009 CM4009		CD40117B	Toshiba	TC40177B	
	Intel	5101			National	CD4000 CD4000B		CD4010	Toshiba Motorola	TC4009UB (3341) MC14010 National CD4010		CD4012	Motorola	MC14012 (2937)	
	MicroNet	MN5101			SGS-Thomson	HCC/HCF4000 HCC/HCF4000B			SGS-Thomson	HCC/HCF4010 CM4010			National	CD4012 F4012	
	Mitsubishi	M5L5101			Signetics	HEF400 CM4000			Solitron	TC4010B (3341)			SGS-Thomson	HCC/HCF4012	
	Motorola	MCM51L01 MCM145101		CD4000B	Toshiba	TC4000B (3341) CD4000 (2637) MC14000 (2938) MC14000B (2938)		CD40101	Motorola	MC14531 (2947) F4531		CD4013	Motorola	MC14013 CD4013 F4013	
	National	MM74C920			National	CD4000 CD4000B			SGS-Thomson	HCC/HCF40101 Signetics HEF4531 Toshiba TC4531B (3341)			OKI	MM74C74 MSM4013 LC4013	
	Panasonic	MNS101			SGS-Thomson	HCC/HCF4000 HCC/HCF4000B		CD40102	SGS-Thomson	HCC/HCF40102 HCC/HCF40102B			SGS-Thomson	HCC/HCF4013	
	Sharp	LH5101			Signetics	HEF400 CM4000			Toshiba	TC40102 (3341) TC40102B (3341)		CD4014	Signetics	HEF4013 CM4013	
CDP1856	Hughes	MC1856		CD4001	Fujitsu	MB4001		CD40103	SGS-Thomson	HCC/HCF40103 HCC/HCF40103B			Solitron	MC14013	
CDP68HC05	Motorola	MC1468HC05			GE/RCA Motorola	CD4001UB (2637) MC14001 (2938) MC14001UB (2938)			Toshiba	TC40103 (3341) TC40103B (3341)			Motorola	MC14014 (2944)	
CDP68HC68T1	Motorola	MC68HC68T1 (2932)			National	CD4001 CD4001UB F4001		CD40104	SGS-Thomson	HCC/HCF40104 HCC/HCF40104B		CD4015	National	CD4015 F4015	
CDP6805	Hitachi	HD6805			OKI	MSM4001			Toshiba	TC40104 (3341) TC40104B (3341)			OKI	MM74C164 MSM4015 LC4015	
	Motorola	MC6805			Sanyo	LC4001B		CD40106	GE/RCA Motorola	CD4584B MC14106 (2940) MC14584 (2940) MC14584B (2940)			SGS-Thomson	HCC/HCF4015	
	SGS-Thomson	EF6805 DS1287			SGS-Thomson	HCC/HCF4001 HEF4001 CM4001			National	CD40106 CD4584 CD4584B			Signetics	HEF4015	
CDP6818	Dallas	MC146818 (2932) MC146818A (2932)		CD4001UB	Fujitsu	MB4001		CD40107	SGS-Thomson	HCC/HCF40107 TC40107B		CD4016	Signetics	HEF4015 CM4015	
	Motorola	MC146818A (2932)			GE/RCA Motorola	CD4001 (2637) MC14001 (2938) MC14001UB (2938)			Motorola	MC14580			Solitron	TC4015B (3341)	
	Unicorn	UC68C18			National	CD4001 CD4001UB F4001		CD40108	SGS-Thomson	HCC/HCF40108			Toshiba	TC4016B (3341) TC4066B (3341)	
	UMC	UM82C6818			OKI	MSM4001		CD40109	SGS-Thomson	HCC/HCF40109		CD40160	Unirode	PIC7516	
	Xecom	XE1287			Sanyo	LC4001B			GE/RCA Motorola	CD4011UB (2637) MC14011 (2937) MC14011UB (2937)			GE/RCA Motorola	CD40160B (2638) MC14160 (2942) MC40160B	
CDP6823	Motorola	MC146823 (2932)			SGS-Thomson	HCC/HCF4001 HEF4001 CM4001		CD40110	SGS-Thomson	HCC/HCF40110			National	CD40160 CD40160B F40160	
CD14538B	GE/RCA	CD4538B (2638, 2653) MC14538 (2946) MC14538B (2946)			Signetics	HEF4001 CM4001 TC4001B (3341) TC4001UB (3341)		CD40111	SGS-Thomson	HCC/HCF40111 CM4011 MM74C00 MSM4011 LC4011			SGS-Thomson	HCC/HCF40160 HCC/HCF40160B	
	National	CD4538 CD4538B MSM4538			Fujitsu	MB4001			OKI	MC14011UB (2937)			Signetics	HEF40160	
	OKI	MSM4538			GE/RCA Motorola	CD4001 (2637) MC14001 (2938) MC14001UB (2938)			Sanyo	MC14580			Solitron	TC4016B (3341) TC4066B (3341)	
	SGS-Thomson	HCC/HCF4538B		CD4001UB					SGS-Thomson	HCC/HCF40108			Toshiba	TC4016B (3341) TC4066B (3341)	
CD22100	Signetics	HEF4538			National	CD4001 CD4001UB F4001		CD40107	SGS-Thomson	HCC/HCF40107 TC40107B			Unirode	PIC7516	
	Toshiba	TC4538B (3341)			OKI	MSM4001			Motorola	MC14580			GE/RCA	CD40160B (2638)	
	Motorola	MC1452100			Sanyo	LC4001B		CD40108	SGS-Thomson	HCC/HCF40108			Motorola	MC14160 (2942)	
	SGS-Thomson	M22100 SSI22100 Sierra SC22101 SSI22101 SSI22102 CS202 IH5141 IH5141 SSI202			SGS-Thomson	HCC/HCF4001 HEF4001 CM4001		CD40109	SGS-Thomson	HCC/HCF40109			National	CD40160 CD40160B F40160	
CD22101	SiliconSys	SSI22100			Signetics	HEF4001 CM4001 TC4001B (3341) TC4001UB (3341)		CD40110	SGS-Thomson	HCC/HCF40110			SGS-Thomson	HCC/HCF40160 HCC/HCF40160B	
CD22102	Sierra	SC22101			Fujitsu	MB4002		CD40111	GE/RCA Motorola	CD4011UB (2637) MC14011 (2937) MC14011UB (2937)			Signetics	HEF40160	
CD22102	SiliconSys	SSI22102		CD4002	Motorola	MC14002 (2938)			National	CD4011 CD4011UB F4011			Solitron	CM4016 CM4066 HCF4016	
CD22202	Crystal	CS202			National	CD4002 F4002			SGS-Thomson	CD4011UB F4011 MM74C00			Toshiba	TC4016B (3341) TC4066B (3341)	
	GE/Intersil	IH5141			SGS-Thomson	HCC/HCF4002 HEF4002 CM4002			OKI	MC14011UB (2937)			Unirode	PIC7516	
	Maxim	IH5141			Signetics	HEF4002 CM4002 TC4002B (3341) MC14006 (2944)		CD4006	SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			GE/RCA	CD40160B (2638)	
	SiliconSys	SSI202			Toshiba	TC4002B (3341) MC14006 (2944)			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			Motorola	MC40160B	
	SSI75T202 (3255)				National	CD4006 F4006 F4006B			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			National	CD40160 CD40160B F40160	
CD22203	Siliconix	DG5141			SGS-Thomson	HCC/HCF4006 HEF4006 CM4006		CD4007	SGS-Thomson	HCC/HCF4006 HEF4006 CM4006			SGS-Thomson	HCC/HCF40160 HCC/HCF40160B	
	Atmel	AT27HC641			Signetics	HEF4006 CM4006 TC4006B (3341) MC14007 (2939)			GE/RCA Motorola	CD4011 (2637) MC14011 (2937) MC14011UB (2937)			Signetics	HEF40160	
	Crystal	CS203			Fujitsu	MB4002			National	CD4011 CD4011UB F4011			Toshiba	TC40160B (3341) TC40160B (3341)	
	Cypress	CY7C261 (2585) CY7C263 (2585) CY7C264 (2585) 27CX641 (2875) 27CX642 (2875) 27HC641 (2908)			Motorola	MC14002 (2938)			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			GE/RCA	CD40160 (2638)	
	ICT	27CX641 (2875) 27CX642 (2875) 27HC641 (2908)			National	CD4002 F4002			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			Motorola	MC14160 (2942)	
	Microchip	932667			SGS-Thomson	HCC/HCF4002 HEF4002 CM4002			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			National	CD40160 CD40160B F40160	
	National	LH5749			Signetics	HEF4002 CM4002 TC4002B (3341) MC14006 (2944)			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			SGS-Thomson	HCC/HCF40160 HCC/HCF40160B	
	Sharp	LH5762			Signetics	HEF4002 CM4006 TC4006B (3341) MC14007 (2939)			GE/RCA Motorola	CD4011 (2637) MC14011 (2937) MC14011UB (2937)			Signetics	HEF40160	
	Signetics	27HC641			Solitron	CM4006			National	CD4011 CD4011UB F4011			Toshiba	TC40160B (3341) TC40160B (3341)	
	SiliconSys	SSI203			Motorola	MC14006 (2944)			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			GE/RCA	CD40160 (2638)	
	SSI75T203 (3255) WS57C49 (3390) WS57C49D (3390) WS7C49T (3390)				National	CD4006 F4006 F4006B			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			Motorola	MC14160 (2942)	
CD22204	Crystal	CS204			SGS-Thomson	HCC/HCF4006 HEF4006 CM4006		CD4011UB	GE/RCA Motorola	CD4011 (2637) MC14011 (2937) MC14011UB (2937)			SGS-Thomson	HCC/HCF40160 HCC/HCF40160B	
	National	932459			Signetics	HEF4006 CM4006 TC4006B (3341) MC14007 (2939)			National	CD4011 CD4011UB F4011			Signetics	HEF40160	
	Signetics	N82S100			Solitron	CM4006			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			Toshiba	TC40160B (3341) TC40160B (3341)	
	SiliconSys	SSI204			Motorola	MC14007 (2939)			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			GE/RCA	CD40160 (2638)	
CD22212	AMD	AM93L422 (3255) AM93L422A AM93L422A		CD4007	National	CD4007 F4007			SGS-Thomson	HCC/HCF4011 HEF4011 CM4011			Motorola	MC14160 (2942)	
		(Continued)				(Continued)				(Continued)				(Continued)	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
GE/RCA (Cont'd)				CD40174B	Motorola	MC140174B		CD4021	Motorola	MC14021 (2943)		CD4031	(Cont'd)			
CD40160B	(Cont'd)				National	MC14174 (2942)			National	CD4021			SGS-Thomson	HCC/HCF4031		
	National	CD40160				CD40174B			SGS-Thomson	F4021		CD4031B	Signetics	HEF4731		
		CD40160B				F40174B							GE/RCA	CD4031	(2638)	
	SGS-Thomson	F40160			SGS-Thomson	HCC/HCF40174				SGS-Thomson	HCC/HCF4021		National	CD4031		
		HCC/HCF40160				HCC/HCF40174B		CD4022	Signetics	HEF4021			SGS-Thomson	HCC/HCF4031		
		HCC/HCF40160B			Signetics	HEF40174						CD4032	Signetics	HEF4731		
	Shimadzu	TC40160 (3341)		CD40175	Motorola	MC14175 (2942)			Motorola	MC14022 (2943)			Motorola	MC14032	(2947)	
	Toshiba	TC40160B (3341)				MC40175			National	CD4022			SGS-Thomson	HCC/HCF4032		
CD40161	GE/RCA	CD40161B (2638)				MC40175				F4022		CD4033	Soliton	CM4032		
	Motorola	MC14016B (2945)				CD40175				HEF4022			Toshiba	TC4032B	(3341)	
		MC14161 (2942)				F40175		CD4023	SGS-Thomson	HCC/HCF4022			SGS-Thomson	HCC/HCF4033		
	National	CD40161				MM54C175				HEF4022				CM4032		
		CD40161B				MM74C175				CM4022				Motorola	TC4032B	(3341)
		F40161				HEF40175				Toshiba	TC4022B (3341)			SGS-Thomson	HCC/HCF4032	
	Panasonic	MM40161			Signetics	HEF40175				Motorola	MC14023 (2937)		CD4033	SGS-Thomson	HCC/HCF4033	
	SGS-Thomson	HCC/HCF40161		CD4018	Toshiba	TC40175B (3341)				National	CD4023			Soliton	CM4033	
		HCC/HCF40161B			Motorola	MC14018 (2943)				F4023		CD4034	Motorola	MC14034	(2943)	
		HEF40161				CD4018			SGS-Thomson	MM74C10			National	CD4034		
	Signetics	HEF40161				F4018				HCC/HCF4023			SGS-Thomson	HCC/HCF4034		
	Toshiba	TC40161 (3341)			SGS-Thomson	HCC/HCF4018				HEF4023				Soliton	CM4034	
		TC40161B (3341)				HEF4018		CD4024	Motorola	Soliton	CM4023			Toshiba	TC4034B	(3341)
CD40161B	GE/RCA	CD40161B (2638)				CM4018				TC4023B (3341)		CD4035	Motorola	MC14035	(2944)	
	Motorola	MC14016B (2945)		CD40181	Toshiba	TC4018B (3341)				MC4024			National	CD4035B		
		MC14161 (2942)			Motorola	MC14581 (2947)				CD4024			SGS-Thomson	HCC/HCF4035		
	National	CD40161				MM74C181				F4024				HEF4035		
		CD40161B				HCC/HCF40181				HCC/HCF4024			Signetics	HEF4035		
	Panasonic	MM40161			CD40182	Motorola	MC14582 (2947)			HEF4024		CD4037	Soliton	CM4035		
	SGS-Thomson	HCC/HCF40161				F4582				CM4024			Toshiba	TC4035B		
		HCC/HCF40161B				MM74C182				Toshiba	TC4024B (3341)		CD4038	Motorola	MC14038	(2947)
		HEF40161				HCC/HCF40182				National	CD4025			SGS-Thomson	HCC/HCF4038	
	Signetics	HEF40161			SGS-Thomson	HEF40182				F4025				Soliton	CM4038	
	Toshiba	TC40161 (3341)		CD4019	National	CD4019				HCC/HCF4025		CD4039	Toshiba	TC4038B	(3341)	
		TC40161B (3341)				F4019				HEF4025			Soliton	CM4039		
CD40162	GE/RCA	CD40162B (2638)				F4019B				CM4025			Toshiba	TC4039B	(3341)	
	Motorola	MC140162B			OKI	MSM4019				TC4025B (3341)		CD4040	Motorola	MC14040	(2943)	
		MC14162 (2942)			Sanyo	LC4019				SGS-Thomson	HCC/HCF4026		National	CD4040		
	National	CD40162			SGS-Thomson	HCC/HCF4019		CD4026	SGS-Thomson				SGS-Thomson	HCC/HCF4040		
		CD40162B				HEF4019				CM4026			Signetics	HEF4040		
		F40162				CM4019				MC14027			Soliton	CM4040		
	SGS-Thomson	HCC/HCF40162				TC4019B (3341)				MC14027B				Toshiba	TC4040B	(3341)
		HCC/HCF40162B				CD40192				CD4027B		CD4041	National	CD4041		
	Signetics	HEF40162				F4027				MM74C76			SGS-Thomson	HCC/HCF4041		
	Toshiba	TC40162 (3341)				CD4029				MSM4027			Signetics	HEF4041		
		TC40162B (3341)				F40192				LC4027			Soliton	CM4041		
CD40162B	GE/RCA	CD40162B (2638)				F4029				HCC/HCF4027		CD4042	Motorola	MC14042	(2941)	
	Motorola	MC140162B				HCC/HCF40192				HCC/HCF4027B			National	CD4042		
		MC14162 (2942)				HEF40192				HEF4027			SGS-Thomson	HCC/HCF4042		
	National	CD40162				CM4029				CM4027			Signetics	HEF4042		
		CD40162B				TC40192B (3341)				TC4027B (3341)		CD4043	Toshiba	TC4042B	(3341)	
	SGS-Thomson	HCC/HCF40162				TC4029B (3341)				MC14028 (2945)			Motorola	MC14043	(2941)	
		HCC/HCF40162B				CD40193				CD4028			SGS-Thomson	HCC/HCF4043		
	Signetics	HEF40162				F40193				F4028			Signetics	HEF4043		
	Toshiba	TC40162 (3341)				MM54C193				MM74C42			Soliton	CM4043		
		TC40162B (3341)				MM74C193				MSM4028			Toshiba	TC4043B	(3341)	
CD40163	GE/RCA	CD40163B (2638)				HCC/HCF40193				LC4028			Motorola	MC14043	(2941)	
	Motorola	MC140163B				HEF40193				HCC/HCF4028			National	CD4043		
		MC14163 (2942)				TC40193B (3341)				HEF4028			SGS-Thomson	HCC/HCF4043		
	National	CD40163				CD40194B (2638)				CM4028			Signetics	HEF4043		
		CD40163B				MC140194B				CM4028			Soliton	CM4043		
	SGS-Thomson	HCC/HCF40163B				MC14194 (2944)				TC4028B (3341)		CD4044	Motorola	MC14044	(2941)	
		HEF40163				F40194				CD40192			National	CD4044		
	Signetics	HEF40163				HCC/HCF40194				CD4029			SGS-Thomson	HCC/HCF4044		
	Toshiba	TC40163 (3341)				HCC/HCF40194B				F40192			Signetics	HEF4044		
		TC40163B (3341)				HEF40194				F4029			Soliton	CM4044		
CD40163B	GE/RCA	CD40163B (2638)				TC40194B (2638)				HCC/HCF40192			Toshiba	TC4044B	(3341)	
	Motorola	MC140163B				MC140194B				HCC/HCF4029			Motorola	MC14045	(2941)	
		MC14163 (2942)				MC14194 (2944)				HEF40192			GE/RCA	CD4521B	(2638)	
	National	CD40163				F40194				CM4029			Gould/AMI	S4521		
		CD40163B				HCC/HCF40194				TC40192B (3341)			Motorola	MC14521	(2946)	
	SGS-Thomson	HCC/HCF40163B				HCC/HCF40194B				TC4029B (3341)			National	F4521		
		HEF40163				HEF40194				CD4030			SGS-Thomson	HCC/HCF4045		
	Signetics	HEF40163				TC40194B				F4030			Signetics	HEF4521		
	Toshiba	TC40163 (3341)				MC14020 (2943)				HCC/HCF4030			Soliton	CM4045		
		TC40163B (3341)				CD4020				HEF4030			Toshiba	TC4521B	(3341)	
CD4017	Motorola	MC14017 (2943)				F4020				CM4030			Motorola	MC14046		
		CD4017				HCC/HCF4020				Toshiba	TC4030B (3341)		National	CD4046		
	National	F4017				HEF4020				GE/RCA	CD4031B		SGS-Thomson	HCC/HCF4046		
	SGS-Thomson	HCC/HCF4017				CM4020				National	F4031		Soliton	CM4046		
		HEF4017				TC4020B (3341)										
	Signetics	HEF4017														
	Soliton	CM4017														
	Toshiba	TC4017B (3341)														
		(Continued)														

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/RCA (Cont'd)				CD4066	GE/RCA	CD4016 (2639, 2653, 2655)		CD4072B	Fujitsu	MB4072		CD4085B	Sigetics	HEF4085	
CD4047	National	CD4047 F4047			Motorola	MC14016 (2945)			GE/RCA	CD4072 (2637)			Toshiba	TC4085 (3341)	
	SGS-Thomson	HCC/HCF4047				MC14066 (2945)			Motorola	CD4072 (2937)		CD4086B	Motorola	MC14506 (2938)	
	Sigetics	HEF4047			National	CD4016			National	F4072			SGS-Thomson	HCC/HCF4086	
	Solitron	CM4047				CD4066			NEC	μPC4072				HCC/HCF4086B	
CD4048	Toshiba	TC4047B (3341)			Sanyo	F4066			SGS-Thomson	HCC/HCF4072			Sigetics	TC4086B (3341)	
	National	CD4048				LC4016				HEF4072		CD4089	Toshiba	TC4086B (3341)	
	SGS-Thomson	HCC/HCF4048				LC4066				TC4072B			National	CD4089	
	Solitron	CM4048			SGS-Thomson	HCC/HCF4016		CD4073	Motorola	MC14073 (2937)			SGS-Thomson	HCC/HCF4089	
CD4049	Motorola	MC14049 (2939)				HCC/HCF4066			National	CD4073		CD4093B	Sharp	LR4089	
	National	CD4049			Sigetics	HEF4066			SGS-Thomson	F4073			Motorola	MC14093 (2937, 2940)	
	OKI	MSM4049			Solitron	CM4016				HCC/HCF4073				MC14093B (2937, 2940)	
	Sanyo	LC4049				CM4066				HEF4073			National	CD4093B	
	SGS-Thomson	HCC/HCF4049				HCF4016				CM4073			SGS-Thomson	F4093B	
	Sigetics	HEF4049			Toshiba	TC4016B (3341)		CD4075	Motorola	MC14075 (2937)				HCC/HCF4093	
	Solitron	CM4049				TC4066B (3341)			National	CD4075			Sigetics	HCC/HCF4093B	
CD4050	Toshiba	TC4049B (3341)		CD4067	Unitrode	PIC7516			SGS-Thomson	F4075			Toshiba	TC4093 (3341)	
	Motorola	MC14050 (2939)			Motorola	MC14067				HCC/HCF4075		CD4094B	Motorola	MC14094 (2944)	
	National	CD4050			National	F4067				HEF4075				TC4093B (3341)	
	SGS-Thomson	F4050			SGS-Thomson	HCC/HCF4067				Solitron	CM4075			MC14094B (2944)	
		HCC/HCF4050				HEF4067		CD4076	Motorola	MC14076 (2942)			National	CD4094B	
	Sigetics	HEF4050			Motorola	MC14068 (2937)			National	CD4076			SGS-Thomson	HCC/HCF4094	
	Solitron	CM4050			National	F4068				F4076				HCC/HCF4094B	
	Toshiba	TC4050B (3341)			SGS-Thomson	HCC/HCF4068				MM54C173			Sigetics	HEF4094	
CD4051	Motorola	MC14051 (2945)				HEF4068				MM74C173			Toshiba	TC4094B (3341)	
	National	CD4051			Solitron	CM4068				HCC/HCF4076		CD4097	Motorola	MC14097	
	SGS-Thomson	F4051			Toshiba	TC4068B (3341)			SGS-Thomson	HEF4076			National	F4097	
		HCC/HCF4051			Motorola	MC14069 (2939)				Solitron	CM4076		SGS-Thomson	HCC/HCF4097	
	Sigetics	HEF4051				CD4069				CM4076			CD4098	Motorola	MC14528
	Solitron	CM4051				MM54C04			CD4077	GE/RCA	CD4077B (2637, 2639)		National	CD4528	
CD4052	Toshiba	TC4051B (3341)			OKI	MSM4069				Motorola	MC14077 (2938)			F4528	
	National	CD4052			Sanyo	LC4069				MC14077B (2938)		CD4098	SGS-Thomson	MM74C221	
	SGS-Thomson	F4052			SGS-Thomson	HCC/HCF4069			National	CD4077				HCC/HCF4098	
		HCC/HCF4052				HEF4069				F4077			Sigetics	HEF4528	
	Sigetics	HEF4052				CM4069				Raytheon	RC4077 (3024)			TC4528B (3341)	
	Solitron	CM4052			Toshiba	TC4069UB (3341)			SGS-Thomson	HCC/HCF4077		CD4099B	Toshiba	TC4528B (3341)	
CD4053	Motorola	MC14053 (2945)		CD4070	Motorola	MC14070 (2938)				HCC/HCF4077B			Motorola	MC14099 (2941)	
	National	CD4053			National	CD4070				HEF4077			National	MC14099B (2941)	
	SGS-Thomson	F4053				F4070				CM4077			SGS-Thomson	HCC/HCF4099	
		HCC/HCF4053			SGS-Thomson	MM74C86			CD4077B	Toshiba	TC4077B (3341)			HCC/HCF4099B	
	Sigetics	HEF4053				HCC/HCF4070				GE/RCA	CD4077 (2637, 2639)		CD4502	Toshiba	TC4099B (3341)
	Solitron	CM4053				HEF4070				Motorola	MC14077 (2938)			GE/RCA	CD4502B (2637)
CD4054	Toshiba	TC4053B (3341)		CD4071	GE/RCA	CD4071B (2637)				MC14077B (2938)			Motorola	MC14502 (2939)	
	SGS-Thomson	HCC/HCF4054			Motorola	MC14071 (2937)			National	CD4077			SGS-Thomson	MC14502B (2939)	
		HCC/HCF4054				MC14071B (2937)				F4077				HCC/HCF4502	
CD4055	Toshiba	TC4054B (3341)			National	CD4071				Raytheon	RC4077 (3024)			HCC/HCF4502B	
	SGS-Thomson	HCC/HCF4055				CD4071B			SGS-Thomson	HCC/HCF4077			Sigetics	HEF4502	
		HCC/HCF4055				F4071				HCC/HCF4077B		CD4502B	Toshiba	TC4502B (3341)	
CD4056	GE/RCA	CD4056B (2639, 2653, 2656)			OKI	MM74C32				HEF4077			Unicorn	UC4502	
	Motorola	MC4056			Sanyo	MSM4071				CM4077			GE/RCA	CD4502 (2637)	
	SGS-Thomson	HCC/HCF4056			SGS-Thomson	LC4071				Toshiba	TC4077B (3341)		Motorola	MC14502 (2939)	
		HCC/HCF4056				HCC/HCF4071			CD4078	Motorola	MC14078 (2938)			MC14502B (2939)	
		HCC/HCF4056B				HCC/HCF4071B				National	F4078		SGS-Thomson	HCC/HCF4502	
	Toshiba	TC4056 (3341)			Sigetics	HEF4071			SGS-Thomson	HCC/HCF4078				HCC/HCF4502B	
	TC4056B (3341)				Solitron	CM4071				HEF4078			Sigetics	HEF4502	
CD4056B	GE/RCA	CD4056 (2639, 2653, 2656)		CD4071B	GE/RCA	CD4071 (2637)				CM4078			Toshiba	TC4502B (3341)	
	Motorola	MC4056			Motorola	MC14071 (2937)				TC4078B (3341)			Unicorn	UC4502	
	SGS-Thomson	HCC/HCF4056				MC14071B (2937)			CD4081	Motorola	MC14081 (2937)		CD4503	Motorola	MC14503 (2939)
		HCC/HCF4056B			National	CD4071				CD4081			National	CD4503	
		HCC/HCF4056B				CD4071B				F4081				CD4097B	
	Toshiba	TC4056 (3341)				F4071				MM74C08			SGS-Thomson	HCF4503	
	TC4056B (3341)					MM74C32				μPC4081				TC4503B	
CD4057	GE/RCA	CD40181 (2639)			OKI	MSM4071				OKI	MSM4081		CD4504B	Motorola	MC14504 (2939)
	Motorola	MC14581 (2947)			Sanyo	LC4071			SGS-Thomson	LC4081				MC14504B (2939)	
	National	MM74C181			SGS-Thomson	HCC/HCF4071				HCC/HCF4081			CD4508	Motorola	MC14508 (2941)
	SGS-Thomson	HCC/HCF40181				HCC/HCF4071B				HEF4081			SGS-Thomson	HCC/HCF4508	
CD4059	Motorola	MC14569 (2943)			Sigetics	HEF4071				CM4081				HEF4508	
	Sigetics	HEF4059			Solitron	CM4071			CD4082	Motorola	MC14082 (2937)			TC4508B (3341)	
CD4060	Motorola	MC14060 (2943)		CD4072	GE/RCA	CD4072B (2637)				TC4082B (3341)			Motorola	MC14510 (2942)	
	National	CD4060			Motorola	MC14072 (2937)				CD4082			National	CD4510	
	SGS-Thomson	HCC/HCF4060				CD4072				F4082				F4510	
		HCC/HCF4060				F4072				μPC4082			SGS-Thomson	HCC/HCF4510	
	Sigetics	HEF4060				μPC4072				HCC/HCF4082				HEF4510	
CD4063	Fujitsu	MB4063			NEC	μPC4072				HEF4082			Sigetics	HEF4510	
	SGS-Thomson	HCC/HCF4063			SGS-Thomson	HCC/HCF4072				TC4082B			Solitron	CM4510	
		HCC/HCF4063				HEF4072			CD4085B	SGS-Thomson	HCC/HCF4085		Toshiba	TC4510B (3341)	
	Toshiba	TC4063B (3341)			Sigetics	HEF4072				HCC/HCF4085B				(Continued)	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/RCA (Cont'd)				CD54HC4518	Motorola	MC54HC4518		CD74ACT109	National	74ACT109		CD74HCT109	National	MM74HCT109	
CD54HC377	Motorola	MC54HC377		CD54HC4520	Motorola	MC54HC4520		CD74ACT138	National	74ACT138		CD74HCT11	Signetics	74HCT109 (3057)	
CD54HC390	Motorola	SN54HC377		CD54HC4538	Motorola	MC54HC4538		CD74ACT139	National	74ACT139		CD74HCT112	National	74HCT11 (3057)	
		MC54HC390	(2942)			SN54HC4538		CD74ACT151	Motorola	MC74F653		CD74HCT112	Signetics	MM74HCT112	
	National	MM54HC390		CD54HC4543	Motorola	MC54HC4543	(2946)		National	74ACT151		CD74HCT123	Signetics	74HCT112 (3057)	
CD54HC393	Motorola	SN54HC390			TI	SN54HC4543		CD74ACT153	TI	SN74F653		CD74HCT125	Signetics	74HCT125 (3057)	
		MC54HC393	(2942)	CD54HC533	Motorola	MC54HC533	(2941)	CD74ACT157	National	74ACT157		CD74HCT126	Signetics	SN74HCT125	
	National	MM54HC393				MM54HC533		CD74ACT158	National	74ACT158				74HCT126 (3057)	
	Signetics	SN54HC393		CD54HC534	Motorola	MC54HC534	(2942)	CD74ACT161	National	74ACT161		CD74HCT132	Signetics	74HCT132 (3057)	
CD54HC4002	Motorola	SN54HC393				SN54HC534		CD74ACT163	National	74ACT163		CD74HCT137	CTI	74HCT137	
		MC54HC4002	(2938)		National	MM54HC534		CD74ACT173	National	74ACT173			Plessey	MV74HCT137	
	National	MM54HC4002		CD54HC540	Motorola	MC54HC540	(2940)	CD74ACT240	National	74ACT240			SGS-Thomson	74HCT137	
CD54HC4015	GE/RCA	SN54HC4002				SN54HC534		CD74ACT241	National	74ACT241		CD74HCT138	Supertex	74HCT137	
		CD74HC7046A	(2642)		National	MM54HC540		CD74ACT244	National	74ACT244			TI	SN74HCT137	
	Signetics	54HC4015		CD54HC541	Motorola	MC54HC541	(2940)	CD74ACT245	National	74ACT245			Toshiba	TC74HCT137	
CD54HC4016	Motorola	74HC7046A (3057)				SN54HC540		CD74ACT257	National	74ACT257			CTI	74HCT138	
		MC54HC4016	(2945)	CD54HC563	Motorola	MC54HC563		CD74ACT258	National	74ACT258			National	MM74HCT138	
	National	MM54HC4016				SN54HC563		CD74ACT273	National	74ACT273			Plessey	MV74HCT138	
CD54HC4017	Motorola	SN54HC4016		CD54HC564	Motorola	MC54HC564	(2942)	CD74ACT299	National	74ACT299			SGS-Thomson	74HCT138	
		MC54HC4017	(2943)			SN54HC564		CD74ACT322	National	74ACT322		CD74HCT139	Signetics	74HCT138 (3057)	
	National	MM54HC4017		CD54HC573	Motorola	MC54HC573	(2941)	CD74ACT323	National	74ACT323			TI	SN74HCT138	
CD54HC4020	National	SN54HC4017				MM54HC573		CD74ACT373	National	74ACT373			Toshiba	TC74HCT138A	
CD54HC4024	Motorola	SN54HC4020		CD54HC574	Motorola	MC54HC574	(2942)	CD74ACT374	National	74ACT374		CD74HCT139	CTI	74HCT139	
		MC54HC4024	(2943)			SN54HC574		CD74ACT533	National	74ACT533			IDT	ID74HCT139	
	National	MM54HC4024		CD54HC597	GE/RCA	MC54HC597	(2641)	CD74ACT534	National	74ACT534			National	MM74HCT139	
CD54HC404	Motorola	SN54HC4024				MM54HC597		CD74ACT563	National	74ACT563		CD74HCT14	Plessey	MV74HCT139	
		MC54HC404	(2943)	CD54HC640	Motorola	MC54HC640	(2940)	CD74ACT564	National	74ACT564			Signetics	74HCT139 (3057)	
	National	MM54HC404				SN54HC640		CD74ACT573	National	74ACT573		CD74HCT147	Supertex	74HCT139	
CD54HC4040	Motorola	SN54HC404		CD54HC643	Motorola	MC54HC643		CD74ACT574	National	74ACT574		CD74HCT151	Signetics	74HCT147 (3057)	
		MC54HC4040	(2943)			SN54HC643		CD74ACT74	National	74ACT74			National	MM74HCT151	
CD54HC4046	National	MM54HC4040		CD54HC646	Motorola	MC54HC646	(2940)	CD74AC00	National	74AC00		CD74HCT153	Signetics	74HCT151 (3057)	
	Motorola	MC54HC4046				SN54HC646		CD74AC04	National	74AC04			National	MM74HCT153	
	National	MM54HC4046		CD54HC688	Motorola	MC54HC688	(2946)	CD74AC08	National	74AC08		CD74HCT154	Signetics	74HCT153 (3057)	
CD54HC4049	Motorola	SN54HC4046				MM54HC688		CD74AC10	National	74AC10			National	74HCT154 (3057)	
		MC54HC4049	(2939)	CD54HC73	Motorola	MC54HC73	(2941)	CD74AC109	National	74AC109		CD74HCT157	Signetics	74HCT154 (3057)	
CD54HC4050	Motorola	SN54HC4049				SN54HC73		CD74AC138	National	74AC138			National	MM74HCT157	
		MC54HC4050	(2939)	CD54HC74	Motorola	MC54HC74	(2941)	CD74AC139	National	74AC139		CD74HCT158	Signetics	74HCT157 (3057)	
	National	MM54HC4050		CD54HC75	Motorola	MC54HC75	(2941)	CD74AC151	National	74AC151			National	MM74HCT158	
CD54HC4051	Motorola	SN54HC4050				SN54HC75		CD74AC153	National	74AC153		CD74HCT160	Signetics	74HCT158 (3057)	
		MC54HC4051	(2945)	CD54HC77	Motorola	MC54HC77	(2941)	CD74AC157	National	74AC157			National	MM74HCT160	
	National	MM54HC4051		CD54HC78	Motorola	MC54HC78	(2941)	CD74AC158	National	74AC158		CD74HCT161	Signetics	74HCT160 (3057)	
CD54HC4052	Motorola	SN54HC4051		CD54HC85	Motorola	MC54HC85	(2946)	CD74AC161	National	74AC161			National	74HCT161 (3057)	
		MC54HC4052	(2945)			SN54HC85		CD74AC163	National	74AC163		CD74HCT162	Signetics	74HCT162 (3057)	
CD54HC4053	Motorola	SN54HC4052		CD54HC86	Motorola	MC54HC86	(2938)	CD74AC174	National	74AC174			UMC	UM74HCT162	
		MC54HC4053	(2945)			MM54HC86		CD74AC175	National	74AC175		CD74HCT163	Signetics	74HCT163 (3057)	
CD54HC4060	Motorola	SN54HC4053		CD54HC87	Motorola	MC54HC87	(2941)	CD74AC191	National	74AC191		CD74HCT164	National	MM74HCT164	
		MC54HC4060	(2943)			SN54HC87		CD74AC20	National	74AC20			Signetics	74HCT164 (3057)	
CD54HC4066	Motorola	SN54HC4060		CD54HC88	Motorola	MC54HC88	(2946)	CD74AC244	National	74AC244		CD74HCT165	Signetics	74HCT165 (3057)	
		MC54HC4066	(2945)			MM54HC88		CD74AC245	National	74AC245			National	74HCT166 (3057)	
	National	MM54HC4066		CD54HC89	Motorola	MC54HC89	(2946)	CD74AC251	National	74AC251		CD74HCT166	Signetics	74HCT166 (3057)	
CD54HC4075	Motorola	SN54HC4066				SN54HC89		CD74AC253	National	74AC253		CD74HCT174	Signetics	74HCT173 (3057)	
		MC54HC4075	(2937)	CD54HC93	GE/RCA	MC54HC93	(2640)	CD74AC257	National	74AC257			National	74HCT174 (3057)	
	National	MM54HC4075				SN54HC93		CD74AC258	National	74AC258		CD74HCT175	Signetics	74HCT175 (3057)	
CD54HC42	Motorola	SN54HC4075		CD54HC93	Motorola	MC54HC93	(2640)	CD74AC273	National	74AC273		CD74HCT181	Signetics	74HCT181 (3057)	
		MC54HC42	(2945)			MM54HC93		CD74AC299	National	74AC299			National	74HCT182 (3057)	
	National	MM54HC42		CD54HC94	Motorola	MC54HC94	(2941)	CD74AC32	National	74AC32		CD74HCT182	Signetics	74HCT182 (3057)	
CD54HC423	GE/RCA	SN54HC42				SN54HC94		CD74AC323	National	74AC323		CD74HCT190	National	MM74HCT190	
		CD74HC4516	(2641)	CD54HC95	Motorola	MC54HC95	(2946)	CD74AC374	National	74AC374			Signetics	74HCT190 (3057)	
	Motorola	MC54HC423				MM54HC95		CD74AC540	National	74AC540		CD74HCT191	National	MM74HCT191	
	National	MM54HC423A		CD54HC97	Motorola	MC54HC97	(2941)	CD74AC541	National	74AC541			Signetics	74HCT191 (3057)	
	Signetics	SN54HC423	(3057)			SN54HC97		CD74AC563	National	74AC563		CD74HCT192	Signetics	74HCT192 (3057)	
CD54HC4351	Motorola	SN54HC423		CD54HC98	Motorola	MC54HC98	(2946)	CD74AC564	National	74AC564		CD74HCT193	National	MM74HCT193	
		MC54HC4351	(2945)			MM54HC98		CD74AC573	National	74AC573			Signetics	74HCT193 (3057)	
CD54HC4352	Motorola	SN54HC4351		CD54HC99	Motorola	MC54HC99	(2946)	CD74AC574	National	74AC574		CD74HCT194	Signetics	74HCT194 (3057)	
		MC54HC4352	(2945)			SN54HC99		CD74AC646	National	74AC646		CD74HCT195	Signetics	74HCT195 (3057)	
	National	MM54HC4352		CD54HC99	Motorola	MC54HC99	(2946)					CD74HCT20	Signetics	74HCT20 (3057)	
CD54HC4353	Motorola	SN54HC4352		CD54HC99	Motorola	MC54HC99	(2946)	CD74HCT02	Signetics	74HCT02 (3057)			National	74HCT21 (3057)	
		MC54HC4353	(2945)	CD54HC99	Motorola	MC54HC99	(2946)	CD74HCT03	Signetics	74HCT03 (3057)		CD74HCT21	Signetics	74HCT21 (3057)	
	National	MM54HC4353		CD54HC99	Motorola	MC54HC99	(2946)	CD74HCT04	Signetics	74HCT04 (3057)		CD74HCT221	Signetics	74HCT221 (3057)	
CD54HC4511	Motorola	SN54HC4353		CD54HC99	Motorola	MC54HC99	(2946)					CD74HCT237	Plessey	MV74HCT237	
		MC54HC4511	(2946)	CD54HC99	Motorola	MC54HC99	(2946)	CD74HCT08	Signetics	74HCT08 (3057)			Signetics	74HCT237	
	National	MM54HC4511		CD54HC99	Motorola	MC54HC99	(2946)						Supertex	74HCT237	
CD54HC4514	Motorola	SN54HC4511		CD54HC99	Motorola	MC54HC99	(2946)	CD74HCT107	Signetics	74HCT107 (3057)		CD74HCT238	CTI	74HCT238	
		MC54HC4514	(2945)	CD54HC99	Motorola	MC54HC99	(2946)						Plessey	MV74HCT238	
	National	MM54HC4514		CD54HC99	Motorola	MC54HC99	(2946)	CD74HCT107	Signetics	74HCT107 (3057)			Signetics	74HCT238 (3057)	
CD54HC4515	TI	SN54HC4515		CD54HC99	Motorola	MC54HC99	(2946)					CD74HCT240	TI	SN74HCT238	
		(Continued)		CD54HC99	Motorola	MC54HC99	(2946)						CTI	74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						Hitachi	HD74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						Micrel	MIC74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						Motorola	MC74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						National	MM74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						Plessey	MV74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						Samsung	74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						SGS-Thomson	74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						Signetics	74HCT240 (3057)	
				CD54HC99	Motorola	MC54HC99	(2946)						Supertex	74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						TI	SN74HCT240	
				CD54HC99	Motorola	MC54HC99	(2946)						Toshiba	TC74HCT240A	
				CD54HC99	Motorola	MC54HC99	(2946)						CTI	74HCT241	
				CD54HC99	Motorola	MC54HC99	(2946)						Hitachi	HD74HCT241	
				CD54HC99	Motorola	MC54HC99	(2946)							(Continued)	

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/RCA (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
CD74HCT241	Micrel	MIC74HCT241	(Cont'd)	CD74HCT374	Motorola	MC74HCT374	(Cont'd)	CD74HCT533	National	MM74HCT533	(Cont'd)	CD74HCT648	SGS-Thomson	M74HCT648	
	Motorola	MC74HCT241			National	MM74HCT374			Plessey	MM74HCT533			Signetics	74HCT648 (3057)	
	National	MM74HCT241			Plessey	MV74HCT374			Signetics	74HCT533 (3057)			TI	SN74HCT648	
	Plessey	MV74HCT241				MV74SC374			TI	SN74HCT533			Toshiba	TC74HCT648A	
	Samsung	74HCT241			SGS-Thomson	M74HCT374		CD74HCT534	CTI	74HCT534		CD74HCT651	SGS-Thomson	M74HCT651	
	SGS-Thomson	M74HCT241				74HCT374 (3057)			Hitachi	HD74HCT534					
	Signetics	74HCT241 (3057)				74HCT374			Micrel	MIC74HCT534					
	Supertex	74HCT241				74HCT374			Motorola	MC74HCT534					
	TI	SN74HCT241				SN74HCT374			National	MM74HCT534					
	Toshiba	TC74HCT241A				TC74HCT374A			Plessey	MV74HCT534					
CD74HCT242	Hitachi	HD74HCT242		CD74HCT377	Signetics	74HCT377 (3057)			Signetics	74HCT534 (3057)					
	Micrel	MIC74HCT242		CD74HCT390	Signetics	74HCT390 (3057)			TI	SN74HCT534					
	Signetics	74HCT242 (3057)		CD74HCT393	Signetics	74HCT393 (3057)			CTI	74HCT540					
	TI	SN74HCT242		CD74HCT4002	Signetics	74HCT4002 (3057)		CD74HCT540	TI	74HCT540					
	Hitachi	HD74HCT243							Micrel	MIC74HCT540					
	Micrel	MIC74HCT243		CD74HCT40102	Signetics	74HCT40102 (3057)			Motorola	MC74HCT540					
	Signetics	74HCT243 (3057)							National	MM74HCT540					
	TI	SN74HCT243		CD74HCT40103	Signetics	74HCT40103 (3057)			Plessey	MV74HCT540					
	CTI	74HCT244							SGS-Thomson	M74HCT540					
	Hitachi	HD74HCT244		CD74HCT40104	Signetics	74HCT40104 (3057)			Signetics	74HCT540 (3057)					
	Micrel	MIC74HCT244							TI	SN74HCT540					
	Motorola	MC74HCT244		CD74HCT40105	Signetics	74HCT40105 (3057)		CD74HCT541	Toshiba	TC74HCT540					
	National	MM74HCT244							CTI	74HCT541					
	Plessey	MV74HCT244							Micrel	MIC74HCT541					
	Samsung	74HCT244		CD74HCT4015	Signetics	74HCT4015 (3057)			Motorola	MC74HCT541					
	SGS-Thomson	M74HCT244							National	MM74HCT541					
	Signetics	74HCT244 (3057)		CD74HCT4015	Signetics	74HCT4015 (3057)			Plessey	MV74HCT541					
	Supertex	74HCT244							SGS-Thomson	M74HCT541					
	TI	SN74HCT244		CD74HCT4016	Signetics	74HCT4016 (3057)			Signetics	74HCT541 (3057)					
	Toshiba	TC74HCT244A							Supertex	74HCT541					
	CTI	74HCT245		CD74HCT4017	Signetics	74HCT4017 (3057)			TI	SN74HCT541					
	CMD Micro	G74SC245							Toshiba	TC74HCT541					
	Hitachi	HD74HCT245		CD74HCT4020	Signetics	74HCT4020 (3057)		CD74HCT563	CTI	74HCT563					
	Micrel	MIC74HCT245							Micrel	MIC74HCT563					
	Motorola	MC74HCT245		CD74HCT4024	Signetics	74HCT4024 (3057)			National	MM74HCT563					
	National	MM74HCT245							Plessey	MV74HCT563					
	Plessey	MV74HCT245		CD74HCT4040	Signetics	74HCT4040 (3057)			SGS-Thomson	M74HCT563					
	SGS-Thomson	M74HCT245							Signetics	74HCT563 (3057)					
	Signetics	74HCT245 (3057)		CD74HCT4046A	Signetics	74HCT4046 (3057)			TI	SN74HCT563					
	Supertex	74HCT245							Toshiba	TC74HCT563					
	TI	SN74HCT245		CD74HCT4049	Signetics	74HCT4049 (3057)			CTI	74HCT564					
	Toshiba	TC74HCT245							Micrel	MIC74HCT564					
		TC74HCT245A		CD74HCT4051	Signetics	74HCT4051 (3057)			Motorola	MC74HCT564					
CD74HCT251	National	MM74HCT251							National	MM74HCT564					
	Signetics	74HCT251 (3057)		CD74HCT4052	Signetics	74HCT4052 (3057)			Plessey	MV74HCT564					
CD74HCT253	National	MM74HCT253							SGS-Thomson	M74HCT564					
	Signetics	74HCT253 (3057)		CD74HCT4053	Signetics	74HCT4053 (3057)			Signetics	74HCT564 (3057)					
CD74HCT257	National	MM74HCT257							TI	SN74HCT564					
	Signetics	74HCT257 (3057)		CD74HCT4059	Signetics	74HCT4059 (3057)			Toshiba	TC74HCT564					
CD74HCT258	National	MM74HCT258							CTI	74HCT573					
	Signetics	74HCT258 (3057)		CD74HCT4060	Signetics	74HCT4060 (3057)		CD74HCT573	Micrel	MIC74HCT573					
CD74HCT259	National	MM74HCT259							National	MM74HCT573					
	Signetics	74HCT259 (3057)		CD74HCT4066	Signetics	74HCT4066 (3057)			Plessey	MV74HCT573					
CD74HCT27	National	MM74HCT27							SGS-Thomson	M74HCT573					
	Signetics	74HCT27 (3057)		CD74HCT4075	Signetics	74HCT4075 (3057)			Signetics	74HCT573 (3057)					
CD74HCT273	National	MM74HCT273							Supertex	74HCT573					
	Signetics	74HCT273 (3057)		CD74HCT4094	Signetics	74HCT4094 (3057)			TI	SN74HCT573					
CD74HCT280	National	MM74HCT280							Toshiba	TC74HCT573					
	Signetics	74HCT280 (3057)		CD74HCT4094	Signetics	74HCT4094 (3057)			CTI	74HCT574					
CD74HCT283	National	MM74HCT283							Micrel	MIC74HCT574					
	Signetics	74HCT283 (3057)		CD74HCT423	Signetics	74HCT423 (3057)		CD74HCT574	National	MM74HCT574					
CD74HCT297	National	MM74HCT297							Plessey	MV74HCT574					
	Signetics	74HCT297 (3057)		CD74HCT4316	Signetics	74HCT4316 (3057)			SGS-Thomson	M74HCT574					
CD74HCT299	National	MM74HCT299							Signetics	74HCT574 (3057)					
	Signetics	74HCT299 (3057)		CD74HCT4351	Signetics	74HCT4351 (3057)			Supertex	74HCT574					
CD74HCT30	National	MM74HCT30							TI	SN74HCT574					
	Signetics	74HCT30 (3057)		CD74HCT4352	Signetics	74HCT4352 (3057)			Toshiba	TC74HCT574					
CD74HCT32	National	MM74HCT32							CTI	74HCT574					
	Signetics	74HCT32 (3057)		CD74HCT4353	Signetics	74HCT4353 (3057)			Micrel	MIC74HCT574					
CD74HCT354	National	MM74HCT354							National	MM74HCT574					
	Signetics	74HCT354 (3057)		CD74HCT4510	Signetics	74HCT4510 (3057)		CD74HCT583	Signetics	74HCT583 (3057)					
CD74HCT356	National	MM74HCT356							TI	SN74HCT583					
	Signetics	74HCT356 (3057)		CD74HCT4511	Signetics	74HCT4511 (3057)		CD74HCT597	Signetics	74HCT597 (3057)					
CD74HCT365	National	MM74HCT365							TI	SN74HCT597					
	Signetics	74HCT365 (3057)		CD74HCT4514	Signetics	74HCT4514 (3057)		CD74HCT640	Hitachi	HD74HCT640					
CD74HCT366	National	MM74HCT366							Motorola	MC74HCT640					
	Signetics	74HCT366 (3057)		CD74HCT4515	Signetics	74HCT4515 (3057)			National	MM74HCT640					
CD74HCT367	National	MM74HCT367							SGS-Thomson	M74HCT640					
	Signetics	74HCT367 (3057)		CD74HCT4516	Signetics	74HCT4516 (3057)			Signetics	74HCT640 (3057)					
CD74HCT368	National	MM74HCT368							TI	SN74HCT640					
	Signetics	74HCT368 (3057)		CD74HCT4518	Signetics	74HCT4518 (3057)			Toshiba	TC74HCT640A					
CD74HCT373	CTI	74HCT373							Motorola	MC74HCT643					
	CMD Micro	G74SC373		CD74HCT4520	Signetics	74HCT4520 (3057)			SGS-Thomson	M74HCT643					
	Hitachi	HD74HCT373							Signetics	74HCT643 (3057)					
	Micrel	MIC74HCT373		CD74HCT4538	Signetics	74HCT4538 (3057)			TI	SN74HCT643					
	Motorola	MC74HCT373							Toshiba	TC74HCT643A					
	National	MM74HCT373		CD74HCT4543	Signetics	74HCT4543 (3057)		CD74HCT643	Motorola	MC74HCT643					
	Plessey	MV74HCT373							SGS-Thomson	M74HCT643					
	SGS-Thomson	M74HCT373		CD74HCT4543	Signetics	74HCT4543 (3057)			Signetics	74HCT646 (3057)					
	Signetics	74HCT373 (3057)							TI	SN74HCT646					
	Supertex	74HCT373		CD74HCT533	Signetics	74HCT533 (3057)			Toshiba	TC74HCT646A					
	TI	SN74HCT373							SGS-Thomson	M74HCT646					
	Toshiba	TC74HCT373							Signetics	74HCT646 (3057)					
	CTI	74HCT374							TI	SN74HCT646					
	CMD Micro	G74SC374							Toshiba	TC74HCT646A					
	Hitachi	HD74HCT374													
	Micrel	MIC74HCT374													
	(Continued)														

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
GE/RCA (Cont'd)				CD74HC138	Hitachi Motorola	HD74HC138 MC74HC138	(2945)	CD74HC161	Hitachi Motorola	HD74HC161 MC74HC161	(2942)	CD74HC182	Motorola National SGS-Thomson	MC74HC182 MM74HC182 M74HC182		
CD74HC109	Hitachi Motorola	HD74HC109 MC74HC109	(2941)	National SGS-Thomson	MM74HC138 M74HC138	74HC138 (3057) SN74HC138 TC74HC138A	(3340)	National SGS-Thomson	MM74HC161 M74HC161	74HC161 (3057) SN74HC161 TC74HC161A	(3340)	CD74HC190	Signetics TI Toshiba	74HC182 (3057) SN74HC182 TC74HC182 (3340)		
	National SGS-Thomson	MM74HC109 M74HC109		Hitachi Motorola	HD74HC139 MC74HC139	(2945)	Hitachi Motorola	HD74HC162 MC74HC162	(2942)	Hitachi Motorola	HD74HC190 MC74HC190		Hitachi Motorola National SGS-Thomson	HD74HC190 MC74HC190 MM74HC190		
CD74HC11	Hitachi Motorola	HD74HC11 MC74HC11	(2937)	National SGS-Thomson	MM74HC139 M74HC139	74HC139 (3057) SN74HC139 TC74HC139A	(3340)	National SGS-Thomson	MM74HC162 M74HC162	74HC162 (3057) SN74HC162 TC74HC162A	(3340)	CD74HC191	Signetics TI Toshiba	74HC190 (3057) SN74HC190 TC74HC190 (3340)		
	National SGS-Thomson	MM74HC11 M74HC11		Hitachi Motorola	HD74HC14 MC74HC14	(2940)	Hitachi Motorola	HD74HC163 MC74HC163	(2942)	Hitachi Motorola	HD74HC191 MC74HC191		Hitachi Motorola National SGS-Thomson	HD74HC191 MC74HC191 MM74HC191		
CD74HC112	Hitachi Motorola	HD74HC112 MC74HC112	(2941)	National SGS-Thomson	MM74HC14 M74HC14	74HC14 (3057) SN74HC14 TC74HC14A	(3340)	National SGS-Thomson	MM74HC163 M74HC163	74HC163 (3057) SN74HC163 TC74HC163A	(3340)	CD74HC192	Signetics TI Toshiba	74HC191 (3057) SN74HC191 TC74HC191 (3340)		
	National SGS-Thomson	MM74HC112 M74HC112		Hitachi Motorola	HD74HC147 MC74HC147	(2941)	National SGS-Thomson	MM74HC164 M74HC164	(2943)	National SGS-Thomson	MM74HC192 M74HC192		Hitachi Motorola National SGS-Thomson	HD74HC192 MC74HC192 MM74HC192		
CD74HC113	Hitachi Motorola	HD74HC113 MC74HC113	(2941)	National SGS-Thomson	MM74HC113 M74HC113	74HC113 (3057) SN74HC113 TC74HC113A	(3340)	Hitachi Motorola	HD74HC164 MC74HC164	(2943)	National SGS-Thomson	MM74HC193 M74HC193		Hitachi Motorola National SGS-Thomson	HD74HC193 MC74HC193 MM74HC193	
	National SGS-Thomson	MM74HC113 M74HC113		Hitachi Motorola	HD74HC151 MC74HC151	(2944)	National SGS-Thomson	MM74HC165 M74HC165	(2943)	National SGS-Thomson	MM74HC194 M74HC194		Hitachi Motorola National SGS-Thomson	HD74HC194 MC74HC194 MM74HC194		
CD74HC123	Hitachi Motorola	HD74HC123 MC74HC123	(2939)	National SGS-Thomson	MM74HC151 M74HC151	74HC151 (3057) SN74HC151 TC74HC151A	(3340)	Hitachi Motorola	HD74HC165 MC74HC165	(2943)	National SGS-Thomson	MM74HC195 M74HC195		Hitachi Motorola National SGS-Thomson	HD74HC195 MC74HC195 MM74HC195	
	National SGS-Thomson	MM74HC123 M74HC123		Universal Hitachi Motorola	US74HC151 HD74HC153 MC74HC153	(2944)	National SGS-Thomson	MM74HC166 M74HC166	(2942)	National SGS-Thomson	MM74HC196 M74HC196		Hitachi Motorola National SGS-Thomson	HD74HC196 MC74HC196 MM74HC196		
CD74HC125	Hitachi Motorola	HD74HC125 MC74HC125	(2939)	National SGS-Thomson	MM74HC153 M74HC153	74HC153 (3057) SN74HC153 TC74HC153A	(3340)	Hitachi Motorola	HD74HC173 MC74HC173	(2942)	National SGS-Thomson	MM74HC197 M74HC197		Hitachi Motorola National SGS-Thomson	HD74HC197 MC74HC197 MM74HC197	
	National SGS-Thomson	MM74HC125 M74HC125		Hitachi Motorola	HD74HC154 MC74HC154	(2945)	National SGS-Thomson	MM74HC174 M74HC174	(2942)	National SGS-Thomson	MM74HC198 M74HC198		Hitachi Motorola National SGS-Thomson	HD74HC198 MC74HC198 MM74HC198		
CD74HC126	Hitachi Motorola	HD74HC126 MC74HC126	(2939)	National SGS-Thomson	MM74HC154 M74HC154	74HC154 (3057) SN74HC154 TC74HC154A	(3340)	Hitachi Motorola	HD74HC174 MC74HC174	(2942)	National SGS-Thomson	MM74HC199 M74HC199		Hitachi Motorola National SGS-Thomson	HD74HC199 MC74HC199 MM74HC199	
	National SGS-Thomson	MM74HC126 M74HC126		Hitachi Motorola	HD74HC157 MC74HC157	(2944)	National SGS-Thomson	MM74HC175 M74HC175	(2942)	National SGS-Thomson	MM74HC200 M74HC200		Hitachi Motorola National SGS-Thomson	HD74HC200 MC74HC200 MM74HC200		
CD74HC132	Hitachi Motorola	HD74HC132 MC74HC132	(2937, 2940)	National SGS-Thomson	MM74HC157 M74HC157	74HC157 (3057) SN74HC157 TC74HC157A	(3340)	Hitachi Motorola	HD74HC175 MC74HC175	(2942)	National SGS-Thomson	MM74HC201 M74HC201		Hitachi Motorola National SGS-Thomson	HD74HC201 MC74HC201 MM74HC201	
	National SGS-Thomson	MM74HC132 M74HC132		Hitachi Motorola	HD74HC158 MC74HC158	(2944)	National SGS-Thomson	MM74HC176 M74HC176	(2942)	National SGS-Thomson	MM74HC202 M74HC202		Hitachi Motorola National SGS-Thomson	HD74HC202 MC74HC202 MM74HC202		
CD74HC133	Hitachi Motorola	HD74HC133 MC74HC133	(2937)	National SGS-Thomson	MM74HC158 M74HC158	74HC158 (3057) SN74HC158 TC74HC158A	(3340)	Hitachi Motorola	HD74HC176 MC74HC176	(2942)	National SGS-Thomson	MM74HC203 M74HC203		Hitachi Motorola National SGS-Thomson	HD74HC203 MC74HC203 MM74HC203	
	National SGS-Thomson	MM74HC133 M74HC133		Hitachi Motorola	HD74HC160 MC74HC160	(2942)	National SGS-Thomson	MM74HC181 M74HC181	(3340)	National SGS-Thomson	MM74HC204 M74HC204		Hitachi Motorola National SGS-Thomson	HD74HC204 MC74HC204 MM74HC204		
CD74HC137	Hitachi Motorola	HD74HC137 MC74HC137	(2945)	National SGS-Thomson	MM74HC160 M74HC160	74HC160 (3057) SN74HC160 TC74HC160A	(3340)	Hitachi Motorola	HD74HC181 MC74HC181	(3340)	National SGS-Thomson	MM74HC205 M74HC205		Hitachi Motorola National SGS-Thomson	HD74HC205 MC74HC205 MM74HC205	
	National SGS-Thomson	MM74HC137 M74HC137		Hitachi Motorola	HD74HC161 MC74HC161	(2945)	National SGS-Thomson	MM74HC182 M74HC182	(3340)	National SGS-Thomson	MM74HC206 M74HC206		Hitachi Motorola National SGS-Thomson	HD74HC206 MC74HC206 MM74HC206		
	National SGS-Thomson	MM74HC137 M74HC137				(Continued)										

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/RCA (Cont'd)				CD74HC257 (Cont'd)				CD74HC32 (Cont'd)				CD74HC390 (Cont'd)			
CD74HC238	SGS-Thomson	M74HC238	(3057)	SGS-Thomson	Signetics	M74HC257	(3057)	SGS-Thomson	Signetics	M74HC32	(3057)	National	SGS-Thomson	MM74HC390	(3057)
		74HC238				74HC257				74HC32				M74HC390	
		SN74HC238				SN74HC257				SN74HC32				SN74HC390	
		TC74HC238A				TC74HC257				TC74HC32A				TC74HC390A	
CD74HC240	Hitachi	HD74HC240	(2939)	Hitachi	SGS-Thomson	HD74HC258	(3057)	National	SGS-Thomson	MM74HC354	(2945)	Hitachi	Motorola	HD74HC393	(2942)
		MC74HC240				M74HC258				M74HC354				MM74HC393	
		MM74HC240				74HC258				74HC354				M74HC393	
		SGS-Thomson				SN74HC258				SN74HC354				SN74HC393	
CD74HC241	Hitachi	HD74HC241	(3057)	Hitachi	SGS-Thomson	HD74HC259	(3057)	National	SGS-Thomson	MM74HC356	(2945)	Motorola	Motorola	MC74HC4002	(2938)
		MC74HC241				M74HC259				M74HC356				MM74HC4002	
		MM74HC241				74HC259				74HC356				M74HC4002	
		SGS-Thomson				SN74HC259				SN74HC356				SN74HC4002	
CD74HC242	Hitachi	HD74HC242	(2939)	Hitachi	SGS-Thomson	HD74HC266	(3057)	National	SGS-Thomson	MM74HC365	(2939)	Hitachi	Motorola	HD74HC365	(3057)
		MC74HC242				M74HC266				M74HC365				MM74HC40102	
		MM74HC242				74HC266				74HC365				74HC40102	
		SGS-Thomson				SN74HC266				SN74HC365				TC74HC40102	
CD74HC243	Hitachi	HD74HC243	(2939)	Hitachi	SGS-Thomson	HD74HC273	(2942)	National	SGS-Thomson	MM74HC366	(2939)	Hitachi	Motorola	HD74HC366	(3057)
		MC74HC243				M74HC273				M74HC366				MM74HC40104	
		MM74HC243				74HC273				74HC366				74HC40104	
		SGS-Thomson				SN74HC273				SN74HC366				TC74HC40104	
CD74HC244	Hitachi	HD74HC244	(2939)	Hitachi	SGS-Thomson	HD74HC279	(3057)	National	SGS-Thomson	MM74HC367	(2939)	Hitachi	Motorola	HD74HC367	(3057)
		MC74HC244				M74HC279				M74HC367				MM74HC4016	
		MM74HC244				74HC279				74HC367				74HC4016	
		SGS-Thomson				SN74HC279				SN74HC367				TC74HC4017	
CD74HC245	Hitachi	HD74HC245	(2939)	Hitachi	SGS-Thomson	HD74HC280	(2947)	National	SGS-Thomson	MM74HC368	(2939)	Hitachi	Motorola	HD74HC368	(3057)
		MC74HC245				M74HC280				M74HC368				MM74HC4020	
		MM74HC245				74HC280				74HC368				74HC4020	
		SGS-Thomson				SN74HC280				SN74HC368				TC74HC4020	
CD74HC251	Hitachi	HD74HC251	(2944)	Hitachi	SGS-Thomson	HD74HC283	(3057)	National	SGS-Thomson	MM74HC373	(2941)	Hitachi	Motorola	HD74HC373	(3057)
		MC74HC251				M74HC283				M74HC373				MM74HC4024	
		MM74HC251				74HC283				74HC373				74HC4024	
		SGS-Thomson				SN74HC283				SN74HC373				TC74HC4024	
CD74HC253	Hitachi	HD74HC253	(2944)	Hitachi	SGS-Thomson	HD74HC297	(3057)	National	SGS-Thomson	MM74HC374	(2942)	Hitachi	Motorola	HD74HC374	(3057)
		MC74HC253				M74HC297				M74HC374				MM74HC4040	
		MM74HC253				74HC297				74HC374				74HC4040	
		SGS-Thomson				SN74HC297				SN74HC374				TC74HC4040	
CD74HC257	Hitachi	HD74HC257	(2944)	Hitachi	SGS-Thomson	HD74HC300	(2937)	National	SGS-Thomson	MM74HC377	(2942)	Hitachi	Motorola	HD74HC377	(3057)
		MC74HC257				M74HC300				M74HC377				MM74HC4046	
		MM74HC257				74HC300				74HC377				74HC4046	
		SGS-Thomson				SN74HC300				SN74HC377				TC74HC4046	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/RCA (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
CD74HC4046A	GE/RCA	CD74HC4046	(2641)	CD74HC4075	Toshiba	TC74HC4075A	(3340)	CD74HC4518	Toshiba	TC74HC4518	(3340)	CD74HC564	National	MM74HC564	(Cont'd)
	Motorola	MC74HC4046			VLSI Tech	VT20C68	(3343, 3345, 3350)		VLSI Tech	VT20C71	(3343, 3345, 3351)		SGS-Thomson	M74HC564	
	National	MM74HC4046		CD74HC4094	Cypress	CY7C186	(2580)	CD74HC4520	Motorola	MC74HC4520			Signetics	74HC564	(3057)
	Signetics	74HC4046	(3057)		MicronTech	MT5C6408			SGS-Thomson	M74HC4520			TI	SN74HC564	
CD74HC4049	Motorola	MC74HC4049	(2939)		Mitsubishi	M5M5178			Signetics	74HC4520	(3057)	CD74HC573	Hitachi	HD74HC573	
	National	MM74HC4049			Mosel	MS6264			Toshiba	TC74HC4520	(3340)		Motorola	MC74HC573	(2941)
	SGS-Thomson	M74HC4049			Motorola	MCM61164		CD74HC4538	Motorola	MC74HC4538			National	MM74HC573	
	Signetics	74HC4049	(3057)		Performance	P4C164			National	MM74HC4538			SGS-Thomson	M74HC573	
	TI	SN74HC4049			SGS-Thomson	M74HC4094			Signetics	74HC4538	(3057)		Signetics	74HC573	(3057)
	Toshiba	TC74HC4049	(3340)		TI	SMJ68CE64		CD74HC4543	Signetics	74HC4538	(3057)	CD74HC574	TI	SN74HC573	
CD74HC4050	Motorola	MC74HC4050	(2939)		Toshiba	TC5585			Toshiba	TC74HC4538A	(3340)		Toshiba	TC74HC573A	(3340)
	National	MC84HC4050				TC5588		CD74HC4543	Cypress	CY7C172	(2580)		Hitachi	HD74HC574	
	SGS-Thomson	MM74HC4050		CD74HC42	VLSI Tech	VT20C98			IDT	IDT71682			Motorola	MC74HC574	(2942)
	Signetics	74HC4050	(3057)		Hitachi	HD74HC42			MicronTech	IDT71782			National	MM74HC574	
	Toshiba	TC74HC4050	(3340)		Motorola	MC74HC42	(2945)		Motorola	MT5C1607			SGS-Thomson	M74HC574	
CD74HC4051	Motorola	MC74HC4051	(2945)		National	MM74HC42			Signetics	MM74HC4543			Signetics	74HC574	(3057)
	National	MM74HC4051			SGS-Thomson	M74HC42		CD74HC423	National	MM74HC4543		CD74HC583	Motorola	MC54HC58	(2938)
	Signetics	74HC4051	(3057)		Signetics	74HC42	(3057)		Performance	P4C1682			National	MM54HC58	
	TI	SN74HC4051			TI	SN74HC42			Saratoga	SSM6172			Signetics	74HC583	(3057)
	Toshiba	TC74HC4051A	(3340)		Toshiba	TC74HC42A	(3340)		SGS-Thomson	M74HC4543		CD74HC597	Hitachi	HD74HC597	
CD74HC4052	Motorola	MC74HC4052	(2945)		Motorola	MC74HC423A		CD74HC51	VLSI Tech	VT20C72	(3343, 3345, 3351)		Motorola	MC74HC597	(2944)
	National	MM74HC4052			SGS-Thomson	M74HC423			Hitachi	HD74HC51			National	MM74HC597	
	Signetics	74HC4052	(3057)		Signetics	74HC423	(3057)		Motorola	MC74HC51	(2938)		SGS-Thomson	M74HC597	
	Toshiba	TC74HC4052A	(3340)		Motorola	MC74HC4316	(2945)		National	MM74HC51			Signetics	74HC597	(3057)
CD74HC4053	Motorola	MC74HC4053	(2945)		National	MM74HC4316		CD74HC4316	Motorola	MC74HC51A	(3340)		TI	SN74HC597	
	National	MM74HC4053			Signetics	74HC4316			SGS-Thomson	MC74HC51			Toshiba	TC74HC597A	(3340)
	Signetics	74HC4053	(3057)		Motorola	MC74HC4351	(2945)	CD74HC4351	Hitachi	HD74HC53		CD74HC640	Hitachi	HD74HC640	
	TI	SN74HC4053			National	MM74HC4351			Motorola	MC74HC53	(2941)		Motorola	MC74HC640	(2940)
	Toshiba	TC74HC4053A	(3340)		Signetics	74HC4351		CD74HC4352	National	MM74HC533			National	MM74HC640	
CD74HC4059	Motorola	MC54HC294			Motorola	MC74HC4353	(2945)		SGS-Thomson	M74HC533			Signetics	74HC640	(3057)
	National	MM54HC294			National	MM74HC4353		CD74HC4353	Signetics	74HC533	(3057)	CD74HC643	TI	SN74HC640	
	Signetics	74HC4059	(3057)		Signetics	74HC4353			TI	SN74HC533			Toshiba	TC74HC640A	(3340)
	Motorola	MC74HC4060	(2943)		Sprague	LM393		CD74HC4510	Toshiba	TC74HC533A	(3340)			TC74HC640A	(3340)
	SGS-Thomson	M74HC4060			Motorola	MC54HC298			Hitachi	HD74HC534			Hitachi	HD74HC643	
	Signetics	74HC4060	(3057)		National	MM54HC298		CD74HC4511	Motorola	MC74HC534	(2942)		Motorola	MC74HC643	
	TI	SN74HC4060			Signetics	74HC4510	(3057)		National	MM74HC534		CD74HC645	National	MM74HC645	
	Toshiba	TC74HC4060A	(3340)		Motorola	MC74HC4511	(2946)		SGS-Thomson	M74HC534			TI	SN74HC645	
CD74HC4066	Motorola	MC74HC4066	(2945)		National	MM74HC4511		CD74HC4514	Hitachi	HD74HC540		CD74HC646	Hitachi	HD74HC646	
	National	MM74HC4066			Signetics	74HC4511	(3057)		Motorola	MC74HC540	(2940)		Motorola	MC74HC646	(2940)
	Signetics	74HC4066	(3057)		TI	SN74HC4511			National	MM74HC540			National	MM74HC646	
	Toshiba	TC74HC4066A	(3340)		Toshiba	TC74HC4511	(3340)	CD74HC4515	Hitachi	HD74HC541			SGS-Thomson	M74HC646	
CD74HC4067	Panasonic	MM74HC4067			Motorola	MC74HC4514			SGS-Thomson	M74HC540		CD74HC648	Hitachi	HD74HC648	
	Signetics	74HC4067			National	MM74HC4514			Signetics	74HC540	(3057)		Motorola	MC74HC648	(2940)
CD74HC4075	Cypress	CY7C167	(2580)		Signetics	74HC4514	(3057)	CD74HC4515	TI	SN74HC540			National	MM74HC648	
	GE/RCA	CDMS167			TI	SN74HC4514			Toshiba	TC74HC540A	(3340)		SGS-Thomson	M74HC648	
	Inmos	IMS1400			Toshiba	TC74HC4514A	(3340)						Signetics	74HC648	(3057)
	Motorola	MC74HC4075	(2937)					CD74HC4516	Hitachi	HD74HC563			TI	SN74HC648	
	National	MM74HC4075							Motorola	MC74HC563		CD74HC651	Hitachi	HD74HC651	
	Panasonic	MM74HC4075							National	MM74HC563			Motorola	MC74HC651	
	SGS-Thomson	M74HC4075							SGS-Thomson	M74HC563			SGS-Thomson	M74HC651	
	Sharp	LH5167							Signetics	74HC563	(3057)		TI	SN74HC651	
	Signetics	74HC4075							TI	SN74HC563			Toshiba	TC74HC651A	(3340)
	STC	STC2167							Toshiba	TC74HC563A	(3340)	CD74HC652	Hitachi	HD74HC652	
	TI	SMJ61CD16											Motorola	MC74HC652	
		SN74HC4075											SGS-Thomson	M74HC652	
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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GE/RCA (Cont'd)				CD74HC93 (Cont'd)				LM339 (Cont'd)				PA52200			
CD74HC652	TI	SN74HC652	(Cont'd)	LM301	National	MM54HC4316	(3057)	LM339	TI	LM339	(2647, 2653)	PA52200	LSI Logic	LL5220	
	Toshiba	TC74HC652A	(3340)		Signetics	74HC93	(3057)	LM358	Toshiba	TA75339	(2647, 2653)	PA53200	Toshiba	TC15G022	
CD74HC670	SGS-Thomson	M74HC670	(3057)		AD	AD301	(2647)		Fujitsu	MB47358	(2647, 2653)	PA54200	Toshiba	TC15G042	
	Signetics	74HC670	(3057)		GE/Intersil	CA301A	(2647)		GE/RCA	CA358A	(2647, 2653)	PA56000	Toshiba	TC15G060	
	TI	SN74HC670	(3340)		LinearTech	LM301	(2952, 2989)		GoldStar	GL358	(2954, 2989)				
CD74HC688	Toshiba	TC74HC688	(2946)		Motorola	LM301A			Hitachi	HA17358					
	Motorola	MC74HC688	(2946)		LM301	LM301A			Motorola	LM358					
	National	MM74HC688			LM301A	LM301			NEC	μPC1251					
	SGS-Thomson	M74HC688			LM301A	LM301			PMI	OP221					
	Signetics	74HC688	(3057)		NEC	μPC301			Sanyo	LA6358					
	TI	SN74HC688	(3340)		PMI	μPC301A			SGS-Thomson	LM358					
	Toshiba	TC74HC688A	(3340)		Raytheon	LM301	(3024)		Signetics	LM358					
CD74HC7030	Motorola	MC54HC589	(2944)		SGS-Thomson	LM301			TI	NE532					
	National	MM54HC589			SiliconG	SG301			LM348	LM358					
	Signetics	74HC7030	(3057)		TI	μA301			Toshiba	TA75358					
CD74HC7038	GE/RCA	CD54HC597	(2641)		LM301	LM301A			Fujitsu	MB3752					
	Motorola	MC54HC597	(2944)		LM301A	LM301			GE/Intersil	MB723					
	National	MM54HC597			AD	AD311	(2470)		GE/RCA	LM723					
	Signetics	74HC7038			GE/RCA	CA311	(2648)		Hitachi	HA17723					
	TI	SN54HC597			LinearTech	LM311			Motorola	MC1723					
CD74HC7046A	GE/RCA	CD54HC4015	(2641)		Motorola	LM2903	(2958, 2989)		National	μA723					
	Signetics	54HC4015			LM311	LM311	(2958, 2989)		Raytheon	μA723M					
CD74HC7266	Motorola	MC74HC7266	(2938)		NEC	μPC311			SGS-Thomson	LM723					
	National	MM74HC7266			PMI	PM211				RC723					
	SGS-Thomson	M74HC7266			Raytheon	LM311			Samsung	LM723	(3039)				
	TI	SN74HC7266			SGS-Thomson	LM2903			Signetics	μA723					
	Toshiba	TC74HC7266A	(3340)		LM311	LM311			SiliconG	SG723					
CD74HC73	Hitachi	HD74HC73	(2941)		SG311	SG311			TI	μA723					
	Motorola	MC74HC73	(2941)		LM2903	LM2903			GE/RCA	CD74HC564	(2641)				
	National	MM74HC73			LM311	LM311			Hitachi	HD74HC564					
	SGS-Thomson	M74HC73			LM311	LM311			Motorola	MC74HC564	(2942)				
	Signetics	74HC73	(3057)		XR3403	XR3403	(2619)		National	MM74HC564					
	TI	SN74HC73	(3340)		Fujitsu	MB3614			SGS-Thomson	M74HC564					
	Toshiba	TC74HC73A	(3340)		GE/RCA	CA224	(2647)		Signetics	74HC564	(3057)				
	Hitachi	HD74HC74	(2941)		CA324	CA324	(2647, 2658)		TI	SN74HC564					
	Motorola	MC74HC74	(2941)		Hitachi	HA17324			Toshiba	TC74HC564A	(3340)				
	National	MM74HC74			Motorola	LM324	(2956, 2989)								
	SGS-Thomson	M74HC74			MC33174	MC33174	(2957, 2990)								
	Signetics	74HC74	(3057)												
	TI	SN74HC74													
	Toshiba	TC74HC74A	(3340)												
CD74HC75	Hitachi	HD74HC75	(2941)												
	Motorola	MC74HC75	(2941)												
	National	MM74HC75													
	SGS-Thomson	M74HC75													
	Signetics	74HC75	(3057)												
	TI	SN74HC75													
	Toshiba	TC74HC75A	(3340)												
	Hitachi	HD74HC76	(2941)												
	Motorola	MC74HC76	(2941)												
	National	MM74HC76													
	SGS-Thomson	M74HC76													
	Signetics	74HC76	(3057)												
	TI	SN74HC76													
	Toshiba	TC74HC76A	(3340)												
CD74HC85	Motorola	MC74HC85	(2946)												
	National	MM74HC85													
	SGS-Thomson	M74HC85													
	Signetics	74HC85	(3057)												
	TI	SN74HC85													
	Toshiba	TC74HC85A	(3340)												
	Hitachi	HD74HC86	(2938)												
	Motorola	MC74HC86	(2938)												
	National	MM74HC86													
	SGS-Thomson	M74HC86													
	Signetics	74HC86	(3057)												
	TI	SN74HC86													
	Toshiba	TC74HC86	(3340)												
CD74HC93	GE/RCA	CD54HC4316	(2945)												
	Motorola	MC54HC4316	(2945)												
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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GoldStar (Cont'd)				GL3301	Hitachi	HA11446		GL4558			(Cont'd)	GL574			(Cont'd)
GLC555			(Cont'd)	GL3320	Atmel	AT27HC64			NEC	μPC1458			AD	AD574	(2460)
	GE/RCA	CA555	(2656)		GoldStar	GM57HC64				μPC4558				574	
	GoldStar	GL555	(2713)		ICT	27CX641	(2875)		PMI	OP14			Burr-Brown	ADC574A	(2557)
	Hitachi	HA17555			Microchip	27HC64	(2907)			OP270			Datel	ADC574A	(2595)
	Mitsubishi	M5E555			NEC	μPC1401C			Raytheon	RC1458			Harris	HI574	(2756)
		M51841			Raytheon	39VP864				RM1558	(3024)		HybridSys	HS574	
		M51848			Sharp	LH5763				RM4558	(3024)			HS574A	
	Motorola	MC1455	(2989)		Toshiba	TA7644BP			Samsung	MC4558	(3039)		Maxim	MAX574	
	National	μA555			Waferscale	WS5C49			SGS-Thomson				MCE	MCE574	
		LM555				WS5C49B	(3390)			LS4558			MicroNet	MN574	
	NEC	μPC1555		GL339	Fujitsu	MB4204				MC4558				MN574A	
		μPC617			GE/RCA	CA339	(2648, 2653)		Signetics	MC1458		GL5750	MicroPwr	MP574	
		μPD555								MC1558		GL5808	TeledyneP	TP574A	
	Raytheon	RC555				CA339A	(2648, 2653)			NE4558		GL5835	Sanyo	LA4550	
		RM555				LM339				SA4558			Sanyo	LA1260	
	Samsung	NE555	(3039)			LM339				SE4558			Sanyo	μPC1215	
	Sanyo	LB8555			Motorola	LM339	(2958, 2989)		TI	MC1458		GL5840	ROHM	BA4110	
	SGS-Thomson									MC1558			Sanyo	LA1140	
		NE555			National	μA339				MC4558C		GL5845	Sanyo	LA1145	
	Signetics	NE555				LM339				RC4558		GL5901	SGS-Thomson		
		SE555			NEC	μPC137				RM4558				TDA1220	
	TI	NE555				μPC177				RV4558				WS5901	
		SE555M				μPC339				TL4558		GL5910	Sanyo	LA2110	
		TLC555	(3325)		PMI	CMPO4				TA75458			Waferscale	WS5910	
		TA7555				PM139				TA75558		GL6801	Hitachi	HD6801	
	Toshiba	LM556				PM339			GL494	National	μA494		SGS-Thomson		
GLC556	National	LM556			Raytheon	LM339	(3025)			NEC	μPC494			EF6801	
	NEC	μPC556			SGS-Thomson					TI	TL494		GL6840	Hitachi	HD6840
	Rockwell	R65C10	(3027)							Toshiba	TA76494			Motorola	MC6840
	TI	NE556				LM339			GL5501	Sanyo	LA3220			National	F6840
	NEC	μPC1378H			TI	LM339			GL5526	Mitsubishi	M5226P			SGS-Thomson	
GL1130	Sanyo	LA7850		GL3401	Toshiba	TA75339				Sanyo	LA3260		GL6981	Ericsson	PE6840
GL1150	Sanyo	LA7851		GL348	Hitachi	HA11423			GL5529	Sanyo	LM5529			PBL3781	
GL1151	Sanyo	LA7851			Exar	XR4751				Motorola	LM5529				
GL1170	National	μA7327			GE/Intersil	LM348			GL555	National	LM5529			LS356	
	Sprague	ULN2270			Motorola	LM348	(2956, 2989)			Exar	XR555	(2619)	GL7101	Lansdale	ML7494
	Telefunken	TDA1170								GE/Intersil	XR555M	(2619)	GL7401	National	DM7401
GL1223	ROHM	BA6137			National	μA348					NE555			7401	
	Sanyo	LA1423B				LM348					SE555			Saratoga	SSL7401
	Toshiba	TA7366P			PMI	OP11				GE/RCA	CA555	(2656)	GL7445	National	SN7401
GL3101A	Hitachi	HA11440A			TI	PM248				Hitachi	GLC555	(2713)		7445	
GL3130	National	μA705		GL358	Fujitsu	MB47358				Mitsubishi	HA17555			SN7445	
		LM1800			GE/RCA	CA358A	(2647, 2653)				M5E555		GL7461	Sanyo	LB1661
	Sanyo	LA705									M51841		GL7488	Toshiba	TA7288
		LA758				LM358	(2647)				M51848		GL7805	IPS	IP7805
	Signetics	μA758			Hitachi	HA17358				Motorola	MC1455	(2989)		Motorola	MC7805
	Sprague	ULN3809			Motorola	LM358	(2954, 2989)			National	μA555			National	μA7805
		ULN3812									LM555				LM340-5
	TI	SN76111			National	LM358				NEC	μPC1555			LM7805	
		SN76116				LM358A					μPC617			μPC7805	
GL3165	Mitsubishi	M51365SP			NEC	μPC1251				Raytheon	μPD555			Samsung	MC7805
GL317	IPS	IP317				μPC358					RC555			SGS-Thomson	
	Lambda	LLM317			PMI	OP221				Samsung	NE555	(3039)			μA7805
	LinearTech	LM317			Sanyo	LA6358				Sanyo	LB8555			L7805	
	MCE	MCELM317			SGS-Thomson					SGS-Thomson			SiliconG	SG7805	
	Motorola	LM317	(2962, 2989)			LM358					NE555			SG7805A	
		μA317			Signetics	LM358					NE555			μA7805	
	National	LM317				NE532				Signetics	NE555			TA78005	
		μPC317			TI	LM348					SE555			TA79005	
	SGS-Thomson					LM358				TI	NE555			UC7805	
		LM317				TA75358					SE555		GL7806	Motorola	MC7806
		TDB0117			Toshiba	LA7911					SE555M	(3325)		National	μA7806
	SiliconG	SG317		GL3711	Sanyo	μPC139362				Toshiba	TLC555				LM7806
	TI	LM317		GL3813	NEC	LA7016			GL5560	Cherry Semi	CS5560N			NEC	μPC7806
	Unitrode	UC317		GL3816	Sanyo	LA71393				IPS	CS5560S			Samsung	MC7806
GL3201	GE/RCA	CA3065	(2658)	GL393	Hitachi	HA17393				IPS560				SGS-Thomson	
	Hitachi	HA1125			Motorola	LM393	(2958, 2989)			IPS560C				μA7806	
	Motorola	LSC1008				LM393				IPS566C				L7806	
	National	LM3064			National	μPC393				NE5560	(3183)		SiliconG	SG340-6	
	NEC	μPC1382			NEC	μPC393C			GL5561	Cherry Semi	CS5561N			SG7806	
	TI	SN76666				LA6393					CS5561S			SG7806A	
GL324	Hitachi	HA17902			Sanyo	SGS-Thomson				IPS	IP5561			μA7806	
	Motorola	LM2902	(2956, 2989)			LM393				IP5561C			GL7808	Toshiba	TA78006
			(2989)		Signetics	LM393				Signetics	NE5561	(3184)		Hitachi	HA17808
		MC33174	(2990)		Sprague	LM393					SE5561			Motorola	MC08
					TI	LM393					TC5561				MC7808
	National	μA2902			Toshiba	TA75393				Toshiba	TMM5561			National	LM7808
		μA324			Exar	XR1458									μA7808
		LM2902				XR4558	(2619)		GL567	Exar	XR1567	(2619)		NEC	μPC7808
		LM324			GE/RCA	CA1558	(2647)				XR2567	(2619)		Samsung	MC7808
	NEC	μPC324				HA17458				MCE	XR567	(2619)		SGS-Thomson	
		μPC451				HA17558					MCE567				μA7808
	PMI	OP400			Motorola	MC1558	(2955)			National	LM567			L7808	
		OP421				MC4558	(2955, 2990)			Samsung	LM567	(3040)		SG340-8	
	Raytheon	LM2902									LM567L	(3040)		SG7808	
	SGS-Thomson									Signetics	NE567			SG7808A	
		LM2902				SE4558					SE567			TI	μA7808
	TI	LM2902			National	μA1458			GL5676	Sanyo	LA3376			Toshiba	TA78008
		LM324				μA4558			GL574	Adv Analog	ADC574	(2401)		Hitachi	HA17809
	Toshiba	TA75902				LM1458					ADC574A	(2401)		Motorola	MC7809
			(Continued)			LM1558									(Continued)

♦ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GoldStar (Cont'd)				(Cont'd)				GM6376				GM76C164			
GL7809	National	μA7809 LM7809 μPC7809	(Cont'd)	GL7912	TI	μA79M12M μA7912 TA78024 TA79012	(Cont'd)	GM6376	ICT MMI	PEEL18CV8 (4257) PALC16R8Q-25 PAL16R8D-4	(3031)	GM76C164	Motorola National NEC S-MOS SGS-Thomson	MCM1423 F1620 μPD4314 SRM2274	(Cont'd)
GL7812	TI Toshiba IPS	μA7809 TA78009 IP140-12 IP340-12 IP7812 IP7812AC LM340-12 (2960) MC7812 (2960)		GL7915	IPS	IP320-15 IP7915		GM6376	Samsung	CPL16R8L-25 (3031)		GM76C164	SGS-Thomson	MK41H68 STC2168 SMJ64C16 TMM2068 V61C62	
	Motorola	LM340-12 (2960) MC7812 (2960)			Motorola	MC7915 (2961)		GM6845S	Hitachi	MK5376 HD6845S		GM76C256	STC	MK41H68	
	National	μA7812 LM340-12 LM7812			National	μA7915 LM320-15 LM320T15 LM7915		GM7C1024	Dense-Pac	DPD411M (2608)			TI	SMJ64C16	
	NEC	μPC7812			NEC	μPC7915			Fujitsu	MB81C1000 TH22568			Toshiba	TMM2068	
	Samsung	MC7812			Samsung	MC7915			Hitachi	HB561003 HM511000 HM51101			VLSI Tech	V720C19 (3349) V720C69 (3343, 3345, 3350)	
	SGS-Thomson	μA7812 L7812			SGS-Thomson	μA7915 L7915			Hyundai	HY51C1000 (2778) HY51C1002 (2778)			Cypress	PALC46R6	
	SiliconG	SG340-12 SG7812 SG7812A SG7812AT			SiliconG	SG320-15 SG7915 SG7915A			MicronTech	MT1259		GM76C28	MMI	PAL16R6Q-25	
	TI	μA7812			TI	μA7915			Mitsubishi	MT4C1024 MH25608 MH25609			Samsung	CPL16R6L-35 (3031)	
	Toshiba	TA78012			Toshiba	TA79015				MT4C1024 MH25608 MH25609			GE/Intersil	CY7C128 (2580) IH6116 (2670)	
	Unitrode	UC340-12 UC7812			Unitrode	UC320-15 UC7915				M5M4C1000 M5M41000S M5M410000			GE/RCA	CDM6116 (2644, 2653) CDM6116A (2644, 2653)	
GL7815	IPS	IP140-15 IP340-15 IP7815 IP7815AC LAS1515		GL7924	Hitachi	HD74LS195A MC719924			Motorola	MCM511000 μPD421000			Harris	HM6516 (2747) HM65162 (2747)	
	Lambda	LAS1515			Motorola	MC7924 (2961) SN74LS195A (2944)			NEC	μPD421000 MC421000			Hitachi	HM6116 HM6716 HM6719	
	Motorola	LM340-15 (2960) MC7815 (2961)			National	μA7924 DM74LS195 LM7924			OKI	MSM41000 MN411000			Hyundai	HY61C16A HY6116A (2778)	
	National	μA7815 LM340-15 LM7815			NEC	μPC7924 DN74LS195A			Panasonic	MSM41000 MN411000			Inmos	IMS1433	
	NEC	μPC7815			SGS-Thomson	L7924 T74LS195A			Samsung	KM41C1000 (3036) KM41256A (3036)			IDT	IDT6116 (2835) IDT6116A (2835) IDT6116L (2835) IDT6116S (2835)	
	Samsung	MC7815			Signetics	74LS195A (3057)			Siemens	HYB511000 TMS4C1024 (3326)			Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116-200 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	
	SGS-Thomson	μA7815 L7815			TI	μA7924 SN74LS195A			Ti	TMX4C1025 TMX4C1026 TMX4C1029 TM4256FC1 TM5256 TX4C1024			Krueger	2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116-200 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	
	SiliconG	SG340-15 SG7815 SG7815A		GL8121	Toshiba	TA79024 DM74251 DM8121			Toshiba	TC511000 TC511000C TC511001C TMM411001C					
	TI	μA7815 LM340-15		GM231024	TI	SN74251			Harris	HA5104 IMS2600					
	Toshiba	TA78015			AMD	AMPAL16R4			Inmos	IMS2600					
	Unitrode	UC340-15 UC7815			Cypress	CYPALC16R4 CYPAL16R4			IDT	IDT7164 (2848) M2164A					
GL7824	AD	AD7824 (2414, 2416, 2462) MC7824 (2961)			Harris	HPL16R4			Intel	M2164A					
	Maxim	AD7824			ICT	PEEL18CV8 (4257)			Krueger	4164-120 (2877) 4164-150 (2877) 4164-200 (2877)					
	Motorola	MC7824			MMI	PALC16R4Q-25 PAL16R4 PAL16R4D-4 PAL16R4									
	National	μA7824 LM7824			National	CPL16R4L-25 (3031)									
	NEC	μPC7824		GM3043	Toshiba	TC53100									
	Samsung	MC7824		GM57HC64	NEC	μPD1943									
	SGS-Thomson	μA7824 L7824			Atmel	AT27HC64									
	SiliconG	SG7824 SG7824A			GoldStar	GL3320 (2711) 27CX641 (2875) 27HC64 (2907)									
	TI	μA7824 LM340-24			NEC	μPC1401C									
GL7909	Toshiba	TA78024			Raytheon	39VP864									
	National	μA7909 LM7909			Sharp	LH5763									
	NEC	μPC7909			Toshiba	TA7644BP									
	SGS-Thomson	L7909			Waferscale	WS5C49 WS5C49B WS57C64 (3390)									
	TI	μA7909		GM62093	Mitel	MT8812									
	Toshiba	TA79009			SGS-Thomson	M093									
GL7912	IPS	IP320-12 IP7912		GM6370	AMD	M2064-70 M2064-70									
	Motorola	MC7912 (2960)			MMI	M2064-70									
	National	μA79M12 μA79M12M μA7912 LM320MP12 LM79M12 LM7912		GM6371	Xilinx	XC2064-70 (4326)									
	NEC	μPC7912			MMI	M2018-33									
	Samsung	MC7912			SGS-Thomson	MK5371 XC2018-33									
	SGS-Thomson	μA7912 L7912			Xicor	XC2018-33 M2018-50 XC2018-50 M2018-70									
	SiliconG	SG320P-12 SG7912 SG7912A			MMI	M2018-50 XC2018-50 M2018-70									
					SGS-Thomson	MK5373 XC2018-70									
					ICT	PEEL18CV8 (4257)									
					MMI	PALC16L8Q-25 PAL16L8D-4									
					Samsung	CPL16L8L-25 (3031)									
					SGS-Thomson	MK5375									

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
GoldStar (Cont'd)				GM76C88	OKI	(Cont'd)		μA7805	TI	μA7805 TA78005 TA79005		μA7912	GoldStar	GL7912 (2714)	
GM76C28		(Cont'd)			Performance	MSM5165 MSM5188		μA7805	Toshiba	UC7805		μA7912	Motorola	MC7912 (2960)	
	UMC	UM6116			S-MOS	P4C164 P4C188 SRM2064 SRM2264		μA7806	Unitrode	GL7806 (2714)			National	μA79M12M	
	Vitelc	V61C16 V62C16							GoldStar	MC7806 (2960)				μA79M12M	
	VLSI Tech	VT20C18	(3343, 3345, 3349)		Samsung	KM6264 (3036) KM6264A (3036)		μA7806	National	μA7806 LM7806 μPC7806		μA7912	NEC	μA7912	
GM76C422	AMD	AM93422			Sharp	LH5164 LH5165		μA7806	NEC	μPC7806		μA7912	Samsung	μA7912	
	Cypress	CY7C122	(2580)		Sony	CVK5864 CXK5164P CXK5863P CXK5865 CXK5865P		μA7806	Samsung	MC7806		μA7912	SGS-Thomson	MC7912	
	Performance	P4C422						μA7806	SGS-Thomson	μA7806 L7806 SG340-6 SG7806 SG7806A		μA7912	SGS-Thomson	μA7912	
	VLSI Tech	P93U422	(3343, 3345, 3347)		STC	STC6264		μA7806	SiliconG	SG340-6 SG7806 SG7806A		μA7912	SiliconG	SG320P-12 SG7912 SG7912A	
GM76C64	Cypress	CY7C187	(2580)		TI	SMJ68CE64		μA7808	TI	μA7806 TA78006		μA7912	TI	μA79M12M	
	Fujitsu	MB81C71A MB81C87			Toshiba	TC5565 TC5565A TC5585 TC5588		μA7808	GoldStar	GL7808 (2714)		μA7912	Toshiba	μA7912	
	Hitachi	HM6287 HM6787				TMM2063 TMM2064 TMM2088		μA7808	Hitachi	HA17808 MC08		μA7915	GoldStar	GL7915 (2714)	
	Hyundai	HY62C87				Vitelc		μA7808	Motorola	LM7808 μPC7808 MC7808		μA7915	Motorola	MC7915 (2961)	
	Inmos	IMS1600	(2792)					μA7808	National	μA7808 LM7808		μA7915	National	μA7915	
	IDT	IDT7187	(2850)			VLSI Tech		μA7808	SGS-Thomson	L7808 SG340-8 SG7808 SG7808A		μA7915	NEC	μA7915	
		IDT7187L	(2850)					μA7808	TI	μA7808 TA78008		μA7915	SGS-Thomson	μA7915	
	MicronTech	MT5C6401			NEC	MK3880		μA7809	GoldStar	GL7809 (2714)		μA7915	SiliconG	SG320-15 SG7915 SG7915A	
	Mitsubishi	M5M5187 M5M5187AP M5M5187P			SGS-Thomson	Z80ACPU Z80ACTC Z84C00 Z8400		μA7809	Hitachi	HA17809 MC7809 μA7809 LM7809 μPC7809		μA7915	TI	μA7915	
	Motorola	MCM6287			Sharp	LH0080		μA7815	Motorola	MC7809 μA7809 TA78009		μA7924	Toshiba	TA79015 UC320-15 UC7915	
	National	F1600 F1602			Toshiba	TMP284C00 (3339)		μA7815	National	IP140-15 IP340-15 IP7815 IP7815AC		μA7924	GoldStar	GL7924	
	NEC	μPD4361			Zilog	Z84C00		μA7815	Lambda	LAS1515		μA7924	Hitachi	HD74LS195A MC719924 MC7924 (2961)	
	OKI	MSM5187				Z8420		μA7815	Motorola	LM340-15 (2960) MC7815 (2961)		μA7924	Motorola	SN74LS195A (2944)	
	Performance	P4C187				Z80ACTC Z80CTC Z8430		μA7815	National	μA7815 LM340-15 LM7815		μA7924	National	μA7924	
	S-MOS	SRM2261			Sharp	LH0082		μA7815	NEC	μPC7815		μA7924	NEC	μA7924	
	Saratoga	SSM7187			Zilog	Z80-CTC Z8430		μA7815	Samsung	MC7815		μA7924	Panasonic	μA7924	
	SGS-Thomson	MK41H87 LH5261				MK3886		μA7815	SGS-Thomson	μA7815 L7815		μA7924	SGS-Thomson	L7924 T74LS195A 74LS195A (3057) SN74LS195A TA79024	
	Sharp	74HC4515	(3057)			Z80ASIO Z80SIO Z8440		μA7815	SiliconG	SG340-15 SG7815 SG7815A		μA7924	TI	TA79024	
	Signetics	74HC4515	(3057)			Z8441 Z8442		μA7815	TI	μA7815		μA7924	SGS-Thomson	GA1000D	
	TI	SMJ61C064				LH0084 LH0085 LH0086		μA7815	Toshiba	TA78015 UC340-15 UC7815		μA7924	SGS-Thomson	GA2000D	
	Toshiba	TC5562				Z80-SIO Z8440 Z8441 Z8442		μA7824	Unitrode	AD7824 (2414, 2416, 2462) AD7824 (2714)		μA7924	SGS-Thomson	GA3000D	
GM76C88	Cypress	CY7C185	(2580)			Z80ADART Z80DART Z8470		μA7824	AD	AD7824 (2414, 2416, 2462) AD7824 (2714)		μA7924	SGS-Thomson	GA4000D	
		CY7C186	(2580)			Z8470		μA7824	GoldStar	GL7824		μA7924	SGS-Thomson	GA4000D	
	Dense-Pac	DPS88H08				Z8470		μA7824	Maxim	AD7824		μA7924	SGS-Thomson	GA4000D	
	Exar	XR8464	(2620)			Z8470		μA7824	Motorola	MC7824		μA7924	SGS-Thomson	GA4000D	
	Fujitsu	MB8B464 MB81C78A MB8464 MB8464A MB8464A				Z8470		μA7824	National	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		CDM6264	(2644, 2653)			Z8470		μA7824	NEC	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	GE/RCA	HM65642	(2747)			Z8470		μA7824	Samsung	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	Harris	HM6264				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	Hitachi	HM6464 MB6264				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		HY6264	(2778)			Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	Hyundai	IMS1630	(2796)			Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	Inmos	IDT7165				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	IDT	6264-100	(2877)			Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	Krueger	6264-120	(2877)			Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		6264-150	(2877)			Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		6264LP-100	(2877)			Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		6264LP-120	(2877)			Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		6264LP-150	(2877)			Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	Matra-Harris	HM2064				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		HM56162				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		HM62641				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		HM65641				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		HN65641				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	MicroLinear	ML8464				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	MicronTech	MT5C6404				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	Mitsubishi	AM99C88				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		M5M165				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		M5M5164				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		M5M5165				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		M5M5178				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	Mosel	MS6264				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	Motorola	MCM6064				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		MCM61164				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		MCM6164				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		MCM6164C				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		MCM6264				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	National	DP8464				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		NMC6164				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	NEC	μPD4364				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
	OKI	MSM5164				Z8470		μA7824	SGS-Thomson	LM7824 μPC7824 MC7824		μA7924	SGS-Thomson	GA4000D	
		(Continued)				(Continued)				(Continued)				(Continued)	

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Gould/AMI (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
• S2114	Krueger	2114-200 2114-450 (2877)	(2877)	• S35212	Sierra	SC11000 SC11005	(2877)	• S6514	Harris	HA5114 HM6514 IMS1223 (2748) (2789)	(2748)	S6551	Commodore	MPS6551 MP6551 HM6551 (2749)	(2749)
• S2114	Mitsubishi Motorola	M5L2114 MCM2114 MCM2114 M5L2114	(2877)	S35212A	EG&G-Reticon	RM5632A R5632 XR2126 XR2127 (2618)	(2618)	• S6514	Inmos	5114 Matra-Harris HM6514 M58981 OKI MSM5114 Mitsubishi LC3514 Sanyo 5114 Signetics UMC UM6104 Cyress CY6116 CY7C128 (2580)	(2580)	• S68A332	Commodore	MPS2332 P51C69 Hitachi P51C69 UM2168 51C69 R09432 M58333 National F3532 NM52132 NCR2332 Panasonic MN2332 Sharp LH2332 Siemens SAB8332 SAB8332 2332	(3028)
• S2114	National	F2114 NMC2114A		S35213	Mitel	MT35213		• S6516	GE/Intersil	IH6116 CDM6116 (2644, 2653)	(2644, 2653)	• S68A332	Microchip	SG3532 CM3200 23SC32 D51C69 P51C69	
• S2114	OKI	MSM2114		S3525A	SiliconSys	SS3525		• S6516	GE/RCA	CDM6116 (2644, 2653)	(2644, 2653)	• S68A332	Ti	TI	
• S2114	Rockwell	R6514		S3525B	Gould/AMI	S3525A		• S6516	GoldStar	GM76C28 (2696, 2700)	(2696, 2700)	• S68A332	Toshiba	VT2332	
• S2114	Sharp	LH2114		S3530	SiliconSys	SS3530		• S6516	Harris	HM6516 HM65162 (2747)	(2747)	• S68A332	VLSI Tech	VT2332	
• S2114	Toshiba	TMM2114A		S4520	Motorola	MC14520 (2638) (2942)	(2638) (2942)	• S6516	Hitachi	HM6116 HM6716 HM6719 HY61C16A (2778)	(2778)	• S68A332	Gould/AMI	S2364	
• S2114	UMC	UM6114		S4521	National	F4521		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	OKI	MSM3864	
S23128	AMD	AM9128			SGS-Thomson	HCC/HCF4520		• S6516	Krueger	2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Plessey	SL2364C	
	Microchip	R09128			Signetics	HEF4520		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	S-MOS	SMM2364	
	Mitsubishi	M5M23128			Solitron	CM4520		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Sharp	LH2364A	
	NCR	NCR23128			Toshiba	TC4520B (3341) TC4521B (2638) MC14521 (2946)	(3341) (2638) (2946)	• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Signetics	2364	
	Signetics	CM1310			TI	TL4810		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	VLSI Tech	VT2364	
	UMC	UM23128			SGS-Thomson	HCC/HCF4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Weitek	SC8164	
	VLSI Tech	VT23128			Signetics	HEF4521		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	GoldStar	GL6801 (2713)	
		VT23129			Solitron	CM4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Hitachi	HD6801	
		VT23129A			Toshiba	TC4521B (3341) TC4521B (2638) MC14521 (2946)	(3341) (2638) (2946)	• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	SGS-Thomson	EF6801	
		VT23130			TI	TL4810		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Hitachi	HD6802	
		VT23131			SGS-Thomson	HCC/HCF4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Motorola	MC6802 (2931)	
		VT23138			Signetics	HEF4521		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	National	F6802	
S23256	Dense-Pac	DPS92256 (2609)	(2609)		Solitron	CM4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	SGS-Thomson	EF6802	
	Mitsubishi	M5M23256			Toshiba	TC4521B (3341) TC4521B (2638) MC14521 (2946)	(3341) (2638) (2946)	• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Hitachi	HD6802	
	NCR	NCR23256			TI	TL4810		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Motorola	MC6802 (2931)	
	OKI	MSM38256			SGS-Thomson	HCC/HCF4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	National	F6802	
	Panasonic	MN23256			Signetics	HEF4521		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	SGS-Thomson	EF6802	
	S-MOS	SMM23256			Solitron	CM4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Hitachi	HD6802	
	Signetics	SMM6325			Toshiba	TC4521B (3341) TC4521B (2638) MC14521 (2946)	(3341) (2638) (2946)	• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Motorola	MC6802 (2931)	
	Toshiba	TC5256			TI	TL4810		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	National	F6802	
	VLSI Tech	VT23256			SGS-Thomson	HCC/HCF4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	SGS-Thomson	EF6802	
• S2333	Commodore	MPS2333			Signetics	HEF4521		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Hitachi	HD6802	
	Microchip	R09433			Solitron	CM4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Motorola	MC6802 (2931)	
	National	F3533			Toshiba	TC4521B (3341) TC4521B (2638) MC14521 (2946)	(3341) (2638) (2946)	• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	National	F6802	
	Supertex	23C32			TI	TL4810		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	SGS-Thomson	EF6802	
	UMC	UM2333			SGS-Thomson	HCC/HCF4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Hitachi	HD6802	
S2364	NCR	NCR2364			Signetics	HEF4521		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Motorola	MC6802 (2931)	
	OKI	MSM3864			Solitron	CM4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	National	F6802	
	Plessey	SL2364C			Toshiba	TC4521B (3341) TC4521B (2638) MC14521 (2946)	(3341) (2638) (2946)	• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	SGS-Thomson	EF6802	
	S-MOS	SMM2364			TI	TL4810		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Hitachi	HD6802	
	Sharp	LH2364A			SGS-Thomson	HCC/HCF4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	Motorola	MC6802 (2931)	
	Signetics	2364			Signetics	HEF4521		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	National	F6802	
	TI	TMS2364			Solitron	CM4045		• S6516	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)	(2877)	• S68A332	SGS-Thomson	EF6802	
	VLSI Tech	VT2364			Toshiba	TC4521B (3341)									

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Harris Semiconductor (Cont'd)				HA5033	MicroPwr	MP0033C MP2004 LH0033 AH001 LH0033 TP1359 AM2101 AM91101 AM9101 ADC5101 Intel 5101 MicroNet MN5101 Mitsubishi M5L5101 Motorola MCMS1L01 MCM145101 MM74C920 National MNS101 Panasonic LH5101 Sharp MB3607 GE/RCA CA1458 Harris HA21458 MicroPwr MPOP14 Motorola MC1458 National μA1458HC LF412 NEC μPC1458 μPC251 OP14 OP215 OP27Q RC2041 Raytheon Samsung SGS-Thomson μA1458 MC1458 NE5512 SA1458 SE5512 LF412 TA75458 TA75558 IMS2600 IDT IDT7164 Intel M2164A Krueger 4164-120 4164-150 4164-200 MicronTech MT4264 Motorola MCM4164 MCM4164C MCM6665 National F4164 F64K NMC4164 MSM3764 MN4164 MN4864 Samsung KM4164A KM4164B Saratoga SSM7164 SGS-Thomson MKB4564 MK45H64 TS4164 Siemens HYB4164 TI SMJ4164 SM4164 TMS4164 TMM4164 TMM4164A Vitelc V51C64 Harris MA2650 Raytheon RC4157 AMD AM9124 CMD Micro G2114 Cypress CY7C148 Harris HM6514 Inmos IMS1223 Intel 5114 Matra-Harris HM6514 Mitsubishi M58981 OKI MSM5114 Sanyo LC3514 Signetics 5114 UMC UM6104 OKI MSM5127 AD AD517 OP07	(Cont'd)	(2595)	(2647)	(2954, 2989)	(3039)	(2877)	(2877)	(2877)	(3036)	(3036)	(3286)	(3025)	(2429, 2461)	(2542, 2544)	(2429, 2461)	(2429)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 2461)	(2429, 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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Harris Semiconductor (Cont'd)				HM65642		(Cont'd)		HM76161	National	(Cont'd)		HM76641	National	(Cont'd)	
HM65262		(Cont'd)		Samsung KM6264 (3036)				DM87S291						932565	
Fujitsu	MB8167A			KM6264A (3036)				DM87S291A					Raytheon	932665	
GE/RCA	CDM5167			Sharp	LH5164			DM87S291B					Signetics	29VP864	
Hitachi	HM6267			Sony	LH5165			932510					Waferscale	N82S641	
Inmos	IMS1400				CKX5864			932511						WS5C49	
	IMS1403 (2790)				CKX5164P			932512				HM76641A	AMD	WS5C49B	
IDT	IDT6167				CKX5863P			932511						AM27S49	
Intel	51C67				CKX5865			N82S191	Signetics				Cypress CY7C264 (2585)	27S49	
Matra-Harris	HM65262			STC	CKX5865P			N82S191A					Fujitsu	MB7143	
	HM65263			TI	STC6264			82S191						MB7144	
MicronTech	MT5C1601			Toshiba	SMJ68CE64			TBP38L166	TI				Harris	HM76641	
Mitsubishi	M5M21C67				TC5565			TMS27C291					ICT	27C641 (2875)	
	M5M2167				TC5565A								National	322565	
NEC	μPD4311				TC5585									932565	
S-MOS	SRM2267				TC5588									932665	
	SRM2367				TMM2063									29VP864	
SGS-Thomson					TMM2064								Signetics	N82S641	
	MK41H66				TMM2088								Waferscale	WS5C49	
	MK41H67				V61C62									WS5C49B	
Sharp	LH5167				V61C64									AM27S180	
STC	STC2167				V62C64							HM7680	AMD	DM87S180	
	STC6167				V65C64								National	DM87S229	
TI	SMJ61CD16			VLSI Tech	VT20C98									DM87S2181	
UMC	UM6167				VT20C99									AM27S181	
Commodore	MPS6551			HM6617	Cypress CY7C291 (2585)			Maxim	ICL7621			HM7681-2	Cypress CY7C282M (2585)	S25089	
	MP6551			EXEL	XL46C16			MicroPwr	MP7621				Gould/AMI	HN25089	
Gould/AMI	S6551			GE/Intersil	IM6716			National	63S241				Hitachi	63S881	
Panasonic	AN6551			National	DM77S291				DM74S571				National	DM77LS181	
Rockwell R6551 (3028)					DM77S291A				DM74S571A					DM77S181	
Unicorn	UC6551				932511M				N82S131					DM77S281	
UMC	UM6551				29681				S82S131					DM87S181	
VLSI Tech	VL6551				29681A				AM27PS43					DM87S281	
Matra-Harris	HM6561				29683				AM27S43A					932451	
Matra-Harris	HM6564				29683A				27S43					932451	
Cypress CY7C185 (2580)					Waferscale W657C191 (3390)			HM76321	Fujitsu	MB7142		HM7681-2	Raytheon	29631	
CY7C186 (2580)				HM6642	WS57C291 (3390)				ICT 27C321 (2875)					29631AM	
Dense-Pac	DPS88H08				AM27S31				53S3281					29632	
Exar XR8464 (2620)					GE/Intersil ICL7641 (2673, 2675)			HM76321	National	DM77S321		HM7681-2	Signetics	N82S181	
Fujitsu	MB8B464				Maxim	ICL7641			DM87S321					S82S181	
	MB81C78A				MMI	63S485			R29671D				HM7681-2	TI	28586-60
	MB8464				National	DM74S474			29671				HM7685	AMD	AM27S185
	MB8464A				Signetics	N82S141			29671A					27S185	
GE/RCA CDM6264 (2644, 2653)				HM7602	AMD	AM27S18			N82H321			HM7685	Fujitsu	MB7128	
GoldStar GM76C88 (2696, 2703)					Fujitsu	MB7111			WS57C43 (3390)				Hitachi	HN25085	
Hitachi	HM6264				National	DM74S188			WS57C43B (3390)				MMI	63S841	
	HM6464			HM7603	AMD	AM27LS19			WS57C43D (3390)				National	DM87S185	
	MB6264				AM27S19				AM27S30				Raytheon	29651	
	MB6264				27S19			HM7640	AMD	DM74S475				29651A	
Hyundai HY6264 (2778)					MB7112				National	DM77S475		HM7685	Signetics	N82S185	
Inmos	IMS1630				MMI	53S081				DM87S475				S82S185	
IDT	IDT7165				63S081				AMD	AM27S31		HM7685	TI	24S81-55	
Krueger 6264-100 (2877)				HM7603	Motorola	MCM27S19			GE/Intersil ICL7641 (2673, 2675)			HM7685-2	National	DM77S185	
6264-120 (2877)					National	DM74S288			Harris HM6642 (2673, 2675)				Raytheon	29651AM	
6264-150 (2877)					Signetics	DM8578			Maxim	ICL7641		HM8808	Dense-Pac DPS8808 (2607)		
6264LP-100 (2877)						N82S123			MMI	63S485			EDI	EDH8808	
						N82US123			National	DM74S474			GE/RCA	CA8808	
						S82S123			Signetics	N82S141			Harris HM8808A (2750)		
						82S123				S82S141			National	DS8808	
						MB7113			HM7642-2	GE/Intersil ICL7642 (2673, 2675)		HM8808A	Dense-Pac DPS8808 (2607)		
						DM74S387							DPS9264 (2609)		
						AM27S20									
						MMI									
						63S140									
						DM54S387									
						N82S126									
						S82S126									
						AM27S21									
						27S21									
						MB7114									
						63S141									
						63S141A									
						DM74S287									
						N82S129A									
						S82S129									
						S82S129									
						53S141									
						DM54S287									
						AM27S191									
						AM27S191SA									
						27S191									
						Cypress CY7C291 (2585)									
						CY7C292 (2585)									
						CY7C292A (2585)									
						CY7C292AL (2585)									
						HN25169									
						82S191									
						53S1681									
						MCM76101									
						MCM76160									
						DM77S191									
						DM87S191									
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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted

ALT SOURCE DIRECTORY

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				• HD14008	SGS-Thomson	HCC/HCF4008		• HD14016	Signetics	HEF4016		• HD14028	OKI	MSM4028	
HB561003	TI	(Cont'd)			Signetics	HEF4008		• HD14016	Solitron	CM4016			Sanyo	LC4028	
		TMX4C1026		• HD14009	Toshiba	TC4008B (3341)		• HD14016	Toshiba	TC4016B (3341)		• HD14032	SGS-Thomson	HCC/HCF4028	
		TMX4C1029			GE/RCA	CD4009 (2637)		• HD14016	Unirode	PIC7516			Signetics	HEF4028	
		TM4256FC1			Motorola	MC14009		• HD14018	GE/RCA	CD4018 (2638)			Solitron	CM4028	
		TM5256			National	CD4009		• HD14018	Motorola	MC14018 (2943)			Toshiba	TC4028B (3341)	
	Toshiba	TC4C1024			SGS-Thomson	HCC/HCF4009			National	F4018			GE/RCA	CD4032 (2639)	
		TC511000		• HD14010	Solitron	CM4009		• HD14018	SGS-Thomson	HCC/HCF4018		• HD14034	SGS-Thomson	HCC/HCF4032	
		TC511000C			Toshiba	TC4009UB (3341)			Signetics	HEF4018			Solitron	CM4032	
		TMM411001C			GE/RCA	CD4010 (2637)		• HD14018	Solitron	CM4018			Toshiba	TC4032B (3341)	
• HB561004A	Dense-Pac	DPD44256			Motorola	MC14010			Motorola	MC14018		• HD14034	GE/RCA	CD4034 (2638)	
HB561005A	Dense-Pac	DPD4256			National	CD4010			National	F4034			Motorola	MC14034 (2943)	
	NEC	MC41256A5			SGS-Thomson	HCC/HCF4010			Signetics	HEF4020		• HD14035	SGS-Thomson	HCC/HCF4034	
	TI	TM4256E05			Solitron	CM4010		• HD14020	Toshiba	TC4020B (3341)			Solitron	CM4034	
HB561008B	Dense-Pac	DPD42568		• HD14011	Toshiba	TC4010B (3341)		• HD14020	GE/RCA	CD4020 (2638)		• HD14035	Toshiba	TC4034B (3341)	
	Mitsubishi	MH25608A			GE/RCA	CD4011 (2637)			Motorola	MC14020 (2943)			GE/RCA	CD4035 (2638)	
	NEC	MC41256A8		• HD14011	Motorola	MC14011 (2937)		• HD14020	National	CD4020			Motorola	MC14035 (2944)	
	OKI	MSC2304KS8			Motorola	MC14011UB (2937)			SGS-Thomson	HCC/HCF4020			National	CD4035B	
	TI	TM4256FL8		• HD14011	National	CD4011			Signetics	HEF4020		• HD14035	SGS-Thomson	F4035	
		TM4256GU8				CD4011UB		• HD14021	Solitron	CM4020			HCC/HCF4035		
• HB561009	Dense-Pac	DPD42569		• HD14011	OKI	F4011			Toshiba	TC4020B (3341)			Signetics	HEF4035	
	MicronTech	MT9259			Sanyo	MM74C00		• HD14021	GE/RCA	CD4021 (2638)			Solitron	CM4035	
	Mitsubishi	MH25609A			SGS-Thomson	MSM4011			Motorola	MC14021 (2943)		• HD14038	Toshiba	TC4035B	
	NEC	MC41256A9				LC4011			National	CD4021			GE/RCA	CD4038 (2639)	
	OKI	MSC2304KS9		• HD14012	HCC/HCF4011			• HD14021	SGS-Thomson	F4021			Motorola	MC14038 (2947)	
• HB561009	TI	TM4256EL9			Signetics	HEF4011			Signetics	HCC/HCF4021			SGS-Thomson	HCC/HCF4038	
• HD100124	National	F100124	(3074)		Solitron	CM4011		• HD14022	Toshiba	TC4021B (3341)		• HD14040	Solitron	CM4038	
• HD100180	Cypress	CY7C510	(2590)	• HD14012	Toshiba	TC4011B (3341)		• HD14022	GE/RCA	CD4022 (2638)			Toshiba	TC4038B (3341)	
	LSI Logic	L64010	(2888)		GE/RCA	CD4011UB (3341)			Motorola	MC14022 (2943)		• HD14040	GE/RCA	CD4040 (2638)	
	National	F100180			Motorola	MC14012 (2937)		• HD14022	National	CD4022			Motorola	MC14040 (2943)	
	Signetics	100180	(3074)	• HD14012	National	CD4012			SGS-Thomson	F4022			National	CD4040	
	Waferscale	WS59510				F4012		• HD14022	Signetics	HCC/HCF4022		• HD14040	SGS-Thomson	HCC/HCF4040	
• HD14001	Fujitsu	MB4001		• HD14012	SGS-Thomson	HCC/HCF4012			Signetics	HEF4022			Signetics	HEF4040	
• HD14001	GE/RCA	CD4001 (2637)			Signetics	HEF4012		• HD14023	Solitron	CM4022		• HD14042	Solitron	CM4040	
	Motorola	CD4001UB (2637)			Solitron	CM4012			Toshiba	TC4022B (3341)			Toshiba	TC4040B (3341)	
		MC14001 (2938)		• HD14013	Toshiba	TC4012B (3341)		• HD14023	GE/RCA	CD4023 (2637)		• HD14042	GE/RCA	CD4042 (2638)	
		MC14001UB (2938)			GE/RCA	CD4013 (2638, 2656)			Motorola	MC14023 (2937)			Motorola	MC14042 (2941)	
• HD14001	National	CD4001			Motorola	MC14013		• HD14023	National	CD4023			National	CD4042	
		CD4001UB			National	CD4013			SGS-Thomson	F4023		• HD14042	SGS-Thomson	CD4042	
		F4001		• HD14013	OKI	MM74C74			Signetics	HCC/HCF4023			SGS-Thomson	HCC/HCF4042	
• HD14001	OKI	MM74C02			Sanyo	MSM4013		• HD14023	Signetics	HEF4023			Signetics	HEF4042	
	Sanyo	LC4001B			SGS-Thomson	LC4013			Solitron	CM4023		• HD14043	Solitron	CM4042	
	SGS-Thomson	HCC/HCF4001			HCC/HCF4013				Toshiba	TC4023 (3341)			Toshiba	TC4042B (3341)	
	Signetics	HEF4001		• HD14014	Signetics	HEF4013		• HD14024	GE/RCA	CD4024 (2638)			GE/RCA	CD4043 (2638)	
	Solitron	CM4001			Solitron	CM4013			Motorola	MC14024 (2943)		• HD14043	Motorola	MC14043 (2941)	
	Toshiba	TC4001B (3341)			GE/RCA	CD4014 (2638)		• HD14024	National	MC4024			National	CD4043	
• HD14002	Fujitsu	MB4002			Motorola	MC14014 (2944)		• HD14024	SGS-Thomson	CD4024			SGS-Thomson	HCC/HCF4043	
	GE/RCA	CD4002 (2637)		• HD14014	National	CD4014			Signetics	HCC/HCF4024		• HD14044	Signetics	HEF4043	
	Motorola	MC14002 (2938)				F4014		• HD14024	Signetics	HEF4024			Solitron	CM4043	
	National	CD4002			SGS-Thomson	HCC/HCF4014			Solitron	CM4024		• HD14044	Toshiba	TC4043B (3341)	
		F4002			Signetics	HEF4014		• HD14025	Toshiba	TC4024B (3341)			GE/RCA	CD4044 (2638)	
• HD14002	SGS-Thomson	HCC/HCF4002		• HD14015	Toshiba	TC4014B (3341)			GE/RCA	CD4025 (2637)		• HD14044	Motorola	MC14044 (2941)	
	Signetics	HEF4002			GE/RCA	CD4015 (2638)		• HD14025	Motorola	MC14025 (2938)			National	MC4044	
	Solitron	CM4002			Motorola	MC14015 (2944)			National	CD4025			SGS-Thomson	CD4044	
	Toshiba	TC4002B (3341)			National	CD4015		• HD14025	SGS-Thomson	F4025		• HD14044	HCC/HCF4044		
• HD14006	GE/RCA	CD4006 (2638, 2653)				F4015			Signetics	HCC/HCF4025			Signetics	HEF4044	
	Motorola	MC14006 (2944)		• HD14015	OKI	MM74C164		• HD14027	Signetics	HEF4025		• HD14046	Solitron	CM4044	
	National	CD4006			Sanyo	MSM4015			Solitron	CM4025			Toshiba	TC4044B (3341)	
		F4006			SGS-Thomson	LC4015		• HD14027	Toshiba	TC4025B (3341)			GE/RCA	CD4046 (2639, 2656)	
		F4006B			HCC/HCF4015				GE/RCA	CD4027 (2638)			Motorola	MC14046	
• HD14006	SGS-Thomson	HCC/HCF4006			Signetics	HEF4015		• HD14027	Motorola	MC14027			National	CD4046	
	Signetics	HEF4006		• HD14016	Solitron	CM4015			National	CD4027B		• HD14046	SGS-Thomson	F4046	
	Solitron	CM4006			Toshiba	TC4015B (3341)		• HD14027	OKI	MM74C76			HCC/HCF4046		
	Toshiba	TC4006B (3341)			GE/RCA	CD4016 (2639, 2653, 2655)			Sanyo	MSM4027		• HD14049	GE/RCA	CD4049 (2637, 2656)	
• HD14007	GE/RCA	CD4007 (2637)			Motorola	MC14016 (2945)		• HD14027	SGS-Thomson	LC4027			Motorola	MC14049 (2939)	
	Motorola	MC14007 (2939)			Motorola	MC14066 (2945)			Signetics	HCC/HCF4027		• HD14049	National	CD4049	
	National	CD4007		• HD14016	National	CD4016		• HD14027	Signetics	HCC/HCF4027B			OKI	MSM4049	
		F4007				CD4066			Solitron	CM4027			Sanyo	LC4049	
• HD14007	SGS-Thomson	HCC/HCF4007				F4016		• HD14027	Toshiba	TC4027B (3341)			SGS-Thomson	HCC/HCF4049	
	Signetics	HEF4007		• HD14016	Sanyo	LC4016			GE/RCA	CD4028 (2637)		• HD14049	Signetics	HEF4049	
	Solitron	CM4007			SGS-Thomson	LC4066		• HD14028	Motorola	MC14028 (2945)			Solitron	CM4049	
	Toshiba	TC4007UB (3341)			HCC/HCF4016				National	CD4028			Toshiba	TC4049B (3341)	
• HD14008	GE/RCA	CD4008 (2639)			HCC/HCF4066					F4028			(Continued)		
	Motorola	MC14008 (2947)			(Continued)					MM74C42					

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				• HD14071	National	CD4071 CD4071B F4071 MM74C32		• HD14082	NEC SGS-Thomson	μPC4082 HCC/HCF4082		• HD14514	Solitron	CM4514	(Cont'd)
• HD14050	GE/RCA	CD4050 (2637, 2656)		• HD14071	OKI	MM74C32			Signetics	HEF4082		• HD14515	Toshiba	TC4514B (3341)	
	Motorola	MC14050 (2939)			Sanyo	MSM4071		• HD14175	Toshiba	TC4082B			GE/RCA	CD4515 (2637)	
	National	CD4050			SGS-Thomson	LC4071			Motorola	MC14175 (2638)			Motorola	MC14515 (2945)	
• HD14050	SGS-Thomson	HCC/HCF4050						• HD14175	National	MC40175		• HD14515	SGS-Thomson	F4515	
	Signetics	HEF4050		• HD14071	Signetics	HCC/HCF4071				CD40175				HCC/HCF4515	
	Solitron	CM4050			Solitron	HCC/HCF4071B		• HD14175	National	F40175			Signetics	HEF4515	
• HD14051	Toshiba	TC4050B (3341)			Toshiba	CM4071				MM54C175		• HD14516	Solitron	CM4515	
	GE/RCA	CD4051 (2639, 2655, 2658)		• HD14072	Fujitsu	TC4071B		• HD14175	Signetics	MM74C175			Toshiba	TC4515B (3341)	
	Motorola	MC14051 (2945)			GE/RCA	MB4072			Toshiba	HEF40175			GE/RCA	CD4516 (2638)	
	National	CD4051		• HD14072	Motorola	CD4072 (2637)		• HD14194	GE/RCA	TC40175B (3341)			Motorola	MC14516 (2942)	
• HD14051	SGS-Thomson	F4051			National	CD4072B (2637)			Motorola	CD40194		• HD14516	National	CD4516	
		HCC/HCF4051		• HD14072	Motorola	MC14072 (2937)		• HD14194	Motorola	CD40194B			SGS-Thomson	F4516	
	Signetics	HEF4051			National	CD4072				MC140194B				HCC/HCF4516	
	Solitron	CM4051		• HD14072	NEC	F4072		• HD14194	National	MC14194 (2944)			Signetics	HEF4516	
• HD14052	Toshiba	TC4051B (3341)			SGS-Thomson	μPC4072			SGS-Thomson	F40194		• HD14517	Solitron	CM4516	
	Harris	HI1828A				HCC/HCF4072		• HD14194		HCC/HCF40194			Toshiba	TC4516B (3341)	
• HD14052	Motorola	MC14052 (2945)		• HD14073	Signetics	HEF4072			Signetics	HCC/HCF40194B			GE/RCA	CD4517 (2638, 2653)	
	Toshiba	TC4052B (3341)			Toshiba	TC4072B		• HD14194	Toshiba	HEF40194		• HD14517	Motorola	MC14517 (2944)	
• HD14053	GE/RCA	CD4053 (2639, 2655, 2658)			GE/RCA	CD4073 (2637)		• HD14443	Motorola	TC40194B			Signetics	HCC/HCF4517	
	Motorola	MC14053 (2945)		• HD14073	National	MC14073 (2937)				MC14443 (2970, 2991)		• HD14518	GE/RCA	CD4518 (2638)	
	National	CD4053				CD4073				MC14447 (2970, 2991)			Motorola	MC14518 (2942)	
• HD14053	SGS-Thomson	F4053		• HD14073	SGS-Thomson	F4073		• HD14443	National	μA9708		• HD14518	National	CD4518	
		HCC/HCF4053				HCC/HCF4073		• HD14447	Motorola	MC14443 (2970, 2991)			SGS-Thomson	F4518	
	Signetics	HEF4053		• HD14075	Signetics	HEF4073				MC14447 (2970, 2991)				HCC/HCF4518	
	Solitron	CM4053			Solitron	CM4073		• HD14447	National	μA9708		• HD14519	Signetics	HEF4518	
• HD14066	Toshiba	TC4053B (3341)			Toshiba	TC4073B		• HD14502	GE/RCA	CD4502B (2637)			Solitron	CM4518	
	GE/RCA	CD4016 (2639, 2653, 2655)		• HD14075	Motorola	CD4075			Motorola	CD4502B (2637)		• HD14519	Toshiba	TC4518B (3341)	
	Motorola	MC14066 (2945)			National	F4075		• HD14502	Motorola	MC14502B (2939)			GE/RCA	CD4519B	
• HD14066	National	CD4016		• HD14075	SGS-Thomson	HCC/HCF4075		• HD14502	SGS-Thomson	MC14502B (2939)			Motorola	MC14519 (2938, 2944)	
		CD4066				HEF4075				HCC/HCF4502		• HD14519	National	CD4519	
		MC14066 (2945)		• HD14076	Signetics	CM4075				HCC/HCF4502B			Signetics	CD4519B	
• HD14066	Sanyo	LC4016			Solitron	CM4075		• HD14502	Signetics	MK4502		• HD14519	Toshiba	TC4519B (3341)	
	SGS-Thomson	LC4066		• HD14076	Toshiba	TC4075B			Toshiba	HEF4502			GE/RCA	CD4520 (2638)	
• HD14066	Signetics	HEF4016			GE/RCA	CD4076 (2638)		• HD14503	Unicorn	UC4502		• HD14520	Motorola	MC14520 (2942)	
	Solitron	CM4016		• HD14077	Motorola	MC14076 (2942)			GE/RCA	CD4503 (2637)			Gould/AMI	S4520	
• HD14066	Toshiba	TC4016B (3341)			National	CD4076		• HD14503	Motorola	MC14503 (2939)		• HD14520	Motorola	MC14520 (2942)	
	Unitrode	PIC7516		• HD14077	SGS-Thomson	F4076			National	CD4503			National	CD4520	
• HD14068	GE/RCA	CD4068 (2637)		• HD14077	SGS-Thomson	MM54C173		• HD14503	SGS-Thomson	F40097B		• HD14520	OKI	MSM4520	
	Motorola	MC14068 (2937)		• HD14077	SGS-Thomson	MM74C173				HCF4503			Sanyo	LC4520	
	National	F4068		• HD14077	Signetics	HCC/HCF4076		• HD14508	Toshiba	TC4503B		• HD14520	SGS-Thomson	HCC/HCF4520	
• HD14069	SGS-Thomson	HCC/HCF4068		• HD14077	Signetics	HEF4076			GE/RCA	CD4508 (2638)		• HD14526	Signetics	HEF4520	
		HEF4068		• HD14077	Solitron	CM4076		• HD14508	Motorola	MC14508 (2941)			Solitron	CM4520	
	Signetics	CM4068		• HD14077	Toshiba	TC4076B (3341)			SGS-Thomson	HCC/HCF4508		• HD14526	Toshiba	TC4520B (3341)	
• HD14069	Toshiba	TC4068B (3341)		• HD14077	GE/RCA	CD4077 (2637, 2639)			Signetics	HEF4508			Motorola	MC14526 (2943)	
	Motorola	MC14069 (2939)		• HD14077	Motorola	MC14077 (2938)		• HD14510	Toshiba	TC4508B (3341)		• HD14526	National	CD4526	
	National	CD4069		• HD14077	National	CD4077			GE/RCA	CD4510 (2638)			Signetics	HEF4526	
• HD14069	OKI	MSM4069		• HD14077	Raytheon	RC4077 (3024)		• HD14510	Motorola	MC14510 (2942)		• HD14526	Toshiba	TC4526B (3341)	
	Sanyo	LC4069		• HD14077	SGS-Thomson	HCC/HCF4077			National	CD4510		• HD14527	GE/RCA	CD4527 (2639)	
	SGS-Thomson	HCC/HCF4069		• HD14077	SGS-Thomson	HEF4077		• HD14510	SGS-Thomson	F4510			Motorola	MC14527 (2947)	
	Signetics	HEF4069		• HD14077	Signetics	HCC/HCF4077B				HCC/HCF4510		• HD14527	National	CD4527	
• HD14070	Toshiba	TC4069UB (3341)		• HD14077	Signetics	HCC/HCF4077B		• HD14511	Signetics	HEF4510		• HD14527	SGS-Thomson	F4527	
	GE/RCA	CD4070 (2637, 2639)		• HD14077	Solitron	CM4077			Toshiba	CM4510				HCC/HCF4527	
	Motorola	MC14070 (2938)		• HD14077	Toshiba	TC4077B (3341)		• HD14511	GE/RCA	CD4511 (2656, 2658)		• HD14528	Signetics	HEF4527	
	National	CD4069		• HD14077	GE/RCA	CD4078 (2637)			Motorola	MC14511 (2946, 2985)			Toshiba	TC4527B (3341)	
• HD14070	SGS-Thomson	MM54C04		• HD14077	Motorola	MC14078 (2938)				CD4511		• HD14528	Motorola	MC14528	
		MM74C04		• HD14077	National	F4078		• HD14511	National	F4511			National	CD4528	
• HD14070	OKI	MSM4069		• HD14077	SGS-Thomson	HCC/HCF4078			SGS-Thomson	μPD4511		• HD14528	SGS-Thomson	MM74C221	
	Sanyo	LC4069		• HD14077	Signetics	HEF4078		• HD14511	SGS-Thomson	HCC/HCF4511				HCC/HCF4098	
	SGS-Thomson	HCC/HCF4069		• HD14077	Solitron	CM4078				HEF4511		• HD14528	Signetics	HEF4528	
• HD14070	Signetics	HEF4069		• HD14077	Toshiba	TC4078B (3341)		• HD14511	Signetics	CM4511		• HD14531	Toshiba	TC4528B (3341)	
	Solitron	CM4069		• HD14077	GE/RCA	CD4081 (2637)			Solitron	CM4511			Motorola	MC14531 (2947)	
• HD14070	Toshiba	TC4069UB (3341)		• HD14077	Motorola	MC14081 (2937)		• HD14512	Toshiba	TC4511B (3341)		• HD14531	National	F4531	
	GE/RCA	CD4070 (2637, 2639)		• HD14077	National	CD4081			GE/RCA	CD4512 (2653)			SGS-Thomson	HCC/HCF40101	
	Motorola	MC14070 (2938)		• HD14077	SGS-Thomson	F4081		• HD14512	Motorola	MC14512 (2944)			Signetics	HEF4531	
	National	CD4070		• HD14077	NEC	MM74C08			National	CD4512		• HD14532	Toshiba	TC4531B (3341)	
• HD14070	SGS-Thomson	MM74C86		• HD14081	OKI	μPC4081		• HD14512	SGS-Thomson	F4512			GE/RCA	CD4532 (2637)	
		HCC/HCF4070		• HD14081	Sanyo	MSM4081				HCC/HCF4512		• HD14532	Motorola	MC14532 (2946)	
	Signetics	HEF4070		• HD14081	SGS-Thomson	LC4081		• HD14514	Toshiba	TC4512B (3341)			National	F4532	
• HD14071	GE/RCA	CD4071 (2637)		• HD14081	Signetics	HCC/HCF4081			GE/RCA	CD4514 (2637)		• HD14534	SGS-Thomson	HCC/HCF4532	
	Motorola	MC14071 (2937)		• HD14082	Signetics	HEF4081		• HD14514	Motorola	MC14514 (2945)				HEF4532	
• HD14071	Motorola	MC14071B (2937)		• HD14082	Solitron	CM4081			National	CD4514		• HD14534	Toshiba	TC4532B (3341)	
		MC14071B (2937)		• HD14082	Toshiba	TC4081B		• HD14514	SGS-Thomson	F4514		• HD14539	Motorola	MC14534 (2943)	
		MC14071B (2937)		• HD14082	GE/RCA	CD4082 (2637)			Signetics	HCC/HCF4514			Motorola	MC14539 (2944)	
		MC14071B (2937)		• HD14082	Motorola	MC14082 (2937)				HEF4514				MC14539B (2944)	
		MC14071B (2937)		• HD14082	National	CD4082				(Continued)				(Continued)	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				Motorola (Cont'd)				(Cont'd)				(Cont'd)			
• HD14539	National	F4539		• HD146818A	Motorola	MC146818	(2932)	HD6810	National	F6810	(2932)	HD74HCT244	SGS-Thomson	M74HCT244	(3057)
• HD14543	Signetics	HEF4539	(3341)	• HD146818A	Unicorn	UC68C18		HD6821	Motorola	MC6821	(2932)	• HD74HCT245	Signetics	74HCT244	
• HD14543	Toshiba	TC4539B	(2639)	• HD268T26	UMC	UM82C6818		HD6840	National	F6821		• HD74HCT245	Supertex	74HCT244	
• HD14543	GE/RCA	CD4543	(2639)	• HD268T26	Xecom	XE1287		HD6840	SGS-Thomson	EF6821		• HD74HCT245	TI	SN74HCT244	
• HD14543	Motorola	MC14543	(2946, 2985)	• HD268T26	Motorola	MC6880A	(2981)	HD6843	GoldStar	GL6840	(2713)	• HD74HCT245	Toshiba	TC74HCT244A	
• HD14543	Motorola	MC14543B	(2946, 2985)	• HD268T26	Motorola	MC8T26	(2981)	HD6843	Motorola	MC6840	(2932)	• HD74HCT245	CTI	74HCT245	
• HD14543	National	CD4543		• HD268T26	Signetics	N8T26		HD6845	National	F6840		• HD74HCT245	CMD Micro	G74SC245	
• HD14543	Signetics	HEF4543		• HD268T26	Fujitsu	MB6026	(2634)	HD6845	SGS-Thomson	EF6840		• HD74HCT245	GE/RCA	CD74HCT245	(2640, 2653)
• HD14543	Toshiba	TC4543B	(3341)	• HD268T26	Fujitsu	MB6025	(2634)	HD6845	Motorola	MC6843		• HD74HCT245	Micrel	MIC74HCT245	
• HD14553	Motorola	MC14553	(2943)	• HD268T26	Fujitsu	MB6022	(2634)	HD6845	Motorola	MC6844	(2932)	• HD74HCT245	Motorola	MC74HCT245	
• HD14555	National	F4553		• HD268T26	Fujitsu	MB6021	(2634)	HD6845	Motorola	MC6845	(2932)	• HD74HCT245	National	MM74HCT245	
• HD14555	TeledyneP	TP4553		• HD268T26	GE/RCA	CD4519B		HD6845	National	F6845		• HD74HCT245	Plessey	MV74HCT245	
• HD14555	GE/RCA	CD4555	(2637, 2639)	• HD268T26	Motorola	MC14519	(2938, 2944)	HD6845	Samsung	K568C45		• HD74HCT245	SGS-Thomson	MV74SC245	
• HD14555	Motorola	MC14555	(2945)	• HD268T26	Motorola	MC14519B	(2938, 2944)	HD6845A	Unicorn	UC6845		• HD74HCT245	Signetics	74HCT245	(3057)
• HD14555	National	F4555		• HD268T26	Unicorn	UC6845		HD6845A	UMC	UM6845		• HD74HCT245	Supertex	74HCT245	
• HD14555	SGS-Thomson	HCC/HCF4555		• HD268T26	UMC	UM6845		HD6845A	VLSI Tech	VL6845		• HD74HCT245	TI	SN74HCT245	
• HD14557	Signetics	HEF4555		• HD268T26	Fujitsu	MB6022	(2634)	HD6845A	Motorola	MC6845A	(2932)	• HD74HCT245	Toshiba	TC74HCT245	
• HD14557	Toshiba	TC4555B	(3341)	• HD268T26	Fujitsu	MB6021	(2634)	HD6845A	GoldStar	GM6845S	(2925)	• HD74HCT245	CTI	74HCT245A	
• HD14557	Motorola	MC14557	(2944)	• HD268T26	GE/RCA	CD4519B		HD6845A	Motorola	MC6845S	(2925)	• HD74HCT245	CMD Micro	G74SC373	
• HD14558	GE/RCA	CD4055	(2639, 2653, 2656)	• HD268T26	Motorola	MC14519B	(2938, 2944)	HD6845A	National	F6845		• HD74HCT245	GE/RCA	CD74HCT373	(2641, 2653)
• HD14560	GE/RCA	CD4560B	(2639)	• HD268T26	Micrel	MC54HCT240	(2640)	HD6845A	SGS-Thomson	EF6850		• HD74HCT245	Micrel	MIC74HCT373	
• HD14561	Motorola	MC14560	(2947)	• HD268T26	Motorola	MC54HCT240		HD6845A	Motorola	MC6852	(2932)	• HD74HCT245	Motorola	MC74HCT373	
• HD14561	Motorola	MC14561	(2947)	• HD268T26	National	MM54HCT240		HD6845A	National	F6852		• HD74HCT245	National	MM74HCT373	
• HD14569	Toshiba	TC4561B	(3341)	• HD268T26	Signetics	54HCT240		HD6845A	GE/RCA	CD74HCT125	(2640)	• HD74HCT245	Plessey	MV74HCT373	
• HD14569	Motorola	MC14569	(2943)	• HD268T26	Supertex	54HCT240		HD6845A	Signetics	74HCT125	(3057)	• HD74HCT245	SGS-Thomson	M74HCT373	
• HD14572	Signetics	HEF4059		• HD268T26	TI	SN54HCT240		HD6845A	TI	SN74HCT125		• HD74HCT245	Signetics	74HCT373	(3057)
• HD14572	Motorola	MC14572	(2938)	• HD268T26	Motorola	MC54HC620		HD6845A	GE/RCA	CD74HCT126	(2640)	• HD74HCT245	Supertex	74HCT373	
• HD14580	Toshiba	TC4572B	(3341)	• HD268T26	TI	SN54HC620		HD6845A	Signetics	74HCT126	(3057)	• HD74HCT245	TI	SN74HCT373	
• HD14580	Motorola	MC14580		• HD268T26	Motorola	MC6800	(2931)	HD6845A	TI	SN74HCT126		• HD74HCT245	Toshiba	TC74HCT373	
• HD14580	SGS-Thomson	HCC/HCF40108		• HD268T26	National	F6800A		HD6845A	CTI	74HCT138		• HD74HCT245	CTI	74HCT374	
• HD14581	GE/RCA	CD40181	(2639)	• HD268T26	SGS-Thomson	EF6800		HD6845A	GE/RCA	CD74HCT138	(2640)	• HD74HCT245	CMD Micro	G74SC374	
• HD14581	Motorola	MC14581	(2947)	• HD268T26	Hitachi	HD6810		HD6845A	National	MM74HCT138		• HD74HCT245	GE/RCA	CD74HCT374	(2641, 2653)
• HD14581	National	MM74C181		• HD268T26	Motorola	MC6810	(2932)	HD6845A	Plessey	MV74HCT138		• HD74HCT245	Micrel	MIC74HCT374	
• HD14582	SGS-Thomson	HCC/HCF40181		• HD268T26	Hitachi	HD6821		HD6845A	SGS-Thomson	M74HCT138		• HD74HCT245	Motorola	MC74HCT374	
• HD14582	GE/RCA	CD40182	(2639)	• HD268T26	Motorola	MC6821	(2932)	HD6845A	Signetics	74HCT138	(3057)	• HD74HCT245	National	MM74HCT374	
• HD14582	Motorola	MC14582	(2947)	• HD268T26	National	F6821		HD6845A	TI	SN74HCT138		• HD74HCT245	Plessey	MV74HCT374	
• HD14582	National	F4582		• HD268T26	SGS-Thomson	EF6821		HD6845A	Toshiba	TC74HCT138A		• HD74HCT245	SGS-Thomson	MV74SC374	
• HD14582	Motorola	MC14582	(2947)	• HD268T26	Motorola	MC6800	(2931)	HD6845A	CTI	74HCT240		• HD74HCT245	SGS-Thomson	M74HCT374	
• HD14582	SGS-Thomson	MM74C182		• HD268T26	National	F6800A		HD6845A	GE/RCA	CD74HCT240	(2640)	• HD74HCT245	Signetics	74HCT374	(3057)
• HD14583	Motorola	MC14583	(2940)	• HD268T26	SGS-Thomson	EF6800		HD6845A	Micrel	MIC74HCT240		• HD74HCT245	Supertex	74HCT374	
• HD14583	National	F4583		• HD268T26	Hitachi	HD6809		HD6845A	Motorola	MC74HCT240		• HD74HCT245	TI	SN74HCT374	
• HD14583	Toshiba	TC4583B	(3341)	• HD268T26	Motorola	MC6809	(4859, 2931)	HD6845A	National	MM74HCT240		• HD74HCT245	Toshiba	TC74HCT374A	
• HD14584	GE/RCA	CD40106	(2637, 2653)	• HD268T26	SGS-Thomson	EF6809		HD6845A	Plessey	MV74HCT240		• HD74HCT245	CTI	74HCT533	
• HD14584	Motorola	MC14106	(2940)	• HD268T26	Hitachi	HD6821		HD6845A	Samsung	74HCT240		• HD74HCT245	GE/RCA	CD74HCT533	(2641)
• HD14584	Motorola	MC14584	(2940)	• HD268T26	Motorola	MC6821	(2932)	HD6845A	SGS-Thomson	M74HCT240		• HD74HCT245	Micrel	MIC74HCT533	
• HD14584	Motorola	MC14584B	(2940)	• HD268T26	National	F6821		HD6845A	Signetics	74HCT240	(3057)	• HD74HCT245	Motorola	MC74HCT533	
• HD14584	National	CD40106		• HD268T26	SGS-Thomson	EF6821		HD6845A	Supertex	74HCT240		• HD74HCT245	National	MM74HCT533	
• HD14584	National	CD4584		• HD268T26	Motorola	MC6800	(2931)	HD6845A	TI	SN74HCT240		• HD74HCT245	Plessey	MV74HCT533	
• HD14584	National	CD4584B		• HD268T26	National	F6800A		HD6845A	Toshiba	TC74HCT240A		• HD74HCT245	Signetics	74HCT533	(3057)
• HD14584	National	F400014		• HD268T26	SGS-Thomson	EF6800		HD6845A	CTI	74HCT241		• HD74HCT245	TI	SN74HCT533	
• HD14584	National	F40014		• HD268T26	Motorola	MC6800	(2931)	HD6845A	GE/RCA	CD74HCT241	(2640)	• HD74HCT245	CTI	74HCT534	
• HD14584	National	MM54C14		• HD268T26	SGS-Thomson	EF6800		HD6845A	Micrel	MIC74HCT241		• HD74HCT245	GE/RCA	CD74HCT534	(2641)
• HD14584	National	MM74C14		• HD268T26	Motorola	MC6800	(2931)	HD6845A	Motorola	MC74HCT241		• HD74HCT245	Micrel	MIC74HCT534	
• HD14584	SGS-Thomson	HCC/HCF40106		• HD268T26	Krueger	68000	(2877)	HD6845A	National	MM74HCT241		• HD74HCT245	Motorola	MC74HCT534	
• HD14584	Signetics	HEF40106		• HD268T26	Motorola	MC68000	(4859, 2924)	HD6845A	Plessey	MV74HCT241		• HD74HCT245	National	MM74HCT534	
• HD14585	Toshiba	TC4584B	(3341)	• HD268T26	Rockwell	R68000		HD6845A	Samsung	74HCT241		• HD74HCT245	Plessey	MV74HCT534	
• HD14585	GE/RCA	CD4585	(2639)	• HD268T26	SGS-Thomson	TS68000		HD6845A	SGS-Thomson	M74HCT241		• HD74HCT245	Signetics	74HCT534	(3057)
• HD14585	Motorola	MC14585	(2946)	• HD268T26	Signetics	SCN68000		HD6845A	Signetics	74HCT241	(3057)	• HD74HCT245	TI	SN74HCT534	
• HD14585	National	F40085		• HD268T26	GoldStar	GL6801	(2713)	HD6845A	Supertex	74HCT241		• HD74HCT245	GE/RCA	CD74HCT540	(2641)
• HD14585	National	MM74C85		• HD268T26	SGS-Thomson	EF6801		HD6845A	TI	SN74HCT241		• HD74HCT245	Micrel	MIC74HCT540	
• HD14585	SGS-Thomson	HCC/HCF4585		• HD268T26	Motorola	MC6802	(2931)	HD6845A	Toshiba	TC74HCT241A		• HD74HCT245	Motorola	MC74HCT540	
• HD14585	Signetics	HEF4585		• HD268T26	National	F6802		HD6845A	GE/RCA	CD74HCT242	(2640)	• HD74HCT245	National	MM74HCT540	
• HD14585	Toshiba	TC4585B		• HD268T26	SGS-Thomson	EF6802		HD6845A	Micrel	MIC74HCT242		• HD74HCT245	Plessey	MV74HCT540	
• HD14585	Dallas	DS1287		• HD268T26	SGS-Thomson	EF6802		HD6845A	Signetics	74HCT242	(3057)	• HD74HCT245	SGS-Thomson	M74HCT540	
• HD146818	GE/RCA	CDP6818	(2644, 2653)	• HD268T26	GE/RCA	CDP6805		HD6845A	TI	SN74HCT242		• HD74HCT245	Signetics	74HCT540	(3057)
• HD146818	Motorola	MC146818	(2932)	• HD268T26	Motorola	MC6805		HD6845A	GE/RCA	CD74HCT243	(2640)	• HD74HCT245	TI	SN74HCT540	
• HD146818	Motorola	MC146818A	(2932)	• HD268T26	SGS-Thomson	EF6805		HD6845A	Micrel	MIC74HCT243		• HD74HCT245	Toshiba	TC74HCT540	
• HD146818	Unicorn	UC68C18		• HD268T26	Motorola	MC6808		HD6845A	Signetics	74HCT243	(3057)	• HD74HCT245	CTI	74HCT541	
• HD146818	UMC	UM82C6818		• HD268T26	National	F6808		HD6845A	TI	SN74HCT243		• HD74HCT245	GE/RCA	CD74HCT541	(2641)
• HD146818	Xecom	XE1287		• HD268T26	Motorola	MC6809	(4859, 2931)	HD6845A	CTI	74HCT244		• HD74HCT245	Micrel	MIC74HCT541	
• HD146818	Dallas	DS1287		• HD268T26	SGS-Thomson	EF6809		HD6845A	GE/RCA	CD74HCT244	(2640, 2653)	• HD74HCT245	Motorola	MC74HCT541	
• HD146818	GE/RCA	CDP6818	(2644, 2653)	• HD268T26	Motorola	MC6810	(2932)	HD6845A	National	MM74HCT244		• HD74HCT245	National	MM74HCT541	
• HD146818	Motorola	MC146818	(2932)	• HD268T26	SGS-Thomson	EF6810		HD6845A	Plessey	MV74HCT244		• HD74HCT245	Plessey	MV74HCT541	
• HD146818	Motorola	MC146818A	(2932)	• HD268T26	SGS-Thomson	EF6810		HD6845A	Samsung	74HCT244		• HD74HCT245	SGS-Thomson	M74HCT541	
• HD146818	Motorola	MC146818A	(2932)	• HD268T26	SGS-Thomson	EF6810		HD6845A	SGS-Thomson	EF6810		• HD74HCT245	Signetics	74HCT541	(3057)
• HD146818	Motorola	MC146818A	(2932)	• HD268T26	SGS-Thomson	EF6810		HD6845A	SGS-Thomson	EF6810		• HD74HCT245	Supertex	74HCT541	
• HD146818	Motorola	MC146818A	(2932)	• HD268T26	SGS-Thomson	EF6810		HD6845A	SGS-Thomson	EF6810		• HD74HCT245	Supertex</		

ALTERNATE SOURCE DIRECTORY

Manufacturer	Replacement Source	Device	IC Master Page	Manufacturer	Replacement Source	Device	IC Master Page	Manufacturer	Replacement Source	Device	IC Master Page	Manufacturer	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				• HD74HCT652	GE/RCA	CD74HCT652		HD74HC113	(Cont'd)			HD74HC147	(Cont'd)		
• HD74HCT541	(Cont'd)			SGS-Thomson		MC74HCT652		Signetics	74HC113			TI	SN74HC147		
TI	SN74HCT541			TI	SN74HCT652			TI	SN74HC113			Toshiba	TC74HC147	(3340)	
• HD74HCT563	GE/RCA	CD74HCT563	(2641)	HD74HC00	GE/RCA	CD74HC00	(2639, 2653)	HD74HC114	Toshiba	TC74HC113 (3340)		HD74HC148	SGS-Thomson	M74HC148	
Micrel	MIC74HCT563			National	MC74HC00	(2937)		HD74HC123	GE/RCA	CD74HC123	(2640)	TI	SN74HC148		
National	MM74HCT563			SGS-Thomson	M74HC00			Motorola	MC74HC123A			Toshiba	TC74HC148	(3340)	
Plessey	MV74HCT563			Signetics	74HC00	(3057)		National	MM74HC123			GE/RCA	CD74HC151	(2640)	
SGS-Thomson	M74HCT563			TI	SN74HC00			SGS-Thomson	M74HC123			Motorola	MC74HC151	(2944)	
• HD74HCT564	GE/RCA	CD74HCT564	(2641)	HD74HC01	GE/RCA	CD74HC02	(2639)	Signetics	74HC123	(3057)		National	MM74HC151		
Micrel	MIC74HCT564			HD74HC02	TI	SN74HC01		TI	SN74HC123			SGS-Thomson	M74HC151		
Motorola	MC74HCT564			TI	SN74HC02			Toshiba	TC74HC123	(3340)		Signetics	74HC151	(3057)	
National	MM74HCT564			Motorola	MC74HC02	(2938)		GE/RCA	CD74HC125	(2640)		TI	SN74HC151		
Plessey	MV74HCT564			SGS-Thomson	M74HC02			Motorola	MC74HC125	(2939)		Toshiba	TC74HC151A	(3340)	
SGS-Thomson	M74HCT564			Signetics	74HC02	(3057)		National	MM74HC125			Universal	US74HC151		
• HD74HCT573	GE/RCA	CD74HCT573	(2641)	HD74HC04	GE/RCA	CD74HC04	(2639)	SGS-Thomson	M74HC125			TI	SN74HC152		
Micrel	MIC74HCT573			TI	SN74HC04			Signetics	74HC125	(3057)		HD74HC152	GE/RCA	CD74HC153	(2640)
National	MM74HCT573			Toshiba	TC74HC02A	(3340)		TI	SN74HC125			Motorola	MC74HC153	(2944)	
Plessey	MV74HCT573			GE/RCA	CD74HC04	(2639)		Toshiba	TC74HC125A	(3340)		National	MM74HC153		
SGS-Thomson	M74HCT573			Motorola	MC74HC04	(2939)		HD74HC126	GE/RCA	CD74HC126	(2640)	SGS-Thomson	M74HC153		
• HD74HCT574	GE/RCA	CD74HCT574	(2641)	HD74HC08	GE/RCA	CD74HC08	(2639)	Motorola	MC74HC126	(2939)		Signetics	74HC153	(3057)	
Micrel	MIC74HCT574			SGS-Thomson	M74HC08			National	MM74HC126			TI	SN74HC153		
National	MM74HCT574			Signetics	74HC08	(3057)		SGS-Thomson	M74HC126			Toshiba	TC74HC153	(3340)	
Plessey	MV74HCT574			TI	SN74HC08			Signetics	74HC126	(3057)		GE/RCA	CD74HC154	(2640)	
SGS-Thomson	M74HCT574			Toshiba	TC74HC08A	(3340)		Toshiba	TC74HC126A	(3340)		Motorola	MC74HC154	(2945)	
• HD74HCT620	GE/RCA	CD74HCT620	(2641)	HD74HC09	GE/RCA	CD74HC10	(2640)	HD74HC132	GE/RCA	CD74HC132	(2640)	National	MM74HC154		
Motorola	MC74HCT620			SGS-Thomson	M74HC10			Motorola	MC74HC132	(2937, 2940)		Signetics	74HC154	(3057)	
SGS-Thomson	M74HCT620			Signetics	74HC10	(3057)		National	MM74HC132			TI	SN74HC154		
• HD74HCT623	GE/RCA	CD74HCT623	(2641)	HD74HC107	GE/RCA	CD74HC107	(2640)	Signetics	74HC132	(3057)		Toshiba	TC74HC154A	(3340)	
TI	SN74HCT623			TI	SN74HC09			TI	SN74HC132			HD74HC157	GE/RCA	CD74HC157	(2640, 2653)
Motorola	MC74HCT623			Toshiba	TC74HC107	(3340)		Toshiba	TC74HC132A	(3340)		Motorola	MC74HC157	(2944)	
HD74HCT640	GE/RCA	CD74HCT640	(2641)	Motorola	MC74HC107	(2941)		HD74HC137	GE/RCA	CD74HC137	(2640)	National	MM74HC157		
Motorola	MC74HCT640			National	MM74HC107			Motorola	MC74HC137	(2945)		SGS-Thomson	M74HC157		
National	MM74HCT640			Signetics	74HC107	(3057)		National	MM74HC137			Signetics	74HC157	(3057)	
SGS-Thomson	M74HCT640			TI	SN74HC107			SGS-Thomson	M74HC137			TI	SN74HC157		
• HD74HCT643	GE/RCA	CD74HCT643	(2641)	HD74HC109	GE/RCA	CD74HC109	(2640)	Signetics	74HC137	(3057)		Toshiba	TC74HC157A	(3340)	
TI	SN74HCT643			SGS-Thomson	M74HC109			TI	SN74HC137			HD74HC158	GE/RCA	CD74HC158	(2640)
Toshiba	TC74HCT643A			Signetics	74HC109	(3057)		Toshiba	TC74HC137A	(3340)		Motorola	MC74HC158	(2944)	
Motorola	MC74HCT643			TI	SN74HC109			Motorola	MC74HC138	(2640)		National	MM74HC158		
SGS-Thomson	M74HCT643			Toshiba	TC74HC109A	(3340)		National	MM74HC138			Signetics	74HC158	(3057)	
• HD74HCT646	GE/RCA	CD74HCT646	(2641)	HD74HC11	GE/RCA	CD74HC11	(2640)	HD74HC138	GE/RCA	CD74HC138	(2640)	TI	SN74HC158		
TI	SN74HCT646			Motorola	MC74HC11	(2937)		Motorola	MC74HC138	(2945)		Toshiba	TC74HC158A	(3340)	
Toshiba	TC74HCT646A			National	MM74HC11			National	MM74HC138			GE/RCA	CD74HC161	(2640)	
SGS-Thomson	M74HCT646			Signetics	74HC11	(3057)		Signetics	74HC138	(3057)		Motorola	MC74HC161	(2942)	
• HD74HCT648	GE/RCA	CD74HCT648	(2641)	HD74HC112	GE/RCA	CD74HC112	(2640)	TI	SN74HC138			National	MM74HC161		
SGS-Thomson	M74HCT648			SGS-Thomson	M74HC112			Toshiba	TC74HC138A	(3340)		SGS-Thomson	M74HC161		
• HD74HCT651	GE/RCA	CD74HCT651	(2641)	TI	SN74HC112			Motorola	MC74HC139	(2945)		Signetics	74HC161	(3057)	
TI	SN74HCT651			Signetics	74HC112	(3057)		National	MM74HC139			TI	SN74HC161		
Toshiba	TC74HCT651A			TI	SN74HC112			SGS-Thomson	M74HC139			Toshiba	TC74HC161A	(3340)	
(Continued)				Toshiba	TC74HC112	(3340)		Signetics	74HC139	(3057)		HD74HC162	GE/RCA	CD74HC162	(2640)
				Motorola	MC74HC112	(2941)		TI	SN74HC139			Motorola	MC74HC162	(2942)	
				National	MM74HC112			Toshiba	TC74HC139A	(3340)		National	MM74HC162		
				SGS-Thomson	M74HC112			HD74HC14	GE/RCA	CD74HC14	(2640)	SGS-Thomson	M74HC162		
				Signetics	74HC112	(3057)		Motorola	MC74HC14	(2940)		Signetics	74HC162	(3057)	
				TI	SN74HC112			National	MM74HC14			TI	SN74HC162		
				Toshiba	TC74HC112	(3340)		SGS-Thomson	M74HC14			Toshiba	TC74HC162A	(3340)	
				GE/RCA	CD74HC113			Signetics	74HC14	(3057)		HD74HC163	GE/RCA	CD74HC163	(2640)
				Motorola	MC74HC113	(2941)		TI	SN74HC14			Motorola	MC74HC163	(2942)	
				National	MM74HC113			Toshiba	TC74HC14A	(3340)		National	MM74HC163		
				SGS-Thomson	M74HC113			GE/RCA	CD74HC147	(2640)		SGS-Thomson	M74HC163		
				Signetics	74HC147	(3057)		Motorola	MC74HC147			Signetics	74HC163	(3057)	
				(Continued)				National	MM74HC147			(Continued)			

• Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				(Cont'd)				GE/RCA				(Cont'd)			
HD74HC163	TI	SN74HC163	(3340)	HD74HC193	TI	SN74HC193	(3340)	HD74HC244	GE/RCA	CD74HC244	(2640, 2653)	HD74HC273	National	MM74HC273	(3057)
	Toshiba	TC74HC163A	(3340)		Toshiba	TC74HC193A	(3340)		Motorola	MC74HC244	(2939)		SGS-Thomson	M74HC273	(3057)
HD74HC164	GE/RCA	CD74HC164	(2640)	HD74HC194	GE/RCA	CD74HC194	(2640)		National	MM74HC244	(3057)		Signetics	74HC273	(3057)
	Motorola	MC74HC164	(2943)		Motorola	MC74HC194	(2944)		SGS-Thomson	M74HC244	(3057)		TI	SN74HC273	(3340)
	National	MM74HC164	(3340)		National	MM74HC194	(3340)		Signetics	74HC244	(3057)	HD74HC280	GE/RCA	CD74HC280	(2640)
	SGS-Thomson	M74HC164	(3057)		SGS-Thomson	M74HC194	(3057)		Supertex	74HC244	(3057)		Motorola	MC74HC280	(2947)
	Signetics	74HC164	(3057)		TI	SN74HC194	(3340)		TI	SN74HC244	(3340)		National	MM74HC280	(3057)
	TI	SN74HC164	(3340)	HD74HC195	Toshiba	TC74HC194	(3340)		Toshiba	TC74HC244A	(3340)		SGS-Thomson	M74HC280	(3057)
	Toshiba	TC74HC164A	(3340)		GE/RCA	CD74HC195	(2640)		Motorola	MC74HC245	(2939)		Signetics	74HC280	(3057)
HD74HC165	GE/RCA	CD74HC165	(2640)		Motorola	MC74HC195	(2944)		National	MM74HC245	(3057)		TI	SN74HC280	(3340)
	Motorola	MC74HC165	(2943)		National	MM74HC195	(3057)		SGS-Thomson	M74HC245	(3057)	HD74HC298	Motorola	MC74HC298	(2640)
	National	MM74HC165	(3340)		SGS-Thomson	M74HC195	(3057)		TI	SN74HC245	(3340)		National	MM74HC298	(3057)
	SGS-Thomson	M74HC165	(3057)	HD74HC20	TI	SN74HC195	(3340)		Toshiba	TC74HC245A	(3340)		SGS-Thomson	M74HC298	(3057)
	Signetics	74HC165	(3057)		Toshiba	TC74HC195	(3340)		Motorola	MC74HC251	(2944)		Signetics	74HC298	(3057)
	TI	SN74HC165	(3340)		Motorola	MC74HC20	(2937)		National	MM74HC251	(3057)	HD74HC299	Motorola	MC74HC299	(2944)
	Toshiba	TC74HC165A	(3340)		National	MM74HC20	(3057)		SGS-Thomson	M74HC251	(3057)		National	MM74HC299	(3057)
HD74HC173	GE/RCA	CD74HC173	(2640)		Signetics	74HC20	(3057)		TI	SN74HC251	(3340)		SGS-Thomson	M74HC299	(3057)
	Motorola	MC74HC173	(2942)		TI	SN74HC20	(3340)		Toshiba	TC74HC251A	(3340)		Signetics	74HC299	(3057)
	National	MM74HC173	(3057)	HD74HC21	GE/RCA	CD74HC21	(2640)		Motorola	MC74HC253	(2944)		TI	SN74HC299	(3340)
	SGS-Thomson	M74HC173	(3057)		Motorola	MC74HC21	(2640)		National	MM74HC253	(3057)	HD74HC30	GE/RCA	CD74HC30	(2640)
	Signetics	74HC173	(3057)		SGS-Thomson	M74HC21	(3057)		SGS-Thomson	M74HC253	(3057)		Motorola	MC74HC30	(2937)
	TI	SN74HC173	(3340)		TI	SN74HC21	(3340)		TI	SN74HC253	(3340)		National	MM74HC30	(3057)
	Toshiba	TC74HC173	(3340)		Toshiba	TC74HC21A	(3340)		Toshiba	TC74HC253A	(3340)		Signetics	74HC30	(3057)
HD74HC174	GE/RCA	CD74HC174	(2640)		GE/RCA	CD74HC21	(2640)		Motorola	MC74HC257	(2640, 2653)		TI	SN74HC30	(3340)
	Motorola	MC74HC174	(2942)	HD74HC221	GE/RCA	CD74HC221	(2640)		National	MM74HC257	(3340)		Toshiba	TC74HC30	(3340)
	National	MM74HC174	(3057)		Motorola	MC74HC221A	(3340)		SGS-Thomson	M74HC257	(3057)	HD74HC32	GE/RCA	CD74HC32	(2640)
	SGS-Thomson	M74HC174	(3057)		National	MM74HC221	(3340)		TI	SN74HC257	(3057)		Motorola	MC74HC32	(2937)
	Signetics	74HC174	(3057)		SGS-Thomson	M74HC221	(3057)		Toshiba	TC74HC257A	(3340)		National	MM74HC32	(3057)
	TI	SN74HC174	(3340)		TI	SN74HC221	(3340)		Motorola	MC74HC257	(3057)	HD74HC354	GE/RCA	CD74HC354	(2640)
	Toshiba	TC74HC174A	(3340)	HD74HC240	GE/RCA	CD74HC240	(2640)		National	MM74HC257	(3340)		Motorola	MC74HC354	(2945)
HD74HC175	GE/RCA	CD74HC175	(2640)		Motorola	MC74HC240	(2939)		SGS-Thomson	M74HC257	(3057)		National	MM74HC354	(3057)
	Motorola	MC74HC175	(2942)		National	MM74HC240	(3057)		TI	SN74HC257	(3057)		SGS-Thomson	M74HC354	(3057)
	National	MM74HC175	(3057)		SGS-Thomson	M74HC240	(3057)		Toshiba	TC74HC257	(3340)		TI	SN74HC354	(3340)
	SGS-Thomson	M74HC175	(3057)		TI	SN74HC240	(3340)		Motorola	MC74HC257A	(3340)		Toshiba	TC74HC354A	(3340)
	Signetics	74HC175	(3057)		Toshiba	TC74HC240A	(3340)		SGS-Thomson	M74HC258	(3057)	HD74HC356	GE/RCA	CD74HC356	(2640)
	TI	SN74HC175	(3340)		GE/RCA	CD74HC241	(2640)		TI	SN74HC258	(3057)		Motorola	MC74HC356	(2945)
	Toshiba	TC74HC175A	(3340)		Motorola	MC74HC241	(2939)		Toshiba	TC74HC258A	(3340)		National	MM74HC356	(3057)
HD74HC190	GE/RCA	CD74HC190	(2640)	HD74HC241	GE/RCA	CD74HC241	(2640)		Motorola	MC74HC259	(2640)		SGS-Thomson	M74HC356	(3057)
	Motorola	MC74HC190	(2941)		Motorola	MC74HC241	(2939)		National	MM74HC259	(2941)		TI	SN74HC356	(3057)
	National	MM74HC190	(3057)		National	MM74HC241	(3057)		TI	SN74HC259	(3057)		Toshiba	TC74HC356	(3340)
	SGS-Thomson	M74HC190	(3057)		SGS-Thomson	M74HC241	(3057)		Motorola	MC74HC266	(3340)	HD74HC365	GE/RCA	CD74HC365	(2641)
	Signetics	74HC190	(3057)		TI	SN74HC241	(3340)		SGS-Thomson	M74HC266	(3057)		Motorola	MC74HC365	(2939)
	TI	SN74HC190	(3340)	HD74HC242	GE/RCA	CD74HC242	(2640)		TI	SN74HC266	(3057)		National	MM74HC365	(3057)
	Toshiba	TC74HC190	(3340)		Motorola	MC74HC242	(2939)		Toshiba	TC74HC266A	(2640)		SGS-Thomson	M74HC365	(3057)
	GE/RCA	CD74HC192	(2640)		National	MM74HC242	(3057)		Motorola	MC74HC27	(2938)	HD74HC366	GE/RCA	CD74HC366	(2641)
HD74HC191	GE/RCA	CD74HC191	(2640)		SGS-Thomson	M74HC242	(3057)		National	MM74HC27	(3340)		Motorola	MC74HC366	(2939)
	Motorola	MC74HC191	(2941)		TI	SN74HC242	(3340)		TI	SN74HC27	(3057)		National	MM74HC366	(3057)
	National	MM74HC191	(3057)		Toshiba	TC74HC242	(3340)		Toshiba	TC74HC27A	(3340)		SGS-Thomson	M74HC366	(3057)
	SGS-Thomson	M74HC191	(3057)		GE/RCA	CD74HC243	(2640)		Motorola	MC74HC273	(2640)		TI	SN74HC366	(3340)
	Signetics	74HC191	(3057)		Motorola	MC74HC243	(2939)		SGS-Thomson	M74HC273	(3057)		Toshiba	TC74HC366	(3340)
	TI	SN74HC191	(3340)	HD74HC243	GE/RCA	CD74HC243	(2640)		TI	SN74HC273	(3057)		(Continued)		
	Toshiba	TC74HC191	(3340)		Motorola	MC74HC243	(2939)		Motorola	MC74HC273	(2942)				
HD74HC192	GE/RCA	CD74HC192	(2640)		National	MM74HC243	(3057)								
	Motorola	MC74HC192	(2941)		SGS-Thomson	M74HC243	(3057)								
	National	MM74HC192	(3057)		TI	SN74HC243	(3340)								
	SGS-Thomson	M74HC192	(3057)		Toshiba	TC74HC243	(3340)								
	Signetics	74HC192	(3057)												
	TI	SN74HC192	(3340)												
	Toshiba	TC74HC192A	(3340)												
HD74HC193	GE/RCA	CD74HC193	(2640)												
	Motorola	MC74HC193	(2941)												
	National	MM74HC193	(3057)												
	SGS-Thomson	M74HC193	(3057)												
	Signetics	74HC193	(3057)												
	(Continued)														

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				HD74HC4024	GE/RCA	CD74HC4024 (2641)		HD74HC541	(Cont'd)			HD74HC623	(Cont'd)		
HD74HC367	GE/RCA	CD74HC367 (2641)		Motorola	MC74HC4024 (2943)			TI	SN74HC541			SGS-Thomson	M74HC623		
	Motorola	MC74HC367 (2939)		National	MM74HC4024			Toshiba	TC74HC541A (3340)			TI	SN74HC623		
	National	MM74HC367		SGS-Thomson	M74HC4024							Toshiba	TC74HC623 (3340)		
	SGS-Thomson	M74HC367			Signetics	74HC4024 (3057)		HD74HC563	GE/RCA	CD74HC563 (2641)		HD74HC640	GE/RCA	CD74HC640 (2641)	
	Signetics	74HC367 (3057)		TI	SN74HC4024			Motorola	MC74HC563			Motorola	MC74HC640 (2940)		
	TI	SN74HC367		Toshiba	TC74HC4024 (3340)			National	MM74HC563			National	MM74HC640		
HD74HC368	GE/RCA	CD74HC368 (2641)			HD74HC4040	GE/RCA	CD74HC4040 (2641)		SGS-Thomson	M74HC563		SGS-Thomson	M74HC640		
	Motorola	MC74HC368 (2939)		Motorola	MC74HC4040 (2943)				Signetics	74HC563 (3057)			74HC640 (3057)		
	National	MM74HC368		National	MM74HC4040			HD74HC564	GE/RCA	CD74HC564 (2641)		TI	SN74HC640		
	SGS-Thomson	M74HC368		SGS-Thomson	M74HC4040			Motorola	MC74HC564 (2942)			Toshiba	TC74HC640 (3340)		
	Signetics	74HC368 (3057)			TI	SN74HC4040			National	MM74HC564			TC74HC640A (3340)		
	TI	SN74HC368			Toshiba	TC74HC4040 (3340)			SGS-Thomson	M74HC564		HD74HC643	GE/RCA	CD74HC643 (2641)	
	Toshiba	TC74HC368A (3340)				HD74HC42	GE/RCA	CD74HC42 (2640)		Signetics	74HC564 (3057)		Motorola	MC74HC643	
HD74HC373	GE/RCA	CD74HC373 (2641, 2653)		Motorola	MC74HC42 (2945)				TI	SN74HC564		National	MM74HC643		
	Motorola	MC74HC373 (2941)		National	MM74HC42			HD74HC573	GE/RCA	CD74HC573 (2641)		SGS-Thomson	M74HC643		
	National	MM74HC373		SGS-Thomson	M74HC42				Motorola	MC74HC573 (2941)			74HC643 (3057)		
	SGS-Thomson	M74HC373			Signetics	74HC42 (3057)			National	MM74HC573		TI	SN74HC643		
	Signetics	74HC373 (3057)		TI	SN74HC42				SGS-Thomson	M74HC573		Toshiba	TC74HC643A (3340)		
	Supertex	74HC373		Toshiba	TC74HC42A (3340)					Signetics	74HC573 (3057)	HD74HC646	GE/RCA	CD74HC646 (2641)	
	TI	SN74HC373				HD74HC423	GE/RCA	CD74HC423 (2640)		TI	SN74HC573		Motorola	MC74HC646 (2940)	
	Toshiba	TC74HC373A (3340)		National	MM74HC423A				Signetics	74HC573 (3057)		National	MM74HC646		
HD74HC374	GE/RCA	CD74HC374 (2641, 2653)		TI	SN74HC423			HD74HC574	GE/RCA	CD74HC574 (2641)		SGS-Thomson	M74HC646		
	Motorola	MC74HC374 (2942)		Toshiba	TC74HC423 (3340)				Motorola	MC74HC574 (2942)			74HC646 (3057)		
	National	MM74HC374				HD74HC4514	GE/RCA	CD74HC4514 (2641)		National	MM74HC574	HD74HC648	GE/RCA	CD74HC648 (2641)	
	SGS-Thomson	M74HC374		Motorola	MC74HC4514 (2945)				SGS-Thomson	M74HC574		Motorola	MC74HC648 (2940)		
	Signetics	74HC374 (3057)		National	MM74HC4514					Signetics	74HC574 (3057)	National	MM74HC648		
	TI	SN74HC374		SGS-Thomson	M74HC4514			HD74HC575	GE/RCA	CD74HC575 (2641)		SGS-Thomson	M74HC648		
	Toshiba	TC74HC374A (3340)			Signetics	74HC4514 (3057)			Motorola	MC74HC575 (2942)			74HC648 (3057)		
HD74HC375	SGS-Thomson	M74HC375		TI	SN74HC4514				National	MM74HC575		TI	SN74HC648		
	TI	SN74HC375		Toshiba	TC74HC4514A (3340)			HD74HC590	Motorola	MC74HC590		Toshiba	TC74HC648 (3340)		
	Toshiba	TC74HC375A (3340)				HD74HC490	TI	SN74HC490	National	MM74HC590			TC74HC648A (3340)		
HD74HC377	GE/RCA	CD74HC377 (2641)		Motorola	MC74HC51 (2938)				SGS-Thomson	MC74HC590		HD74HC651	GE/RCA	CD74HC651	
	Motorola	MC74HC377		National	MM74HC51					TI	SN74HC590		Motorola	MC74HC651	
	SGS-Thomson	M74HC377		Signetics	MC74HC51			HD74HC592	Motorola	MC74HC592		SGS-Thomson	M74HC651		
	Signetics	74HC377 (3057)		TI	SN74HC51				National	MM74HC592		TI	SN74HC651		
	TI	SN74HC377		Toshiba	TC74HC51A (3340)				TI	SN74HC592		Toshiba	TC74HC651A (3340)		
	Toshiba	TC74HC377 (3340)				HD74HC533	GE/RCA	CD74HC533 (2641)		Toshiba	TC74HC592 (3340)	HD74HC652	GE/RCA	CD74HC652	
	Motorola	MC74HC390 (2641)		Motorola	MC74HC533 (2941)				Motorola	MC74HC593		Motorola	MC74HC652		
	National	MM74HC390		National	MM74HC533			HD74HC593	National	MM74HC593		SGS-Thomson	M74HC652		
	SGS-Thomson	M74HC390		SGS-Thomson	M74HC533				TI	SN74HC593			SN74HC652		
	Signetics	74HC390 (3057)			Signetics	74HC533 (3057)		HD74HC595	Cypress	CY7C164 (2580)		TI	SN74HC652		
	TI	SN74HC390		TI	SN74HC533				Inmos	IMS1620 (2794)		Toshiba	TC74HC652A (3340)		
	Toshiba	TC74HC390A (3340)		Toshiba	TC74HC533A (3340)				MicronTech	MT5C6404			TC74HC652A (3340)		
HD74HC393	GE/RCA	CD74HC393 (2641)				HD74HC534	GE/RCA	CD74HC534 (2641)		Motorola	MC74HC595 (2944)	HD74HC73	GE/RCA	CD74HC73 (2640)	
	Motorola	MC74HC393 (2942)		Motorola	MC74HC534 (2942)				National	MM74HC595		Motorola	MC74HC73 (2941)		
	National	MM74HC393		National	MM74HC534				Performance	P4C188		National	MM74HC73		
	SGS-Thomson	M74HC393		SGS-Thomson	M74HC534				SGS-Thomson	M74HC595		SGS-Thomson	M74HC73		
	Signetics	74HC393 (3057)			Signetics	74HC534 (3057)			TI	SMJ64C64			74HC73 (3057)		
	TI	SN74HC393			TI	SN74HC534				SN74HC595		TI	SN74HC73		
	Toshiba	TC74HC390A (3340)			Toshiba	TC74HC534A (3340)			Toshiba	TC74HC595A (3340)		Toshiba	TC74HC73A (3340)		
HD74HC4020	GE/RCA	CD74HC4020 (2641)				HD74HC540	GE/RCA	CD74HC540 (2641)				HD74HC74	GE/RCA	CD74HC74 (2640)	
	Motorola	MC74HC4020 (2943)					Motorola	MC74HC540 (2940)				Motorola	MC74HC74 (2941)		
	National	MM74HC4020					National	MM74HC540				National	MM74HC74		
	SGS-Thomson	M74HC4020					SGS-Thomson	M74HC540				SGS-Thomson	M74HC74		
	Signetics	74HC4020 (3057)						Signetics	74HC597 (3057)				74HC74 (3057)		
	TI	SN74HC4020							TI	SN74HC597		HD74HC75	GE/RCA	CD74HC75 (2640)	
	Toshiba	TC74HC4020 (3340)							Toshiba	TC74HC597A (3340)		Motorola	MC74HC75 (2941)		
		(Continued)										National	MM74HC75		
												SGS-Thomson	M74HC75		
													74HC75 (3057)		
													SN74HC75		
													TC74HC75A (3340)		
													CD74HC76 (2640)		
													MC74HC76 (2941)		
													MM74HC76		
													M74HC76		
													SN74HC76		
													TC74HC76A (3340)		
													(Continued)		

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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
HD74HC77	National SGS-Thomson	MM74HC77 M74HC77 T74HC77 Toshiba TC74HC77A (3340)		HD74LS109	Signetics TI	74LS109 (3057) SN74LS109A		HD74LS14	Panasonic SGS-Thomson	DN74LS14 T74LS14		HD74LS161A	Panasonic SGS-Thomson	DN74LS161A T74LS161	
HD74HC78	TI	SN74HC78		HD74LS11	Motorola	SN74LS11 (2937) DM74LS11 74LS11		HD74LS148	Signetics TI	74LS14 (3057) SN74LS14		HD74LS162A	Signetics TI	74LS162A (3057) SN74LS162A	
HD74HC86	GE/RCA Motorola	CD74HC86 (2640) MC74HC86 (2938)			Panasonic SGS-Thomson	DN74LS11 T74LS11			Motorola	SN74LS148 (2946) SN74LS148			National	DM74LS162 74LS162	
	National SGS-Thomson	MM74HC86 M74HC86		HD74LS112	Signetics TI	74LS11 (3057) SN74LS11 SN74LS112A (2941)		HD74LS15	Motorola	SN74LS15 (2937) DM74LS15 74LS15			Panasonic SGS-Thomson	DN74LS162A T74LS162	
	Signetics TI	74HC86 (3057) SN74HC86			National	DM74LS112 74LS112		HD74LS15	Panasonic SGS-Thomson	DN74LS15 T74LS15		HD74LS163	Signetics TI	74LS162A (3057) SN74LS162A	
HD74LS00	Toshiba Motorola	TC74HC86 (3340) SN74LS00 (2937)			Panasonic SGS-Thomson	DN74LS112 T74LS112			TI	SN74LS15 SN74LS15A			Hitachi	HD74LS163A SN74LS163A	
	National	DM74LS00 74LS00		HD74LS113	Signetics TI	74LS112 (3057) SN74LS112A SN74LS113A (2941)		HD74LS151	Motorola	SN74LS151 (2944) DM74LS151 74LS151			National	DM74LS163 74LS163	
	Panasonic SGS-Thomson	DN74LS00 T74LS00			Motorola	SN74LS113A (2941) DM74LS113 DN74LS113			National	DM74LS151 DN74LS151			Panasonic SGS-Thomson	DN74LS163A T74LS163	
	Signetics TI	74LS00 (3057) SN74LS00		HD74LS114	Signetics TI	74LS113 (3057) SN74LS113A SN74LS114A (2942)		HD74LS151A	Hitachi	HD74LS151 SN74LS151 (2944)		HD74LS163A	Hitachi	HD74LS163 SN74LS163A	
HD74LS01	Motorola	SN74LS01			National	DM74LS114 DN74LS114			Motorola	SN74LS151 (2944) DM74LS151 74LS151			National	DM74LS163 74LS163	
	National	DM74LS01 74LS01			SGS-Thomson	T74LS113 SN74LS113			Panasonic SGS-Thomson	DN74LS151 T74LS151			Panasonic SGS-Thomson	DN74LS163A T74LS163	
	Panasonic SGS-Thomson	DN74LS01 T74LS01		HD74LS114	Motorola	SN74LS114A (2942) DM74LS114 DN74LS114		HD74LS152	Hitachi	HD74LS151 SN74LS151 (2944)			Hitachi	HD74LS163 SN74LS163A	
	Signetics TI	74LS01 (3057) SN74LS01			National	DM74LS114 DN74LS114			National	DM74LS151 74LS151			National	DM74LS163 74LS163	
HD74LS02	Motorola	SN74LS02 (2938) DM74LS02 74LS02		HD74LS12	Motorola	SN74LS12 (2937) DM74LS12 DN74LS12		HD74LS152	SGS-Thomson	T74LS152 74LS152		HD74LS164	Signetics TI	74LS163A (3057) SN74LS163A	
	National	DM74LS02 74LS02			Panasonic SGS-Thomson	DN74LS12 T74LS12			Signetics TI	SN74LS152 SN74LS152			Motorola	SN74LS164A (2943) DM74LS164	
	Panasonic SGS-Thomson	DN74LS02 T74LS02			Signetics TI	74LS12 (3057) SN74LS12		HD74LS153	National	DM74LS153 74LS153			National	DM74LS164 74LS164	
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	National	DM74LS03 74LS03			National	DM74LS122 SN74LS122			Panasonic SGS-Thomson	DN74LS153 T74LS153		HD74LS169	Signetics TI	74LS164 (3057) SN74LS164	
	Panasonic SGS-Thomson	DN74LS03 T74LS03		HD74LS123	Motorola	SN74LS123 (2946) DM74LS123 SN74LS123		HD74LS155	Motorola	SN74LS155 (2945) DM74LS155 74LS155			TI	SN74LS164 SN74LS169 (2943)	
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	Panasonic SGS-Thomson	DN74LS04 T74LS04			National	DM74LS13 SN74LS13		HD74LS156	Signetics TI	SN74LS155A SN74LS156 (2945)		HD74LS174	Motorola	SN74LS174 (2942) DM74LS174 74LS174	
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HD74LS10	Motorola	SN74LS10 (2937) DM74LS10 74LS10			Motorola	SN74LS139 (2945) DM74LS139 74LS139			National	DM74LS160 74LS160			Signetics TI	74LS83A (3057) SN74LS83A	
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HD74LS191	Panasonic SGS-Thomson	DN74LS191	(Cont'd)		National	74LS240			Panasonic	DN74LS280			Signetics	74LS37	
		T74LS191			Panasonic	DN74LS240			SGS-Thomson			HD74LS38	TI	SN74LS37	
	Signetics	74LS191 (3057)				T74LS240			TI	SN74LS280			Motorola	SN74LS38 (2937)	
HD74LS192	TI	SN74LS191		HD74LS241	Motorola	SN74LS241 (2939)		HD74LS283	Motorola	SN74LS283 (2947)			National	DM74LS38	
	Motorola	SN74LS192 (2942)			National	74LS241			National	DM74LS283			Panasonic	74LS38	
	National	DM74LS192			Panasonic	DN74LS241			Panasonic	DN74LS283			SGS-Thomson	DN74LS38	
		74LS192			SGS-Thomson									T74LS38	
	Panasonic	DN74LS192				T74LS241			Signetics	74LS283 (3057)		HD74LS386	Motorola	SN74LS38 (3057)	
	SGS-Thomson			HD74LS244	Signetics	74LS241 (3057)		HD74LS283A	TI	SN74LS283			National	DM74LS386	
		T74LS192			TI	SN74LS241			Hitachi	HD74LS283			Panasonic	DM74LS386	
	Signetics	74LS192 (3057)			Motorola	SN74LS244 (2939)			Motorola	SN74LS283 (2947)		HD74LS40	Motorola	SN74LS386A	
HD74LS193	TI	SN74LS192			National	74LS244			National	DM74LS283			TI	SN74LS386A	
	Motorola	SN74LS193 (2942)			Panasonic	DN74LS244							Motorola	SN74LS40 (2937)	
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		74LS193				T74LS244			SGS-Thomson				Panasonic	DN74LS40	
	Panasonic	DN74LS193			Signetics	74LS244 (3057)				T74LS283			SGS-Thomson	T74LS40	
	SGS-Thomson			HD74LS247	TI	SN74LS244			Signetics	74LS283 (3057)				74LS40	(3057)
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	Signetics	74LS193 (3057)			National	DM74LS247			Motorola	SN74LS290 (2942)			TI	SN74LS40	
HD74LS194A	TI	SN74LS193				74LS247			National	DM74LS290			Motorola	SN74LS42 (2945)	
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	National	DM74LS194			National	DM74LS248			Panasonic	DN74LS290				74LS42	
		74LS194A				74LS248			SGS-Thomson				Panasonic	DN74LS42	
	Panasonic	DN74LS194A			SGS-Thomson			HD74LS293		T74LS290			SGS-Thomson	T74LS42	
	SGS-Thomson			HD74LS249	Motorola	SN74LS249			Signetics	74LS290 (3057)				74LS42 (3057)	
		T74LS194A			National	DM74LS249			TI	SN74LS290		HD74LS47	Signetics	74LS42 (3057)	
	Signetics	74LS194A (3057)				74LS249			Motorola	SN74LS293 (2942)			TI	SN74LS42	
HD74LS195A	TI	SN74LS194A			SGS-Thomson				National	DM74LS293			Motorola	SN74LS47 (2945)	
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	Motorola	MC719924			National	DM74LS251			Panasonic	DN74LS293				74LS47	
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		SN74LS195A (2961)			Panasonic	DN74LS251				T74LS293		HD74LS48	TI	SN74LS47	
		SN74LS195A (2944)			SGS-Thomson				Motorola	SN74LS298 (2944)			National	SN74LS48 (2945)	
	National	μA7924				T74LS251			National	74LS298				74LS48	
		DM74LS195			Signetics	74LS251 (3057)			SGS-Thomson			HD74LS48	SGS-Thomson	T74LS48	
		LM7924		HD74LS253	TI	SN74LS251				T74LS298				74LS48	
		74LS195A			Motorola	SN74LS253 (2944)			Signetics	74LS298 (3057)		HD74LS49	Signetics	74LS48	
	NEC	μPC7924			National	DM74LS253			TI	SN74LS298			Motorola	SN74LS49	
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	SGS-Thomson					74LS253		HD74LS299	National	74LS299			SGS-Thomson	T74LS49	
		L7924			Panasonic	DN74LS253			SGS-Thomson					SN74LS49	
		T74LS195A			SGS-Thomson					T74LS299		HD74LS51	TI	SN74LS49	
	Signetics	74LS195A (3057)				T74LS253			TI	SN74LS299			Motorola	SN74LS51 (2938)	
	TI	μA7924		HD74LS257	Signetics	74LS253 (3057)			Motorola	SN74LS30 (2937)			National	DM74LS51	
		SN74LS195A			TI	SN74LS253		HD74LS30	National	DM74LS30				74LS51	
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		74LS196			National	74LS257A			SGS-Thomson			HD74LS54	Signetics	74LS51 (3057)	
HD74LS196	Panasonic	DN74LS196			SGS-Thomson					T74LS30			TI	SN74LS51	
	SGS-Thomson					T74LS257		HD74LS367	Signetics	74LS30 (3057)			Motorola	SN74LS54 (2938)	
		T74LS196			Signetics	74LS257 (3057)			TI	SN74LS30			National	DM74LS54	
	Signetics	N82S80			74LS257A (3057)				Hitachi	HD74LS367A				74LS54	
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	Motorola	SN74LS197 (2942)		HD74LS258	Motorola	SN74LS258A (2944)			National	DM74LS367			SGS-Thomson	T74LS54	
	National	DM74LS197				74LS258A				74LS367A				74LS54	
		74LS197			National	DM74LS258		HD74LS367	Panasonic	DN74LS367A			Signetics	74LS54 (3057)	
HD74LS197	Panasonic	DN74LS197				74LS258A			SGS-Thomson			HD74LS55	TI	SN74LS54	
	SGS-Thomson				Panasonic	DN74LS258A				T74LS367			Motorola	SN74LS55 (2938)	
		T74LS197			SGS-Thomson					T74LS367A			National	DM74LS55	
	Signetics	74LS197 (3057)				T74LS258				74LS367A				74LS55	
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HD74LS20	Motorola	SN74LS20 (2937)		HD74LS26	TI	SN74LS258B			TI	SN74LS367A			SGS-Thomson	T74LS55	
	National	DM74LS20			Motorola	SN74LS26 (2937)		HD74LS367A	Motorola	SN74LS367A (2939)				SN74LS55	
		74LS20			National	DM74LS26			National	DM74LS367		HD74LS73	TI	SN74LS55	
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	SGS-Thomson				Panasonic	DN74LS26			Panasonic	DN74LS367A			National	DM74LS73	
		T74LS20			SGS-Thomson				SGS-Thomson				Signetics	74LS73 (3057)	
	Signetics	74LS20 (3057)				T74LS26				T74LS367				SN74LS73A	
HD74LS21	TI	SN74LS20			Signetics	74LS26 (3057)				T74LS367A		HD74LS74	TI	SN74LS73A	
	Motorola	SN74LS21 (2937)		HD74LS27	TI	SN74LS26			Signetics	74LS367A (3057)			Hitachi	HD74LS74A	
	National	DM74LS21			Motorola	SN74LS27 (2938)			TI	SN74LS367A			Motorola	SN74LS74A (2941)	
		74LS21			National	DM74LS27		HD74LS368	Motorola	SN74LS368A (2939)			National	DM74LS74	
	Panasonic	DN74LS21				74LS27								74LS74	
	SGS-Thomson				Panasonic	DN74LS27			National	DM74LS368		HD74LS74	Panasonic	DN74LS74A	
		T74LS21			SGS-Thomson					74LS368A			SGS-Thomson	T74LS74	
	Signetics	74LS21 (3057)				T74LS27			Panasonic	DN74LS368A				74LS74	
HD74LS22	TI	SN74LS21			Signetics	74LS27 (3057)			SGS-Thomson			HD74LS74A	Signetics	SN74LS74A	
	Motorola	SN74LS22 (2937)		HD74LS279	TI	SN74LS27				T74LS368			TI	SN74LS74A	
	National	DM74LS22			Motorola	SN74LS279 (2941)			Signetics	74LS368A (3057)			Motorola	SN74LS74A (2941)	
	Panasonic	DN74LS22			National	DM74LS279			TI	SN74LS368A			National	DM74LS74	
	SGS-Thomson					74LS279		HD74LS37	Motorola	SN74LS37 (2937)				74LS74	
		T74LS22			Panasonic	DN74LS279			National	DM74LS37			Panasonic	DN74LS74A	
HD74LS221	Motorola	SN74LS221 (2946)			SGS-Thomson					74LS37			SGS-Thomson	T74LS74	
	National	DM74LS221				T74LS279			Panasonic	DN74LS37				74LS74	
		74LS221				74LS279			SGS-Thomson				Signetics	74LS74	
	TI	SN74LS221			Signetics	SN74LS279A (Continued)				T74LS37			TI	SN74LS74A	
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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Hitachi (Cont'd)				HD74S112	Motorola National	SN74S112 DM74S112 74S112		HD7402	Signetics TI	7402 SN7402 TA7402P	(3057)	HD74153	National	DM74153 74153	
HD74LS75	Motorola National Panasonic SGS-Thomson	SN74LS75 DM74LS75 DN74LS75	(2941)	HD74S112	Signetics TI	74S112 SN74S112	(3057)	HD7403	Toshiba National	DM7403 7403		HD74153	Signetics TI	74153 SN74153	(3057)
				HD74S113	National	DM74S113 74S113	(3057)	HD7403	Saratoga Signetics TI	SSL7403 7403 SN7403	(3057)	HD74154	IDT National	IDT7213 DM7213 DM74154 DM8311 9311	
HD74LS76	Motorola National Panasonic Signetics TI	74LS75 SN74LS75 SN74LS76A DM74LS76 DN74LS76 74LS76 SN74LS76A	(2941)	HD74S114	National TI	SN74S114 SN74S114		HD7404	National	DM7404 7404		HD74154	Raytheon Signetics TI	RC9311 74154 SN54154	(3057)
				HD74S133	National	DM74S133 74S133		HD7404	Saratoga Signetics TI	SSL7404 7404 SN7404	(3057)	HD74156	National	DM74156 74156	(3057)
HD74LS78	Motorola National Panasonic TI	SN74LS78A DM74LS78 DN74LS78 SN74LS78A		HD74S134	National	DM74S134 74S134	(3057)	HD7405	Toshiba National	TC7404UB DM7405 7405		HD74157	National	SN74156 DM74157 74157	(3057)
HD74LS83A	Motorola National	SN74LS83A DM74LS83A 74LS83A	(2947)	HD74S135	National	DM74S135 74S135	(3057)	HD7405	Signetics TI	7405 SN7405	(3057)	HD7416	National	DM7416 7416	
	Panasonic SGS-Thomson	DN74LS83A T74LS83		HD74S140	National	DM74S140 74S140	(3057)	HD7406	National	DM7406 7406		HD7416	Signetics TI	7416 SN7416	(3057)
				HD74S15	National	SN74S15 DM74S15		HD7406	Signetics TI	7406 SN7406	(3057)	HD7416	Signetics TI	7416 SN7416	(3057)
HD74LS85	Motorola National	74LS83A SN74LS83A SN74LS85 DM74LS85 74LS85	(2946)	HD74S182	National	SN74S182 DM74S182		HD7407	National	DM7407 7407		HD74160	National	DM74160 74160	(3057)
	Panasonic Signetics TI	DN74LS85 74LS85 SN74LS85	(3057)	HD74S182	Signetics TI	74S182 SN74S182	(3057)	HD7407	Signetics TI	7407 SN7407	(3057)	HD74161	National	DM74161 74161	
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	Panasonic SGS-Thomson	DN74LS86 T74LS86		HD74S189	Cypress	CY27LS03M CY27S03 CY7C189 CY74S189	(2580)	HD7408	Signetics TI	7408 SN7408	(3057)	HD74162	National	DM74162 SN74162	
				HD74S189	National	DM74S189 DM7599 DM8599 54F189		HD7409	National	DM7409 7409		HD74163	National	DM74163 74163	
HD74LS91	Motorola TI	SN74LS91 SN74LS91		HD74S189	TI	SN54HCT189 SN54HC189		HD7409	Saratoga TI	SSL7409 SN7409		HD74163	Signetics TI	74163 SN74163	(3057)
HD74LS92	Motorola National Panasonic SGS-Thomson	SN74LS92 DM74LS92 DN74LS92	(2942)			SN74HCT189 SN74HC189		HD7410	National	DM7410 7410		HD74166	National	DM74166 74166	
				HD74S20	National	DM74S20 74S20		HD7410	Signetics TI	7410 SN7410	(3057)	HD74166	Signetics TI	74166 SN74166	(3057)
				HD74S20	Signetics TI	74S20 SN74S20	(3057)	HD74107	National	DM74107 74107	(3057)	HD7417	National	DM7417 7417	
HD74LS93	Motorola National Panasonic SGS-Thomson	SN74LS93 DM74LS93 DN74LS93	(2942)	HD74S22	National TI	DM74S22 SN74S22		HD7411	National	SN74107 DM7411 7411		HD7417	Signetics TI	7417 SN7417	(3057)
				HD74S251	National	DM74S251 74S251	(3057)	HD7411	Signetics National	7411 DM74121 74121	(3057)	HD74170	Signetics TI	74170 SN74170	(3057)
				HD74S280	National	SN74S251 DM74S280		HD74121	Signetics TI	74121 SN74121	(3057)	HD74170	Signetics TI	74170 SN74170	(3057)
HD74LS95B	Motorola National	SN74LS95B DM74LS95B 74LS95B	(2944)	HD74S280	Signetics TI	74S280 SN74S280	(3057)	HD74125	National	DM74125 DM8093		HD74174	Signetics TI	74174 SN74174	(3057)
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				HD74S289	Signetics TI	74S289 SN7489		HD74126	National	DM74126 DM8094		HD74175	National	DM74175 74175	
HD74S00	National	DM74S00 74S00		HD74S289	Signetics TI	74S289 SN74S289	(3057)	HD74126	Signetics TI	74126 SN74126	(3057)	HD74175	TI	SN74175	
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HD74S02	Signetics TI	74S02 SN74S02	(3057)	HD74S51	National	74S51		HD7413	Signetics TI	7413 SN7413	(3057)	HD74181	Lansdale National	ML54181 DM74181	
HD74S03	National	DM74S03 74S03		HD74S51	Signetics TI	74S51 SN74S51	(3057)	HD7414	National	DM7414 7414		HD74181	Raytheon	RC9341 RM9341	
HD74S03	Signetics TI	74S03 SN74S03	(3057)	HD74S56	National	SN74S56		HD7414	Signetics TI	7414 SN7414	(3057)	HD74181	Signetics National	74181 DM74180	(3057)
HD74S04	National	DM74S04 74S04		HD74S74	National	DM74S74 74S74		HD7414	Signetics TI	7414 SN7414	(3057)	HD74190	Signetics TI	74190 SN74190	(3057)
HD74S04	Signetics TI	74S04 SN74S04	(3057)	HD74S74	Signetics TI	74S74 SN74S74	(3057)	HD7414	National	DM7414 7414		HD74191	National	DM74191 SN74191	(3057)
HD74S05	National	DM74S05 74S05		HD74S86	National	DM74S86 74S86		HD7414	Signetics TI	7414 SN7414	(3057)	HD74194	National	DM74194 74194	(3057)
HD74S05	Signetics TI	74S05 SN74S05	(3057)	HD74S86	Signetics TI	74S86 SN74S86	(3057)	HD7414	Signetics TI	7414 SN7414	(3057)	HD74198	National	DM74198 SN74198	
HD74S10	National	DM74S10 74S10		HD7400	National	7400		HD74141	National	DM74141 DM7441 93141		HD7420	LSI Logic National	LL7420 DM7420 DM9004C	
HD74S10	Signetics TI	74S10 SN74S10	(3057)	HD7400	Signetics TI	7400 SN7400	(3057)	HD74141	Signetics	74141 7441		HD7420	LSI Logic National	DM7420 DM9004C	
HD74S11	National	DM74S11 74S11		HD7401	Toshiba GoldStar	TC7400B GL7401	(2713)	HD74145	National	DM74145 74145		HD7420	Raytheon Signetics TI	RL7420 7420 SN7420	(3057)
HD74S11	Signetics TI	74S11 SN74S11	(3057)	HD7401	National	DM7401 7401		HD74145	Signetics TI	74145 SN74145	(3057)	HD7426	National	DM7426 DM8810	
				HD7401	Saratoga	SSL7401 SN7401		HD74148	National	DM74148 DM8318 N82148		HD7426	Signetics TI	7426 SN7426	(3057)
				HD7402	National	DM7402 7402		HD74148	TI	SN74148		HD7427	National	DM7427 7427	
								HD74150	National	DM74150 74150		HD7427	Signetics TI	7427 SN7427	(3057)
								HD74150	Signetics TI	74150 SN74150	(3057)	HD7430	National	DM7430 7430	

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				• HD75188	Motorola	MC1489 MC1489A (2989)	(Cont'd) (2989)	• HM27128	Intel	(Cont'd)		• HM4827256	VLSI Tech Waferscale	VT27C256 WS27C256 (3390) WS57C256F (3390)	
• HD7430	Signetics	7430 (3057)		• HD75188	National	• A1489 • A1489A • A212A • A750 DS1488 DS1489 DS1489A MC1488 MC1489		• HM27128	Krueger	27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• HM482764	AMD	AM2764 AM2764A MBM2764 M2764 P2764A 2764 2764A	
• HD7432	Signetics	7432 (3057)		• HD75188	SGS-Thomson	MC1488 MC1489 MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		• HM27128	Mitsubishi SEEQ	M5L27128 M27128 27128		• HM482764	Fujitsu Intel	M2764 P2764A 2764 2764A	
• HD7437	Signetics	7437 (3057)		• HD75188	TI	MC1488 MC1489 SN75188		• HM27128	SGS-Thomson	M27128		• HM482764	Krueger	2764-200 (2877) 2764-250 (2877) 2764-300 (2877) 2764-450 (2877) 2764A-200 (2877) 2764A-250 (2877) 2764A-300 (2877) 2764A-450 (2877)	
• HD7438	Signetics	7438 (3057)		• HD75188	SiliconG	SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		• HM27128	Toshiba	TMM24128		• HM482764	Mitsubishi National OKI	M5L2764 2764 MSM2764A MSM2764A	
• HD7440	Signetics	7440 (3057)		• HD75188	TI	MC1488 MC1489 SN75188		• HM482764	Cypress Harris	CY7C147 (2580) HM6504 (2748) MA5104 5104 HM6504 M58981 NMC6504 MSM5104 R6504 Rockwell Toshiba ITT ITT4116		• HM482764	SEEQ	2764 5133	
• HD7442	Signetics	7442 (3057)		• HD75189	Exar	XR1468 (2619) XR4195		• HM482764	SGS-Thomson	M4116 HYB4116 2690 STC4116 TMM416 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A		• HM48416	TI	M2764A TMS2764 (3326) IMS2620 MSM4416 TMS4416 AM2147 CY2147 CY7C147 (2580)	
• HD7445	GoldStar	GL7445 (2713)		• HD75189	GoldStar	GD75189 (2708) MC1468 • A212A • A750		• HM4716	Krueger	4116-120 (2877) 4116-150 (2877) 4116-200 (2877)		• HM4847	AMD Cypress	AM2147 CY2147 CY7C147 (2580)	
• HD7446	Signetics	7446 (3057)		• HD75189	Motorola	MC1468 • A212A • A750		• HM4716	National	F16K F4116 MM5290 MSM3716		• HM4847	Fujitsu Intel	MBM2147 M2147H 2147 2147H	
• HD7450	Signetics	7450 (3057)		• HD75189	TI	SN75189 SN75189A		• HM4716	OKI SGS-Thomson	M4116 HYB4116 2690 STC4116 TMM416 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A		• HM4847	Krueger	2147-35 (2877) 2147-45 (2877) 2147-55 (2877) 2147-70 (2877)	
• HD7451	Signetics	7451 (3057)		• HD75451A	National	DS75451 75451 SG75451 SG75451A SG75451B SN75451 SN75451B		• HM4827128	Siemens Signetics STC Toshiba AMD	M4116 HYB4116 2690 STC4116 TMM416 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A		• HM4847	Motorola National	MCM6147 MM2147 NMC2141 NMC2147H NM2147	
• HD7454	Signetics	7454 (3057)		• HD75451A	TI	SN75451 SN75451B		• HM4827128	Krueger	27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• HM4864	SGS-Thomson	ET2147 STC TMM3150 HA5104 IMS2600 IDT7164 (2848) IDT Intel Krueger 4164-120 (2877) 4164-150 (2877) 4164-200 (2877)	
• HD7470	Signetics	7470 (3057)		• HD75452	National	• A75452 DS75452 75452 SG75452 SG75452A SG75452B SN75452 SN75452B MC75453 • A75453 DS75453 LM75453 75453		• HM4827128	Intel	M27128 N27128A P27128 P27128A 27128 27128A		• HM4864	MicroTech Motorola	MT4264 MCM4164 MCM4164C MCM6665 F4164 F64K NMC4164 MSM3764 MN4164 MN4864	
• HD7473	Signetics	7473 (3057)		• HD75452	SiliconG	SG75452 SG75452A SG75452B SN75452 SN75452B MC75453 • A75453 DS75453 LM75453 75453		• HM4827128	SGS-Thomson	M27128 N27128A P27128 P27128A 27128 27128A		• HM4864	National	F4164 F64K NMC4164 MSM3764 MN4164 MN4864	
• HD7474	Signetics	7474 (3057)		• HD75453	Motorola	MC75453 • A75453 DS75453 LM75453 75453		• HM4827256	AMD Atmel Fujitsu	AM27C256 AT27C256 MBM27C256A (2628)		• HM4864	Samsung	KM4164A (3036) KM4164B (3036)	
• HD7475	Signetics	7475 (3057)		• HD75453	SiliconG	SG75453 SG75453A SG75453B SN75453B		• HM4827256	Hitachi Intel	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913)		• HM4864	Saratoga SGS-Thomson	SSM7164	
• HD7476	Signetics	7476 (3057)		• HD75453	TI	AM100480 MB100480 • PB100480 SSM100480 SSM100480 MBM100484 • PB100484 MBM100490 HDC9224		• HM4827256	Krueger	27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913)		• HM4864	Siemens TI	TS4164 HYB4164 SM4164 TMS4164 TMM4164 TMM4164A V51C64 HA5104 IMS2600 IDT7164 (2848) IDT Intel Krueger 4164-120 (2877) 4164-150 (2877) 4164-200 (2877)	
• HD7478	Signetics	7478 (3057)		• HM100480	AMD	AM100480		• HM4827256	Mitsubishi National	M5L27128 M27128 27128		• HM4864A	Toshiba	MT4264 MCM4164 MCM4164C MCM6665	
• HD7485	Signetics	7485 (3057)		• HM100484	Fujitsu	SSM100484		• HM4827256	NEC OKI SEEQ SGS-Thomson	• PD27C256A MSM27C256 27C256 TS27C256 27C256 CXK54256P SM127C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		• HM4864A	Vitelco Harris Immos	HA5104 IMS2600 IDT7164 (2848) IDT Intel Krueger 4164-120 (2877) 4164-150 (2877) 4164-200 (2877)	
• HD7486	Signetics	7486 (3057)		• HM100490	Fujitsu	SSM100490-15 IDT100490-15 (2827)		• HM4827256	Microchip	RO9256 27C256 (2913)		• HM4864A	Saratoga SGS-Thomson	SSM7164	
• HD7488	Signetics	7488 (3057)		• HM100490-15	Fujitsu	SSM100490-15 MBM10484 (2626)		• HM4827256	SGS-Thomson	TS27C256 27C256 CXK54256P SM127C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		• HM4864A	MicronTech Motorola	MT4264 MCM4164 MCM4164C MCM6665	
• HD7489	Signetics	7489 (3057)		• HM10484	National	MC10484 F10484 • PB10484 SSM10484 SSM10484 MBM10490-15 IDT10490-15 SSM10490-15 SSM10415 MBM10415 MC10146 (2948)		• HM4827256	SGS-Thomson	TS27C256 27C256 CXK54256P SM127C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		• HM4864A	SGS-Thomson	SSM7164	
• HD7496	Signetics	7496 (3057)		• HM10490-15	Fujitsu	SSM10490-15 IDT10490-15 SSM10490-15 SSM10415 MBM10415 MC10146 (2948)		• HM4827256	SGS-Thomson	TS27C256 27C256 CXK54256P SM127C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		• HM4864A	SGS-Thomson	SSM7164	
• HD75110	Motorola	MC75110 LM75110 75110		• HM2110	Motorola	MC10146 (2948)		• HM4827256	SGS-Thomson	TS27C256 27C256 CXK54256P SM127C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		• HM4864A	SGS-Thomson	SSM7164	
• HD75110	TI	SN75110A DS75154 SN75154		• HM27128	AMD	AM27128A M27128 N27128A P27128 P27128A		• HM4827256	Toshiba	TC54256 TC57256		• HM4864A	SGS-Thomson	SSM7164	
• HD75154	TI	SN75154		• HM27128	Intel	AM27128A M27128 N27128A P27128 P27128A		• HM4827256	SGS-Thomson	TS27C256 27C256 CXK54256P SM127C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		• HM4864A	SGS-Thomson	SSM7164	
• HD75188	Exar	XR1488 (2619) XR1489A (2619) GD75188 (2708) MC1488 (2983, 2989)		• HM27128	Intel	AM27128A M27128 N27128A P27128 P27128A		• HM4827256	SGS-Thomson	TS27C256 27C256 CXK54256P SM127C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		• HM4864A	SGS-Thomson	SSM7164	
• HD75188	GoldStar	GD75188 (2708) MC1488 (2983, 2989)		• HM27128	Intel	AM27128A M27128 N27128A P27128 P27128A		• HM4827256	SGS-Thomson	TS27C256 27C256 CXK54256P SM127C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		• HM4864A	SGS-Thomson	SSM7164	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

ART. SOURCE DIRECTORY

♦ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Hitachi (Cont'd)				HM6116	(Cont'd)			HM6148HL	Cypress	CY2148 CY7C148 (2580) CY7C149 (2580)	(Cont'd)	HM6168	MicronTech	MT5C1604 MT5C1605 MT5C1608		
HM58064 (Cont'd)					TI	SMJ68CE16 TC5517B						HM6168	Mitsubishi	M5M21C68P		
	Intel	IDT7M7864 I2864A			Toshiba	TMM2015A TMM2018 TMM2018AP			Hitachi	HM6148H			Mosel	MS6168		
	Microchip	28C64A (2918)			UMC	UM6116			Intel	2148H		HM6168	Motorola	MCM6168		
	Mitsubishi	M5M28C64			Vitellic	V61C16 V62C16			Krueger	2148-35 (2877) 2148-45 (2877) 2148-70 (2877)		HM6168	NEC	μPD4314 μPD4314C		
	National	NMC98C64			VLSI Tech	VT20C18 (3343, 3345, 3349)			National	NMC2148 NM2148		HM6168	Performance	P4C168 P4C169		
	NEC	μPD28C64							Performance	P4C149		HM6168	Ricoh	PS6168		
	Samsung	KM28C64 (3038)		HM6117	Fujitsu	MBM8418 MB8418		HM6167	Saratoga	SSM2148		HM6168	Saratoga	SSM6168		
	SEEQ	KM2864A DQ2864 DQ2864H DQ52B33		HM6117	S-MOS	SRM2018 SCM20C16			SGS-Thomson	ET2148			SGS-Thomson	MK41H68 MK41H69		
		28C64 2864		HM6147	Sprague	AM2147 Cy2147			UMC	UM2148		HM6168	Sony	CKX5416P/K		
	Xicor	X2864A (3412, 3452) X2864B (3412, 3452) X2864H (3412, 3452)		HM6147	AMD	2147 2147H		HM6167	AMD	SSM6167 Cypress CY7C167 (2580) Fujitsu MB8167A GE/RCA CDM5167 Harris HM65262 (2747) Hitachi HM6267 Inmos IMS1400 (2790)		HM6168	TI	SMJ64C16 SMJ68CE64		
HM6116	Cypress	CY6116 CY7C128 (2580) IH6116 (2670) CDM6116 (2644, 2653) CDM6116A (2644, 2653) GM76C28 (2696, 2700) HM6516 (2747) HM65162 (2747) HM6716 HM6719 HY61C16A HY6116A (2778) IMS1433 IDT6116 (2835) IDT6116A (2835) IDT6116L (2835) IDT6116S (2835) IDT6166 81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116-200 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)		HM6147	Krueger	2147-35 (2877) 2147-45 (2877) 2147-55 (2877) 2147-70 (2877)		HM6167	IDT	IDT6167 51C67		HM6168HP	AMD	VT20C19 (3349) VT20C68 (3343, 3345, 3350) VT20C69 (3343, 3345, 3350)		
	GE/Intersil	GE/RCA		HM6147	Motorola	MCM6147 MM2147 NMC2141 NMC2147H NM2147		HM6167	Intel	51C67						
				HM6147	National	NMC2141 NMC2147H NM2147		HM6167	Matra-Harris	HM65262 HM65263						
	GoldStar			HM6147	SGS-Thomson	ET2147 STC2147		HM6167	MicronTech	MT5C1601 M5M21C67						
	Harris			HM6147H	STC	STC2147 TMM3150		HM6167	Mitsubishi	M5M2167						
	Hitachi			HM6147H	Toshiba	TMM3150		HM6167	NEC	μPD4311						
	Hyundai			HM6147H	AMD	AM2147 Cy2147		HM6167	S-MOS	SRM2267 SRM2367						
	Inmos			HM6147H	Cypress	CY2147 CY7C147 (2580)		HM6167	SGS-Thomson	MK41H66 MK41H67						
	IDT			HM6147H	Fujitsu	MBM2147 M2147H		HM6167	Sharp	LH5167						
				HM6147H	Intel	2147 2147H		HM6167	STC	STC2167 STC6167						
				HM6147H	Krueger	2147-35 (2877) 2147-45 (2877) 2147-55 (2877) 2147-70 (2877)		HM6167	TI	SMJ61CD16						
	Intel			HM6147H	Motorola	MCM6147 MM2147		HM6167H	UMC	UM6167						
	Krueger			HM6147H	National	MM2147 NMC2141 NMC2147H NM2147			AMD	SSM6167						
				HM6147H	SGS-Thomson	ET2147 STC2147			Fujitsu	MB8167A						
				HM6148	STC	STC2147 TMM3150			GE/RCA	CDM5167						
				HM6148	Toshiba	TMM3150			Harris	HM65262 (2747) Hitachi HM6267 Inmos IMS1400 (2790)						
				HM6148H	AMD	AM2148 Cy21L49 Cy2148		HM6167H	MicronTech	MT5C1601 M5M21C67						
				HM6148H	Cypress	CY21L49 Cy2148 CY7C148 (2580) CY7C149 (2580)		HM6167H	Mitsubishi	M5M2167						
				HM6148H	Hitachi	HM6148H HM6148HL		HM6167H	NEC	μPD4311 S-MOS SRM2267 SRM2367						
				HM6148H	Intel	2148H Krueger 2148-35 (2877) 2148-45 (2877) 2148-70 (2877)		HM6167H	SGS-Thomson	MK41H66 MK41H67						
				HM6148H	National	NMC2148 NM2148		HM6167H	Sharp	LH5167						
				HM6148H	Performance	P4C149		HM6167H	TI	SMJ61CD16						
				HM6148H	Saratoga	SSM2148		HM6168	UMC	UM6167						
				HM6148H	SGS-Thomson	ET2148 UM2148			AMD	AM2169						
				HM6148H	UMC	AM2148		HM6168	AM99C58	AM99C58 AM99C68						
				HM6148H	AMD	AM2148 Cy21L49		HM6168	Cypress	CY7C168 (2580) CY7C169 (2580)						
				HM6148H	Cypress	CY2148 CY7C148 (2580) CY7C149 (2580)		HM6168	Fujitsu	MB81C68 MB81C68A						
				HM6148H	Hitachi	HM6148 HM6148HL		HM6168	Hitachi	HM6168HP HM6268 HM6268L						
				HM6148H	Intel	2148H Krueger 2148-35 (2877) 2148-45 (2877) 2148-70 (2877)		HM6168	Hyundai	HY61C68 IMS1421C						
				HM6148H	National	NMC2148 NM2148		HM6168	Inmos	IMS1421C IDT6120						
				HM6148H	Performance	P4C149			IDT	IDT6168 (2836) IDT6168A (2836) IDT6168L (2836) IDT6168LA (2836) IDT6168S (2836) IDT6168SA (2836)						
				HM6148H	SGS-Thomson	SSM2148										
				HM6148H	UMC	ET2148 UM2148		HM6168	Matra-Harris	IDT6169 HM65682 HM65768						
				HM6148H	AMD	AM2148										
				HM6148H	Cypress	AM2148 Cy21L49										
				HM6148H	Hitachi	CY2148 CY7C148 (2580) CY7C149 (2580)										
				HM6148H	Intel	2148H Krueger 2148-35 (2877) 2148-45 (2877) 2148-70 (2877)										
				HM6148H	National	NMC2148 NM2148										
				HM6148H	Performance	P4C149										
				HM6148H	Saratoga	SSM2148										
				HM6148H	SGS-Thomson	ET2148 UM2148										
				HM6148H	UMC	AM2148										
				HM6148H	AMD	AM2148										
				HM6148H	Cypress	CY21L49										
				HM6148H	Hitachi	CY2148 CY7C148 (2580) CY7C149 (2580)										
				HM6148H	Intel	2148H Krueger 2148-35 (2877) 2148-45 (2877) 2148-70 (2877)										
				HM6148H	National	NMC2148 NM2148										
				HM6148H	Performance	P4C149										
				HM6148H	Saratoga	SSM2148										
				HM6148H	SGS-Thomson	ET2148 UM2148										
				HM6148H	UMC	AM2148										
				HM6148H	AMD	AM2148										
				HM6148H	Cypress	CY21L49										
				HM6148H	Hitachi	CY2148 CY7C148 (2580) CY7C149 (2580)										
				HM6148H	Intel	2148H Krueger 2148-35 (2877) 2148-45 (2877) 2148-70 (2877)										
				HM6148H	National	NMC2148 NM2148										
				HM6148H	Performance	P4C149										
				HM6148H	Saratoga	SSM2148										
				HM6148H	SGS-Thomson	ET2148 UM2148										
				HM6148H	UMC	AM2148										
				HM6148H	AMD	AM2148										
				HM6148H	Cypress	CY21L49										
				HM6148H	Hitachi	CY2148 CY7C148 (2580) CY7C149 (2580)										
				HM6148H	Intel	2148H Krueger 2148-35 (2877) 2148-45 (2877) 2148-70 (2877)										
				HM6148H	National	NMC2148 NM2148										
				HM6148H	Performance	P4C149										
				HM6148H	Saratoga	SSM2148										
				HM6148H	SGS-Thomson	ET2148 UM2148										
				HM6148H	UMC	AM2148										
				HM6148H	AMD	AM2148										
				HM6148H	Cypress	CY21L49										
				HM6148H	Hitachi	CY2148 CY7C148 (2580) CY7C149 (2580)										
				HM6148H	Intel	2148H Krueger 2148-35 (2877) 2148-45 (2877) 2148-70 (2877)										
				HM6148H	National	NMC2148 NM2148										
				HM6148H	Performance	P4C149										
				HM6148H	Saratoga	SSM2148										
				HM6148H	SGS-Thomson	ET2148 UM2148										
				HM6148H	UMC	AM2148										
				HM6148H	AMD	AM2148										
				HM6148H	Cypress	CY21L49										
				HM6148H	Hitachi	CY2148 CY7C148 (2580) CY7C149 (2580)										
				HM6148H	Intel	2148H Krueger 2148-35 (2877) 2148-45 (2877) 2148-70 (2877)										
				HM6148H	National	NMC2148 NM2148										
				HM6148H	Performance	P4C149										
				HM6148H	Saratoga	SSM2148										
				HM6148H	SGS-Thomson	ET2148 UM2148										
				HM6148H	UMC	AM2148										
				HM6148H	AMD	AM2148										
				HM6148H	Cypress	CY21L49										
				HM6148H	Hitachi	CY2148 CY7C148 (2580) CY7C149 (2580)										
				HM6148H	Intel	2148H Krueger 2148-35 (2877) 2148-45 (2877) 2148-70 (2877)										
				HM6148H	National	NMC2148 NM2148										
				HM6148H	Performance	P4C149										
				HM6148H	Saratoga	SSM2148										

◆ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

CONCRETE

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				Cypress (Cont'd)				TI (Cont'd)				TI (Cont'd)			
HM6789	IDT	IDT6198 IDT7198	(Cont'd)	Intel	82S191 53S1681	CY7C292A (2585) CY7C292AL (2585)		Toshiba	TC541000 TC571024	TMS27C210 (3326) TMX27C210		Toshiba	TC541000 TC571024	TMS27C210 (3326) TMX27C210	
	MicronTech	MT5C6405		Motorola	MCM76101 MCM76160			Waferscale	WS27C010 (3390)	WS27C210L		Waferscale	WS27C010 (3390)	WS27C210L	
	Motorola	MCM6290								AM27C1024		Atmel	AT27C512	AT27C512	
	National	F100182		National	DM77S191 DM87S191			HN27C1024	AMD	AM27C1024		Fujitsu	MBM27C512	MBM27C512	
	NEC	μPD4363			DM87S291				Atmel	AT27C1024		IDT	IDT7M856S	IDT7M856S	
	Performance	P4C198			DM87S291A				Fujitsu	MBM27C1024					
	Saratoga	SSM7166			DM87S291B				Hitachi	HN27C1024G					
		SSM7198							Microchip	27C1024					
		V61C62			93Z510				National	μPD27C1024					
HM6789P	Vitellic	CY7C166 (2580)			93Z511					NMC27C1024		Intel	MD27512	MD27512	
	Hitachi	HM6789			93Z512				NEC	μPD27C1024		Krueger	27C512-200	27C512-200	
	Inmos	IMS1624 (2795)			93Z511				OKI	MSM27C1024					
	IDT	IDT6198			N82S191				SGS-Thomson	M27C1024					
	MicronTech	MT5C6405		Signetics	N82S191A					VT27C1024					
	Mitsubishi	M5M5189			82S191				VLSI Tech	VT27C1024					
		M5M5189AP			TBP38L166				AMD	AM27C1024					
	Motorola	MCM6290		TI	TMS27C291				Atmel	AT27C1024					
	National	54LS152		Waferscale	WS57C191 (3390)				Fujitsu	MBM27C1024					
	NEC	μPD4363		WS57C291 (3390)					Hitachi	HN27C1024					
	S-MOS	SRM2275							Microchip	27C1024					
	Saratoga	SSM7166		HN27C010G	AMD	AM27C010			National	μPD27C1024					
	SGS-Thomson				AM27010					NMC27C1024					
		T54LS152			AT27C010				NEC	μPD27C1024					
	Sony	CKX5465P			HN27C101				OKI	MSM27C1024					
	Toshiba	TC55417 (3335)			HN27C101G				SGS-Thomson	M27C1024					
	Vitellic	V61C62			HN27C301G					VT27C1024					
HM7688HP	VLSI Tech	VT65KS4		Intel	27010					27C128					
	Cypress	CYPLDC20G10			27210				VLSI Tech	VT27C1024					
	Fujitsu	MB81C88		Mitsubishi	M5M23C1000				Intel	M27C128					
	Gould/AMI	PEEL20CG10			M5M27C101K					27C128A					
	Hyundai	HY62C88			M5M27C102				Krueger	27C128-200					
	ICT	PEEL20CG10 (4257)			M5M27C102K					27C128-250					
					NMC27C1023				Microchip	27C128 (2912)					
	MicronTech	MT5C6404		NEC	μPDC1024				Mitsubishi	MSL27C128					
	Mitsubishi	M5M5188			μPD23C1010				TI	SMJ27C128 (3286)					
		M5M5188AP		OKI	MSM271000					TMS27C128 (3326)					
	MMI	PAL20L8			MSM271024					TMS27PC128 (3326)					
	National	F100165		S-MOS	SMM63100										
		PAL20L8		TI	TMS27C010 (3326)				VLSI Tech	VT27C128					
	NEC	μPD4362C			TMS27C210 (3326)				Waferscale	WS27C128					
	OKI	MSM5188A			TMX27C210				AMD	AM27C256					
	Samsung	CPL20L8-35 (3031)			TC571024				Atmel	AT27C256					
					TC571024				Fujitsu	MBM27C256A (2628)					
	Sharp	LH5262			Waferscale	WS27C010 (3390)									
	Signetics	100165 (3074)			WS27C210L				Intel	M27C256					
	Sony	CKX5464AP			AM27C010					27C256					
	TI	TIBPAL20L8		HN27C101	AMD	AM27C010			Krueger	27C256-200					
		TIBPAL20L8-20 (3283)			AM27010					27C256-250					
					AT27C010					27C256-300					
	VLSI Tech	VT64KS4			HN27C010G				Microchip	RO9256					
HN25085	AMD	AM27S185			HN27C101G					27C256					
		27S185			HN27C301G					MSL27256					
	Fujitsu	MB7128			27010				Mitsubishi	NMC27C256					
	MMI	63S841			27210				National	μPD27C256A					
	National	DM87S185			M5M23C1000				NEC	MSM27C256					
	Raytheon	29651			M5M27C101K				OKI	MSM27C256					
		29651A			M5M27C102				SEEQ	27C256					
	Signetics	N82S185			M5M27C102K				SGS-Thomson	TS27C256					
		S82S185			μPDC1024					27C256					
	TI	24S81-55			μPD23C1010				Signetics	CKX54256P					
• HN25088	AMD	AM27S180			MSM271000				Sony	SMJ27C256 (3286)					
	National	DM87S180			MSM271024				TI	TMS27C256 (3326)					
		DM87S229			SMM63100					TMS27PC256 (3326)					
HN25089	AMD	AM27S181			TMS27C010 (3326)										
	Cypress	CY7C282M (2585)			TMS27C210 (3326)				Toshiba	TC54256					
	Gould/AMI	S25089								TC57256					
	MMI	63S881			TC541000				VLSI Tech	VT27C256					
	National	DM77LS181			TC571024				Waferscale	WS27C256 (3390)					
		DM77S181			Waferscale	WS27C010 (3390)				WS57C256 (3390)					
		DM77S281			WS27C210L					WS57C256F (3390)					
		DM87S181			AM27C010				HN27C301G	AMD	AM27C010				
		DM87S281			AM27010					AM27010					
		93Z451			AT27C010				Atmel	AT27C010					
		93Z451			HN27C010G				Hitachi	HN27C010G					
	Raytheon	29631			HN27C101					HN27C101					
		29631AM			HN27C301G					HN27C101G					
	Signetics	29632			27010					27010					
		N82S181			27210				Intel	27210					
	TI	28586-60			M5M23C1000					M5M23C1000					
HN25168	AMD	AM27S190			M5M27C101K					M5M27C101K					
	National	DM77S190			M5M27C102					M5M27C102					
		DM87S190			M5M27C102K					M5M27C102K					
	Waferscale	WS57C291 (3390)			NMC27C1023				National	NMC27C1023					
HN25169	AMD	AM27S191			μPDC1024				NEC	μPDC1024					
		AM27S191SA			μPD23C1010					μPD23C1010					
		27S191			MSM271000				OKI	MSM271000					
	Cypress	CY7C291 (2585)			MSM271024					MSM271024					
		CY7C292 (2585)			SMM63100				S-MOS	SMM63100					
					TMS27C010 (3326)				TI	TMS27C010 (3326)					

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hitachi (Cont'd)				• HN4827128P	Intel	P27128A 27128 27128A	(Cont'd)	• HN613128	VLSI Tech	VT23129A VT23130 VT23131 VT23138	(Cont'd)	MB6264	Fujitsu	MB81C78A MB8464 MB8464A	(Cont'd)
HN27512-25		(Cont'd)		• HN4827128P	Krueger	27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• HN613128P	AMD Gould/AMI Microchip Mitsubishi NCR Signetics Supertex UMC VLSI Tech	AM9128 S23128 R09128 M5M23128 NCR23128 23128 CM1310 UM23128 VT23128 VT23129 VT23129A VT23130 VT23131 VT23138		GE/RCA	MB81C78A MB8464 MB8464A CDM6264	(2644, 2653)	
• HN2764	Microchip	27512-25		• HN4827128P	Mitsubishi	M5L27128 M27128 27128		• HN613256	Dense-Pac Gould/AMI Mitsubishi NCR	S23256 M5M23256 NCR23256 NCR23257	(2609)	GoldStar	GM76C88	(2696, 2703)	
• HN2764	AMD	AM2764		• HN4827128P	SEEQ			• HN613256	OKI Panasonic	MSM38256 MN23256 MN23257		Harris	HM65642	(2747)	
• HN2764	Fujitsu	MBM2764		• HN4827128P	SGS-Thomson	M27128 TMM24128		• HN613256	S-MOS	SMM23256 SMM6325 SMM6326		Hitachi	HM6264 HM6464		
• HN2764	Intel	M2764 P2764A 2764 2764A		• HN4827128P	Toshiba	AM2764 AM2764A MBM2764 M2764 P2764A		• HN613256	Signetics	23256 23256A TC53257		Hyundai	HY6264	(2778)	
• HN2764	Krueger	2764-200 (2877) 2764-250 (2877) 2764-300 (2877) 2764-450 (2877) 2764A-200 (2877) 2764A-250 (2877) 2764A-300 (2877) 2764A-450 (2877)		• HN4827128P	OKI	M5L2764 2764 MSM2764 MSM2764A		• HN613256	Toshiba	VT23256 VT23257		Inmos	IMS1630	(2796)	
• HN2764	Mitsubishi	M5L2764 2764 MSM2764 MSM2764A		• HN4827128P	SGS-Thomson	M2764A TMS2764 (3326) 2532-350 (2877) 2532-450 (2877)		• HN613256	OKI	MSM38256 MN23256 MN23257		IDT	IDT7165		
• HN2764	SEEQ	2764 5133		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	National	F3568 F3569 F3570 MM52264 NM52264		Krueger	6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)		
• HN2764	SGS-Thomson	M2764A TMS2764 (3326) 2532-350 (2877) 2532-450 (2877)		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Matra-Harris	HM2064 HM56162 HM62641 HM65641 HM65641		
• HN462532	Krueger	2532-350 (2877) 2532-450 (2877)		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		MicroLinear	ML8464		
• HN462532	National	MM2532 NMC2532 TDA2530 TDA2532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		MicronTech	MT5C6404 MT5C6408		
• HN462532	Plessey	TDA2530 SG2532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Mitsubishi	AM99C88 M5M165 M5M5164 M5M5165 M5M5178		
• HN462532	SiliconG	SG2532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Mosel	MS6264		
• HN462716	Harris	HM6617 (2752) 2716-350 (2877) 2716-450 (2877) 2716T-350 (2877) 2716T-450 (2877)		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Motorola	MCM6064 MCM61164 MCM6164 MCM6164C MCM6264		
• HN462716	Krueger	2716-350 (2877) 2716-450 (2877) 2716T-350 (2877) 2716T-450 (2877)		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		National	DP8464 NMC6164 μPD4364		
• HN462716	National	MM2716 MSM2716		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		NEC	μPD4364		
• HN462732	OKI	M2716 AM2732 M2732 2732 2732A		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		OKI	MSM5164 MSM5165 MSM5188		
• HN462732	AMD	M2716 AM2732 M2732 2732 2732A		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Performance	P4C164 P4C188		
• HN462732	Intel	M2716 AM2732 M2732 2732 2732A		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		S-MOS	SRM2064 SRM2264		
• HN462732	Krueger	2732-250 (2877) 2732-300 (2877) 2732-350 (2877) 2732-450 (2877) 2732A-250 (2877) 2732A-300 (2877) 2732A-350 (2877) 2732A-450 (2877)		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Samsung	KM6264 (3036) KM6264A (3036)		
• HN462732	National	MM2732 NMC2732 MSM2732		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Sharp	LH5164 LH5165		
• HN462732	OKI	M2732A TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Sony	CVK5864 CXK5164P CXK5863P CXK5865 CXK5865P		
• HN46332	Commodore	MPS2332 P51C69 P51C69 UM2168 51C69		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		STC	STC6264 SMJ68CE64		
• HN46332	Fujitsu	RO9432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		TI	TC5565 TC5565A		
• HN46332	Hitachi	UM2168 51C69		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Toshiba	TC5585 TC5588 TMM2063 TMM2064 TMM2088		
• HN46332	Intel	RO9432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		Vitellic	V61C62 V61C64 V62C64		
• HN46332	Microchip	R09432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257		VLSI Tech	V5C64 VT20C98 VT20C99		
• HN46332	National	MM2732 NMC2732 MSM2732		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	OKI	M2732A TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	SGS-Thomson	M2732A TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	TI	TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Toshiba	TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Commodore	MPS2332 P51C69 P51C69 UM2168 51C69		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Fujitsu	RO9432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Hitachi	UM2168 51C69		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Intel	RO9432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Microchip	R09432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	National	MM2732 NMC2732 MSM2732		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	OKI	M2732A TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	SGS-Thomson	M2732A TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	TI	TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Toshiba	TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Commodore	MPS2332 P51C69 P51C69 UM2168 51C69		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Fujitsu	RO9432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Hitachi	UM2168 51C69		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Intel	RO9432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Microchip	R09432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	National	MM2732 NMC2732 MSM2732		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	OKI	M2732A TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	SGS-Thomson	M2732A TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	TI	TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Toshiba	TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Commodore	MPS2332 P51C69 P51C69 UM2168 51C69		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Fujitsu	RO9432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Hitachi	UM2168 51C69		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Intel	RO9432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	Microchip	R09432 M58333 F3532		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	National	MM2732 NMC2732 MSM2732		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	OKI	M2732A TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	SGS-Thomson	M2732A TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					
• HN46332	TI	TMS2732A (3326) TMM324C		• HN4827128P	TI	2764 MSM2764 MSM2764A		• HN613256	OKI	MSM38256 MN23256 MN23257					

המחלקה לבריאות הציבור

◆ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hybrid Systems (Cont'd)				Hyundai											
HS7541	Honeywell HybridSys Maxim MicroPwr Siliconix TeledyneP TeledyneS	HDAC7541 DAC331 AD7541 MP7541 SI7541A TP7541 TSC7541	(Cont'd)	• HY27C64	Fujitsu Intel	MBM27C64 M27C64 27C64 87C64		HY51C261	Fujitsu Hitachi	MB81461 HM53461 HM53462 HY51C264 MT42C4064		• HY61C16	Saratoga SGS-Thomson	SSM6116 ET2128 MK2817 MK6116	(Cont'd)
HS7545	AD	AD7545	(2411, 2460, 2462)	• HY27C64	Krueger	27C64-200 27C64-250 27C64-300		• HY51C264	NEC TI Vitellic	µPD41264 TMS4461 (3326) V51C264		• HY61C16	Sharp Signetics Sony Sprague STC	LH5115 NE5517 CXK5814P UDN6116 STC2018 STC6116	
HS9393	Burr-Brown	DAC7545	(2552)	• HY27C64	Microchip	27C64	(2911)		Fujitsu Hitachi	MB81461 HM53461 HM53462		• HY61C16	TI Toshiba	SMJ68CE16 TC5517B TMM2015A TMM2018 TMM2018AP	
HS9403	Honeywell Maxim MicroPwr PMI	HDAC7545 AD7545 MP7545 PM7545	(3019)	HY51C1000	OKI S-MOS SGS-Thomson	MSM27C64 SPM27C64		HY51C4256	Hyundai MicronTech Mitsubishi	HY51C261 MT42C4064 MB81461 M5M4C264 µPD41264 TMS4461 (3326)		• HY61C16	UMC Vitellic	UM6116 V61C16 V62C16	
HS9410	SiliconG TeledyneP National	SG7545A TP4065 F9403			Signetics TI VLSI Tech Waferscale	TS27C64 27C64 VT27C64 WS27C64	(3326)		Vitellic Fujitsu Hitachi	V51C264 MB81C4256 HM514256		• HY61C16	VLSI Tech	VT20C18 (3343, 3345, 3349)	
HS9411	Signetics	9403			GoldStar Hitachi	GM7C1024 HB561003 HM511000 HM51101 HM51102 HM561003	(2608)		MicronTech Mitsubishi Motorola NEC OKI	MT4C256 M5M44C256 MCM514256 µPD424256 MSM41005 MSM514256		HY61C16A	Cypress	CY6116 CY7C128 (2580) IH6116 (2670) CDM6116 (2644, 2653)	
HS9412	SGS-Thomson	COP410			Hyundai	HY51C1002 (2778)			Sharp Toshiba Hitachi	KM44C256 LH64257 TC514256 HM51256L HM51464			GoldStar	GM76C28 (2696, 2700)	
HS9716	MicroNet	MN7146			MicronTech	MT1259		• HY53C256	Hitachi	HM51256L			Harris	HM6516 (2747)	
HS9720	AD	AD389	(2423)		Mitsubishi	MT4C1024 MH25608 MH25609		• HY53C464	Hitachi	HM51464			Hitachi	HM65162 (2747)	
	Burr-Brown	SHC76	(2556)					• HY61C16	Cypress	CY6116			Hyundai	HY6116A (2778)	
	Adv Analog	SH376	(2403)										Inmos	IMS1433	
	AD	HTC0300A	(2423, 2462)					• HY61C16	GE/Intersil GE/RCA	IH6116 (2670) CDM6116 (2644, 2653)			IDT	IDT6116 (2835) IDT6116A (2835) IDT6116L (2835) IDT6116S (2835)	
	MicroNet	MN0300A MN376 MN377			Siemens	KM41C1000 (3036) KM41256A (3036)			Harris	HM6516 (2747) HM65162 (2747)			Intel	81C28	
MN5214	AD	AD5214	(2462)		TI	TMX4C1025 TMX4C1026 TMX4C1029	(3326)		Hitachi	HM6116 HM6716 HM6719			Krueger	2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877)	
MUX201	Datel	ADC5214	(2595)						Hyundai	HY61C16A (2778)				6116-120 (2877) 6116-150 (2877) 6116-200 (2877) 6116LP-120 (2877)	
	MicroNet	MN5214			OKI	MSM41000			Inmos	IMS1433				6116LP-150 (2877)	
	TeledyneP	TP5214			Panasonic	MN411000			IDT	IDT6116 (2835) IDT6116A (2835) IDT6116L (2835) IDT6116S (2835)				6116LP-200 (2877)	
	AD	AD7503	(2425, 2462)		Samsung	KM41C1000 (3036)		• HY61C16	GoldStar	GM76C28 (2696, 2700)					
	Datel	MY808	(2600)						Harris	HM6516 (2747) HM65162 (2747)					
	MicroPwr	MP7503							Hitachi	HM6116 HM6716 HM6719					
	Unitrode	PICT503							Hyundai	HY61C16A (2778)					
R675-3	AD	AD2702	(2426, 2461)						Inmos	IMS1433					
	HybridSys	HS2702							IDT	IDT6116 (2835) IDT6116A (2835) IDT6116L (2835) IDT6116S (2835)					
	HyComp	HC2702							Intel	81C28					
R675-4	AD	AD2700	(2426, 2461)						Krueger	2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116-200 (2877) 6116LP-120 (2877)					
	HybridSys	HS2700													
	HyComp	HC2700													
	Maxim	AD2700													
R675-5	AD	AD2701	(2426)												
	HybridSys	HS2701													
	HyComp	HC2701													
	Maxim	AD2710													
Hy Comp															
DA4000	HybridSys	DAC397-12													
HC1437	ILC-DDC	ADH030													
HC2701	TeledyneP	TP1437													
	AD	AD2701	(2426)												
	HybridSys	HS2701													
	HyComp	HC2710													
	Maxim	AD2701													
	AD	AD2702	(2426, 2461)												
HC2702	HybridSys	HS2702													
	HyComp	HC2712													
	Maxim	AD2710													
	AD	AD2710	(2426)												
HC2711	HyComp	HC201													
	HyComp	AD2710													
	Maxim	AD2710													
Hytek Microsystems															
HY0002	Elantec	ELH0002 EL2002 EL2003													
	Harris	HA5002	(2765)												
	LinearTech	LT1010													
	Micra	MC0002													
		MC0021													
	National	LH0002													
	OEI	9910													
	TeledyneC	LH0002													

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

ALF: SOURCE DIRECTORY

♦ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Hyundai (Cont'd)				ADH8585	ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240		DDCADC87	HybridSys	(Cont'd)		IMS1400	AMD Cypress Fujitsu GE/RCA Hitachi Immos IDT Intel Matra-Harris MicronTech Mitsubishi NEC S-MOS SGS-Thomson	SSM6167 CY7C167 MB8167A CDM5167 HM65262 HM6267 IMS1403 IDT6167 51C67 HM65262 HM65263 MT5C1601 M5M21C67 M5M2167 μPD4311 SRM2267 SRM2367	(2580) (2747) (2790)
(Cont'd)				ADH8585-1	Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)		DDCADC87	ILC-DDC MicroNet						
				ADH8585-1	AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)		DDCDAC87	AD	ADDAC87 (2410, 2460, 2462)					
				ADH8585-1	Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)		DDCDAC87	Harris HybridSys	DAC851 DAC87 (2553) H15687 DAC335 HSDAC87					
				ADH8585-1	Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)		DDCDAC87	MicroNet	MNDAC87 HDS1250 (2411, 2462, 2470)					
				ADH8585-1	HybridSys	ADC581 ADC581B HSADC85 HSADC85C		DDC5101	AMD	AM2101 AM91L01 AM9101					
				ADH8585-1	ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240		DDC5101	Datel Harris Intel	AD5C101 (2595) HA5101 (2767) 5101					
				BUS63102	CTI	CT3231M CT3232M BUS8554 CT1487M CT1487MI		DDC5101	MicroNet	MNS101 M5L5101 MCM51L01					
				BUS63105	ILC-DDC	BUS8554		DDC5101	National	MM74C920					
				BUS63115	CTI	CT1487M		DDC5210	Panasonic	MNS101					
				BUS63117	CTI	CT1589MI		DDC5210	Sharp	LH5101					
				BUS63125	CTI	CT1487D		DDC5211	Adv Analog	ADC5210					
				BUS63127	CTI	CT1589D		DDC5211	AD	AD5210 (2417)					
				BUS63135	CTI	CT1487DI		DDC5212	Fujitsu	MB5210					
				BUS63137	TRWLSI	MPY016K		DDC5212	HybridSys	HS5210					
				BUS8554	CTI	CT1589DI		DDC5212	MicroNet	MNS212					
					ILC-DDC	BUS63102		DDC5216	Datel	AD5C216 (2595)					
					AD	AD3860 (2462, 2470)		DDC5240	HybridSys	HS5216					
					HybridSys	HS3860			MicroNet	MNS216					
					MicroNet	MN3860			Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)					
					HybridSys	HS9393			AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)					
					TeledyneP	TP4065				ADADC87 AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)				ADADC87 AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)			Burr-Brown	AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)			HybridSys	ADC581 ADC581B HSADC85 HSADC85C					
					HybridSys	ADC581 ADC581B HSADC85 HSADC85C				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240			MicroNet	AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					HybridSys	ADC581 ADC581B HSADC85 HSADC85C				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					HybridSys	ADC581 ADC581B HSADC85 HSADC85C				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					HybridSys	ADC581 ADC581B HSADC85 HSADC85C				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					HybridSys	ADC581 ADC581B HSADC85 HSADC85C				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					HybridSys	ADC581 ADC581B HSADC85 HSADC85C				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					HybridSys	ADC581 ADC581B HSADC85 HSADC85C				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					HybridSys	ADC581 ADC581B HSADC85 HSADC85C				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					ILC-DDC MicroNet	DDC5240 MNADC84 MNADC85 MNADC87 MN5240				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Adv Analog	ADC84 (2401) ADC85 (2401) ADC87 (2401)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					AD	ADADC84 (2417) ADADC85 (2417, 2462) ADADC85S (2417, 2462)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Burr-Brown	ADADC87 ADC84 (2557) ADC85 (2557) ADC87 (2557)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					Datel	ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)				AD5C101 (2557) AD5C111 (2557) AD5C112 (2557) ADCHX12B (2595) ADCHZ12B (2595) ADCHZ12BGZ (2595)					
					HybridSys	ADC581 ADC581B HSADC85 HSADC85C									

♦ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALT CONJUGATE PREPARATION

1595

VALI. SOURCE DIRECTORY

♦ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALT SOURCE DIRECTORY

1597

♦ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Integrated Device Technology (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
• IDT7M864	Krueger	6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)		IDT71256L	Dense-Pac GE/RCA GoldStar Hitachi Hyundai Inmos Inova IDT	DPS412S88 CDM62256 (2644) GM76C256 (2696) HM62256 HM64456 HY62C256 IMS1830 S32K8 (2807) IDT7M856S IDT71256 (2837) IDT71256S (2837) IDT8M824 (2872)		IDT71257S	IDT	IDT71257 (2838) IDT71257L (2838) MicronTech MT5C2561 Mitsubishi M5M5257 Motorola MCM6207 Performance P4C1257 Sharp LH52251 Cypress CY7C194 (2580) Hitachi HM6208P HM6708 Inmos IMS1820 IDT IDT71258L (2839) IDT71258S (2839)		IDT7165	Dense-Pac Exar Fujitsu GE/RCA GoldStar Harris Hitachi Hyundai Inmos Krueger	DPS88H08 XR8464 (2620) MB8B464 MB81C78A MB8464 MB8464A CDM6264 (2644, 2653) GM76C88 (2696, 2703) HM65642 (2747) HM6264 HM6464 MB6264 HY6264 (2778) IMS1630 (2796) 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)	
• IDT7M864	Matra-Harris	HM2064 HM56162 HM62641 HM65641 HN65641			Lattice MicronTech Mitsubishi Mosel Motorola	SR256K8 MT5C2568 M5M5256 MS62256 MCM60256 MCM61256 MCM6206 NM44251			MicronTech Mitsubishi Motorola NEC OKI	MT5C2564 M5M5258 MCM6208 µPD43254 MSM52464			Matra-Harris	HM2064 HM56162 HM62641 HM65641 HN65641	
• IDT7M864	MicroLinear	ML8464			National	µPD43256A			Performance	P4C1258			MicroLinear	ML8464	
• IDT7M864	MicronTech	MT5C6404 MT5C6408			S-MOS	SRM20256 SRM20256C			Sharp	LH52252 (3052) Cypress CY7C194 (2580)			MicronTech	MT5C6408	
• IDT7M864	Mitsubishi	AM99C88 M5M165 M5M5164 M5M5165 M5M5178			Samsung	KM62256 (3036) LH52259 (3054)			Hitachi	HM6208P HM6708 IMS1820 IDT IDT71258 (2839) IDT71258S (2839)			Mitsubishi	AM99C88 M5M165 M5M5164 M5M5178	
• IDT7M864	Mosel	MS6264			Sharp	LMH52259 (3054)			Inmos	IMS1820			Mosel	MS6264	
• IDT7M864	Motorola	MCM6064 MCM61164 MCM6164 MCM6164C MCM6264			Sony	CXK58255 CXK58256 TC55257 TC55257A TC55328 V62C256			Hitachi	HM6208P HM6708 IMS1820 IDT IDT71258 (2839) IDT71258S (2839)			Motorola	MCM6064 MCM61164 MCM6164 MCM6164C MCM6264	
• IDT7M864	National	DP8464 NMC6164 µPD4364			Toshiba	TC55257 TC55257A TC55328 V62C256			OKI	MSM52464			National	DP8464 NMC6164 µPD4364	
• IDT7M864	NEC	µPD4364			Vitellic	AM99C328			Performance	P4C1258			NEC	µPD4364	
• IDT7M864	OKI	MSM5164 MSM5165 MSM5188			AMD	AM99C328			Sharp	LH52252 (3052) Cypress CY7C194 (2580)			OKI	MSM5164 MSM5165 MSM5178	
• IDT7M864	Performance	P4C164 P4C188			Cypress	CY7C197 (2580) CY7C198 (2580) CY7C199 (2580)			Hitachi	HM6208P HM6708 IMS1820 IDT IDT71258 (2839) IDT71258S (2839)			Mosel	MS6264	
• IDT7M864	S-MOS	SRM2064 SRM2264			Dense-Pac	DPS412S88 CDM62256 (2644) GM76C256 (2696)			Motorola	MT5C2564 M5M5258 MCM6208 NEC µPD43254 OKI MSM52464			Motorola	MCM6064 MCM61164 MCM6164 MCM6164C MCM6264	
• IDT7M864	Samsung	KM6264 (3036) KM6264A (3036)			Hitachi	HM62256 HM64456 HY62C256 IMS1830			OKI	MSM52464			National	DP8464 NMC6164 µPD4364	
• IDT7M864	Sharp	LH5164 LH5165			Hyundai	HY62C256			Performance	P4C1258			NEC	µPD4364	
• IDT7M864	Sony	CVK5864 CXK5164P CXK5863P CXK5865 CXK5865P			Inmos	IMS1830			Sharp	LH52252 (3052) Cypress CY7C130 (2580)			OKI	MSM5164 MSM5165 MSM5188	
• IDT7M864	STC	STC6264			Inova	S32K8 (2807) IDT7M856S IDT71256 (2837) IDT71256L (2837) IDT8M824 (2872)			Hitachi	HM6208P HM6708 IMS1820 IDT IDT71258 (2839) IDT71258S (2839)			Performance	P4C164 P4C188	
• IDT7M864	TI	SMJ68CE64			IDT	IDT71256 (2837) IDT71256L (2837) IDT8M824 (2872)			Motorola	MT5C2564 M5M5258 MCM6208 NEC µPD43254 OKI MSM52464			S-MOS	SRM2064 SRM2264	
• IDT7M864	Toshiba	TC5565A TC5565A TC5585 TC5588 TMM2063 TMM2064 TMM2088			Lattice	SR256K8			OKI	MSM52464			Samsung	KM6264 (3036) KM6264A (3036)	
• IDT7M864	Vitellic	V61C62 V61C64 V62C64 V65C64			MicronTech	MT5C2568			Performance	P4C1258			Sharp	LH5164 LH5165	
• IDT7M864	VLSI Tech	VT20C98 VT20C99			Mitsubishi	M5M5256			Sharp	LH52252 (3052) Cypress CY7C132 (2580)			Sony	CVK5864 CXK5164P CXK5863P CXK5865P	
IDT7M864L-150	IDT	IDT8M856L-55			Mosel	MS62256			VLSI Tech	VT7132 (3343, 3359)			STC	STC6264 SMJ68CE64	
IDT7112	AD	ADSP1012 (2436)			Motorola	MCM60256 MCM61256 MCM6206							TI	SMJ68CE64	
	IMI	MPY121MI			National	NM44251							Toshiba	TC5565A TC5565A TC5585 TC5588	
	LogicDev	LMU12			NEC	µPD43256A									
	TRWLSI	MPY012H MPY12HJ			S-MOS	SRM20256 SRM20256C									
IDT71256	Cypress	CYM1421HD			Samsung	KM62256 (3036) LH52259 (3054)									
	Dense-Pac	DPS412S88 DPS41288 (2607) DPS92256 (2609)			Sharp	LH52256 LH52259 (3054)									
	EDI	EDH8M8128C EDH8832			Sony	CXK58255 CXK58256 TC55257 TC55257A TC55328 V62C256									
	Harris	EDH8M8128C HM8832 (2750)			Toshiba	TC55257 TC55257A TC55328 V62C256									
	Hitachi	HM628128			Vitellic	V62C256									
	Inova	S128K8 (2806) S32K8 (2807)			Cypress	CY7C197 (2580) CY7C198 (2580) CY7C199 (2580)									
	IDT	IDT7M856S IDT8M824 (2872) IDT8M824L (2872)			IDT	IDT71257L (2838) IDT71257S (2838)									
IDT71256L	Mosel	MS88128													
	AMD	AM99C328													
	Cypress	CY7C197 (2580) CY7C198 (2580) CY7C199 (2580)													

ALT. SOURCE DIRECTORY

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Integrated Device Technology (Cont'd)				IDT7187L	Mitsubishi	M5M5187 M5M5187AP M5M5187P MCM6287 F1600 F1602 μPD4361 MSM5187 P4C187 SRM2261 SSM7187 SGS-Thomson	(Cont'd)	IDT7201	Dallas IDT	DS2009 IDT7201A IDT7201LA IDT7201SA 67L4501 MS7201 KM75C01A SSL7201 MK4501 SG4501 UC4501 UM4501 AMD 67C4501 Cyress CY7C412 CY7C420 DS2009 DS2009 IDT7201 IDT7201LA IDT7201SA	(Cont'd)	IDT7202LA	IDT	IDT7202A IDT7202SA 67L4502 MV61901 SSL7202 74ACT7202 67C4502 CY7C414 CY7C424 DS2010 IDT7202 IDT7202A IDT7202LA 67L4502 MV61901 SSL7202 74ACT7202 CY7C416 DS2011 IDT7203LA (2852) IDT7203SA (2852)	
IDT71682	Cypress GE/RCA	CY7C172 CD74HC4543 (2641, 2653)	(2580)		Motorola National	MCM6287 F1600 F1602 μPD4361 MSM5187 P4C187 SRM2261 SSM7187 SGS-Thomson			MMI Mosel Samsung Saratoga SGS-Thomson	67L4501 MS7201 KM75C01A SSL7201 MK4501 SG4501 UC4501 UM4501 AMD 67C4501 Cyress CY7C412 CY7C420 DS2009 DS2009 IDT7201 IDT7201LA IDT7201SA		IDT7202SA	MMI Plessey Saratoga TI AMD Cyress Dallas IDT	67L4502 MV61901 SSL7202 74ACT7202 67C4502 CY7C414 CY7C424 DS2010 IDT7202 IDT7202A IDT7202LA 67L4502 MV61901 SSL7202 74ACT7202 CY7C416 DS2011 IDT7203LA (2852) IDT7203SA (2852)	
	IDT	IDT71782			NEC	μPD4361					67L4501				
	MicronTech	MT5C1607			OKI	MSM5187					MS7201				
	Motorola	MC74HC4543	(2946)		Performance	P4C187					KM75C01A				
	National	MM74HC4543			S-MOS	SRM2261					SSL7201				
	Performance	P4C1682			Saratoga	SSM7187					MK4501				
	Saratoga	SSM6172			SGS-Thomson	MK41H87 LH5261 74HC4543 (3057)					SG4501				
	SGS-Thomson	M74HC4543			Sharp	LH5261					UC4501				
	Signetics	74HC4543	(3057)		Signetics	74HC4515 (3057)					UM4501				
	Toshiba	TC74HC4543A	(3340)		TI	SMJ61CD64					AMD				
	VLSI Tech	VT20C72	(3343, 3345, 3351)		Toshiba	TC5562					Cyress				
	VLSI Tech	VT20C72	(3343, 3345, 3351)		TMM5562	TMM5562									
IDT71781	Cypress GE/RCA	CY7C171 CD74HC4518 (2641)	(2580)	IDT7188	AMD	AM99C164 AM99C165 DPS8M464 (2606) GoldStar Hitachi	(2606)		Dallas IDT	DS2009 DS2009 IDT7201 IDT7201LA IDT7201SA		IDT7203	Cyress Dallas IDT	CY7C416 DS2011 IDT7203LA (2852) IDT7203SA (2852)	
	IDT	IDT71681			Dense-Pac	DPS8M464 (2606)				MMI	67L4501				
	MicronTech	MT5C1606			GoldStar	GM76C164				Mosel	MS7201				
	Motorola	MC74HC4518			Hitachi	HM6288				Samsung	KM75C01A				
	Performance	P4C1681			Inmos	IMS1620 (2794)				Saratoga	SSL7201				
	Saratoga	SSM6171			IDT	DPS8M464 IDT6198 IDT7188L MT5C6404 MT5C6405	(2794)			SGS-Thomson	SSL7201				
	SGS-Thomson	M74HC4518			Mitsubishi	M5M5188									
	Signetics	74HC4518	(3340)		Motorola	MCM6288									
	Toshiba	TC74HC4518	(3343, 3345, 3351)		NEC	μPD4362									
	VLSI Tech	VT20C71	(3343, 3345, 3351)		Performance	P4C188									
IDT71782	Cypress GE/RCA	CY7C172 CD74HC4543 (2641, 2653)	(2580)		S-MOS	SRM2274			Dallas IDT	DS2009 DS2009 IDT7201 IDT7201LA IDT7201SA		IDT7204	Dallas	SSL7203	
	IDT	IDT71682			Saratoga	SSM7188						IDT7209	AMD	DS2012	
	MicronTech	MT5C1607			TI	SMJ64C64							AD	AM29C509	
	Motorola	MC74HC4543	(2946)		Toshiba	TC55416	(3335)						LogicDev	ADSP1009 (2436)	
	National	MM74HC4543			VLSI Tech	CT64KS4							TRWLSI	TDC1009	
	Performance	P4C1682			AMD	AM99C164							NEC	TMC2009	
	Saratoga	SSM6172			Hitachi	HM6288							SMC	μPD7210	
	SGS-Thomson	M74HC4543			Dense-Pac	DPS8M464 (2606)							GE/Intersil	COM7210	
	Signetics	74HC4543	(3057)		GoldStar	GM76C164	(2606)						Maxim	ICM7212	(2686)
	Toshiba	TC74HC4543A	(3340)		Hitachi	HM6288							TeledyneS	ICM7212	
	VLSI Tech	VT20C72	(3343, 3345, 3351)		Inmos	IMS1620 (2794)	(2794)						Weitek	TSC7212	
IDT71787	Cypress Fujitsu	CY7C187 MB81C71 MB81C71A MB81C87	(2580)		IDT	DPS8M464 IDT6198 IDT7188	(2794)						WTL1064	WTL1264	
	GoldStar	GM76C64			MicronTech	MT5C6404 MT5C6405							National	WTL1264	
	Hitachi	HM6287			Mitsubishi	M5M5188								DM74154	
	Hyundai	HY62C87			Motorola	MCM6288								DM8311	
	Inmos	IMS1600 (2792)			NEC	μPD4362								9311	
	IDT	IDT7187L (2850)			Performance	P4C188								RC9311	
	MicronTech	MT5C6401			S-MOS	SRM2274								74154 (3057)	
	Mitsubishi	M5M5187			Saratoga	SSM7188								SN54154	
	Motorola	M5M5187P			TI	SMJ64C64								ADSP1016 (2436)	
	National	MCM6287			Toshiba	TC55416	(3335)							AD	
	NEC	μPD4361			VLSI Tech	CT64KS4								Harris	
	OKI	MSM5187			Cypress	CY7C166 (2580)	(2580)							LogicDev	
	Performance	P4C187			Hitachi	HM6789								LSI Logic	
	S-MOS	SRM2261			Inmos	IMS1629								WTL1516	
	Saratoga	SSM7187			IDT	IDT6198								ICM7217	
	SGS-Thomson	MK41H87 LH5261 74HC4515 (3057)			MicronTech	MT5C6405								ICM7217	
	Sharp	LH5261			Motorola	MCM6290								CY7C401	
	Signetics	74HC4515 (3057)			NEC	μPD4363								C57L401	
	TI	SMJ61CD64			Performance	P4C198								C67401	
	Toshiba	TC5562			Saratoga	SSM7198								67C401	
	Vitellic	V61C62			TI	SSM7198								57401	
IDT7187L	Cypress Fujitsu	CY7C187 MB81C71 MB81C71A MB81C87	(2580)	IDT71981	Cypress	CY7C166 (2580)	(2580)		Dallas IDT	DS2010 IDT7202A IDT7202LA IDT7202SA		IDT7212	National	DM77S401 74F413 SN74ALS236 (3300)	
	GoldStar	GM76C64			MicronTech	MT5C6406	(2580)						TI	DM77S402A	
	Hitachi	HM6287			National	F100183								DM87S402A	
	Hyundai	HY62C87			Performance	P4C1981								CY7C403 (2587)	
	Inmos	IMS1600 (2792)			Saratoga	SSM7166								67C4013	
	IDT	IDT7187 (2850)			TI	SSM7198								67L4013D	
	MicronTech	MT5C6401			Vitellic	V61C62								CY7C404 (2587)	
	(Continued)				Cypress	CY7C161 (2580)	(2580)							67C4023	
					MicronTech	MT5C6406								57413	
					National	F100183								67C4033	
					Performance	P4C1981								67413	
					Saratoga	SSM7166								WTL1065	
					TI	SSM7198								WTL1265	
					Motorola	MCM6290									
					NEC	μPD4363									
					Performance	P4C198									
					Saratoga	SSM7166									
					TI	SSM7198									
					Vitellic	V61C62									
					Cypress	CY7C161 (2580)	(2580)								
					MicronTech	MT5C6406									
					National	F100183									
					Performance	P4C1981									
					Saratoga	SSM7166									
					TI	SSM7198									
					Motorola	MCM6290									
					NEC	μPD4363									
					Performance	P4C198									
					Saratoga	SSM7166									
					TI	SSM7198									
					Vitellic	V61C62									
					Cypress	CY7C161 (2580)	(2580)								
					MicronTech	MT5C6406									
					National	F100183									
					Performance	P4C1981									
					Saratoga	SSM7166									
					TI	SSM7198									
					Motorola	MCM6290									
					NEC	μPD4363									
					Performance	P4C198									
					Saratoga	SSM7166									
					TI	SSM7198									
					Vitellic	V61C62									
					Cypress	CY7C161 (2580)	(2580)								
					MicronTech	MT5C6406									
					National	F100183									
					Performance	P4C1981									
					Saratoga	SSM7166									
					TI	SSM7198									
					Motorola	MCM6290									
					NEC	μPD4363									
					Performance	P4C198									
					Saratoga	SSM7166									
					TI	SSM7198									
					Vitellic	V61C62									
					Cypress	CY7C161 (2580)	(2580)								
					MicronTech	MT5C6406									
					National	F100183									
					Performance	P4C1981									
					Saratoga	SSM7166									
					TI	SSM7198									
					Motorola	MCM6290									
					NEC	μPD4363									
					Performance	P4C198									
					Saratoga	SSM7166									
					TI	SSM7198									

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Integrated Power Semiconductors (Cont'd)				IP2067	Motorola	ULN2067		IP2525A	SGS-Thomson	(Cont'd)		IP320-15	Unitrode	UC320-15	(Cont'd)
IP1525A	LinearTech	(Cont'd)			SGS-Thomson				SGS-Thomson			IP320-5	IPS	UC7915	
		LT1525A			SiliconG	SG2067			SiliconG	SG2525A			National	IP120-5	
	Motorola	SG1525	(2964)	IP2068	Motorola	ULN2068	(2984)		TI	SG2525A				μA79M05	
	SiliconG	SG1525			SGS-Thomson				Unitrode	TL2525				LM120	
		SG1525A				ULN2068			Cherry Semi	UC2525A				LM320-05	
	TI	TL1525			SiliconG	ULN2068	(3258)		LinearTech	CS2526				LM79M05	
	Unitrode	UC1525			Sprague	ULN2068			Motorola	SG2526	(2964)			SG120-5	
		UC1525A			TI	SN75068			SiliconG	SG2526				SG320-05	
IP1526	Cherry Semi	CH1526		IP2069	Motorola	ULN2069			Unitrode	UC2526				SH12005	
	LinearTech	LT1526			SGS-Thomson				Cherry Semi	CS2527		IP323	Unitrode	UC320-05	
	Motorola	SG1526	(2964)			ULN2069			Exar	XR2527A			IPS	IP123-5	
		SG3526	(2964)		SiliconG	ULN2069	(3258)		LinearTech	LT2527A			Lambda	LAS1405	
	SiliconG	SG1526B			Sprague	ULN2069			Motorola	SG2527A	(2964)		LinearTech	LM323	
		SG3526			TI	SN75069			SiliconG	SG2527A				LT323	
	Sprague	SG3526			TI	SN75070			TI	SG2527A				M78H05	(2960)
	Unitrode	UC1526		IP2070	TI	SN75070			Unitrode	UC2527				μA323	
		UC1526A			Toshiba	TA75070			UC2527A					μA78H05	
IP1527A	Cherry Semi	CS1527A		IP2074	Motorola	ULN2074	(3343, 3345, 3350)			UC2527A				SH0323	
	LinearTech	LT1527			SGS-Thomson				IP2543	XR2543				SH323	
		LT1527A				ULN2074			SiliconG	SG2543				LM323	
	Motorola	SG1527	(2964)			SG2074			Unitrode	UC2543				SG323	
	SGS-Thomson	SG1527A			SiliconG	ULN2074	(3258)		SiliconG	SG2544		IP323-12	IPS	IP123-12	
		SG1527			Sprague	ULN2074			Unitrode	UC2544			Lambda	LAS1412	
	SiliconG	SG1527A			TI	ULN2074			Cherry Semi	CS2843			Motorola	MC78T12	(2960)
		SG1527A			Toshiba	TD62074			SGS-Thomson	UC2843			IPS	IP123-15	
	TI	TL1527		IP2075	Motorola	ULN2075			SiliconG	SG2843			Motorola	MC78T15	(2961)
	Unitrode	UC1527			SGS-Thomson				TeledyneS	TSC28C43		IP33060	Motorola	MC33060	(2963)
		UC1527A				ULN2075			Unitrode	UC2843		IP33063	Motorola	MC33063	(2963)
IP1543	Exar	XR1543	(2619)		SiliconG	ULN2075	(3258)		IP293	PL293		IP337	LinearTech	LM337	
	SiliconG	SG1543			TI	ULN2075			SGS-Thomson	L293			MCE	MC337	
	Unitrode	UC1543		IP2076	TI	SN75076				L293	(3322)		Motorola	LM337	(2962)
IP1544	SiliconG	SG1544		IP217	MCE	MC337			TI	SN754410	(3322)		National	LM337	
	Unitrode	UC1544			Motorola	LM217	(2962)			GL317	(2714)		SGS-Thomson	LM337	
IP1842	Cherry Semi	CS1842			National	LM217			IP317	LM317			SiliconG	SG337	
	LinearTech	LT1842			SGS-Thomson					LM317				SG337A	
	Motorola	UC1842A				LM217				LM317			TI	LM337	
	SGS-Thomson	UC1842				SG217				LM317			Unitrode	UC337	
		SG1842				SG217A				LM317			Lambda	LM338	
	TeledyneS	TSC18C42				UC217				LM317			LinearTech	LM338	
	Unitrode	UC1842				VM217	(3385)			μA317				LT338	
		UC1842A		IP220-12	National	LM220-12				LM317				MLM338	
		UC1842A			SiliconG	SG220-12				μPC317				LM338	
IP1843	Cherry Semi	CS1843		IP220-15	National	LM220-15				SGS-Thomson				LM338	
	LinearTech	LT1843			SiliconG	SG220-15				LM317				SG338	
	Motorola	UC1843A		IP223	Motorola	LM223	(2960)			TDB0117		IP340-12	GoldStar	GL7812	
	SGS-Thomson	UC1843A			National	μA223				SG317			IPS	IP140-12	
		UC1843				LM223				LM317				IP7812	
	SiliconG	SG1843				SH223				UC317				IP7812AC	
	TeledyneS	TSC18C43			SGS-Thomson	LM223			IP320-12	GL7912	(2714)		Motorola	LM340-12	(2960)
	Unitrode	UC1843				SG223				IP7912				MC7812	(2960)
		UC1843A			SiliconG	SG223				IP7912			National	μA7812	
IP1844-45	Motorola	UC1844A		IP237	MCE	MC337				μA79M12				LM340-12	
		UC1845A			Motorola	LM237	(2962)			μA79M12M				LM7812	
	SGS-Thomson	UC1844-45			National	LM237				LM320MP12				μPC7812	
		TSC18C44			SiliconG	SG237				LM79M12			NEC	MC7812	
	TeledyneS	TSC18C45				SG237A				LM7912			SGS-Thomson	μA7812	
		TSC28C45			Unitrode	UC237				μPC7912				L7812	
	Unitrode	UC1844		IP238	National	μA238				MC7912				SG340-12	
		UC1844A				LM238				SGS-Thomson				SG7812	
		UC1845			SiliconG	SG238				μA7912				SG7812A	
		UC1845A			Motorola	LM250	(2962)			L7912				SG7812AT	
IP2007	TI	SN75077		IP250	National	LM250				SG320P-12			TI	μA7812	
IP2064	Mitsubishi	M54532			SiliconG	SG250				SG7912			Toshiba	TA78012	
	Motorola	ULN2064		IP2524	Unitrode	UC250				SG7912A			Unitrode	UC340-12	
	SGS-Thomson	ULN2064			Cherry Semi	CS2524				μA79M12M				UC7812	
		ULN2064			LinearTech	LT2524				μA7912				GL7815	(2714)
	Sprague	ULN2064	(3258)			SG2524				TA78024				IP140-15	
	TI	SN75064			National	μA2524				TA79012				IP7815	
		ULN2064			SGS-Thomson	LM2524				GL7915	(2714)			IP7815AC	
		ULN2064				SG2524				IP7915				LAS1515	
	Toshiba	TA75064				SG2524A				Motorola	MC7915	(2961)		LM340-15	(2960)
IP2065	Motorola	ULN2065			SiliconG	SG2524				μA7915				μA7815	
	SGS-Thomson	ULN2065				SG2524B				LM320T15				LM340-15	
		ULN2065				SG2524				LM7915				LM7815	
	SiliconG	SG2065			TI	UC2524				μPC7915				μPC7815	
	Sprague	ULN2065	(3258)		Unitrode	UC2524A				MC7915				MC7815	
	TI	SN75065				CS2524A				SGS-Thomson				μA7815	
		ULN2065		IP2524B	Cherry Semi	CS2525				μA7915				L7815	
IP2066	Motorola	ULN2066		IP2525A	Cherry Semi	CS2525A				L7915				SG340-15	
	SGS-Thomson	ULN2066			Elantec	EHA2525				SG320-15				SG7815	
		ULN2066			Exar	XR2525A				SG7915				SG7815A	
	SiliconG	SG2066			Harris	HA2525				SG7915A				μA7815	
		SN75066			LinearTech	LT2525A				μA7915				LM340-15	
		ULN2066			Motorola	SG2525A	(2964)			TA79015				(Continued)	
		(Continued)				(Continued)				(Continued)				(Continued)	

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Integrated Power Semiconductors (Cont'd)				IP3843	Cherry Semi SGS-Thomson	CS3843		IP7812AC		(Cont'd)		IP7912		(Cont'd)	
IP340-15		(Cont'd)			SiliconG	SG3843			National	μA7812 LM340-12 LM7812			TI	μA79M12M μA7912 TA78024 TA79012	
IP34060	Toshiba Unitrode	TA78015 UC340-15 UC7815		IP494	TeledyneS Unitrode	TSC38C43 UC3843			NEC	μPC7812		IP7915	GoldStar IPS	GL7915 IP320-15 MC7915	(2714)
IP34063	Motorola	MC34063 (2963, 2991)			Fujitsu	MB3759			Samsung SGS-Thomson	MC7812			Motorola National	MC7915 μA7915 LM320-15 LM320T15 LM7915	(2961)
IP350	Lambda LinearTech	LLM350 LM350 LT350		IP494A	TI	TL494 TL494M				μA7812 L7812				μPC7915 MC7915	
	Motorola	LM350 (2962)			Unitrode	UC494A			SiliconG	SG340-12 SG7812					
	National	μA350 μA78HGA LM350 SG350			Cherry Semi	CS494M				SG7812A SG7812AT			NEC		
	SiliconG	SG350		IP494C	TI	TL494M			TI	μA7812			Samsung SGS-Thomson	μA7915 L7915	
IP35060	Unitrode	UC350		IP5560	Unitrode	UC494A			Toshiba	TA78012				SG320-15	
IP35063	Motorola	MC35060 (2963)			TI	TL494C			Unitrode	UC340-12 UC7812			SiliconG	SG7915 SG7915A	
IP3524	Cherry Semi	CS3524			Unitrode	UC494AC				IP140-15 IP340-15 IP7815AC			TI	μA7915	
	Exar	XR3524 (2619)		IP5560C	Cherry Semi	CS5560N CS5560S			Lambda	LAS1515			Toshiba	TA79015	
	GE/RCA	CA3524 (2651, 2659)			GoldStar	GL5560			Motorola	LM340-15 MC7815	(2960)		Unitrode	UC320-15 UC7915	
	IPS	IP3524B			IPS	IP5560C	(3183)		National	LM340-15 LM7815	(2961)	Intel			
	LinearTech	LT3524		IP5561	Cherry Semi	CS5561 CS5561N CS5561S			NEC	μPC7815		ADC0831	MicroLinear	ADC0831 ML2281	
	National	LM3524			GoldStar	GL5561C			Samsung SGS-Thomson	MC7815			National	ADC0831 ADC0831A	
	SGS-Thomson	SG3524			IPS	IP5561C				μA7815 L7815		ADC0832	MicroLinear	ADC0832 ML2282	
	Signetics	SG3524			Signetics	NE5561 (3184)			SiliconG	SG340-15 SG7815			National	ADC0832 ADC0832B	
	SiliconG	SG3524			Toshiba	TC5561			TI	μA7815		AMD8031	Fujitsu	MLB8031AH P8031AH	(2635)
	Sprague	SG3524		IP5561C	Cherry Semi	CS5561 CS5561N CS5561S			Toshiba	LM340-15 TA78015			Intel	SAB8031A	
	TI	SG3524			GoldStar	GL5561			Unitrode	UC340-15 UC7815			Siemens	SAB8031A	
	Toshiba	TA76524			Signetics	NE5561 (3184)				IP140-15 IP340-15 IP7815			Signetics	SCN8031A	
	Unitrode	UC3524			Toshiba	TC5561			Lambda	LAS1515		ICL7136	GE/Intersil	ICL7136 ICL7136	
IP3525A	Cherry Semi	CS3525A		IP780SAC	Motorola	TL780-05C (2959)			Motorola	LM340-15 MC7815	(2960)	ID2910	TeledyneS	TSC7136 (3279)	
	Ericsson	RL3525A		IP7805	GoldStar	GL7805 (2714)			National	μA7815	(2961)	ID2911	National	TP3020	
	Exar	XR3525A			Motorola	MC7805 (2959)				LM340-15 LM7815		ID2912	National	TP3021	
	LinearTech	LT3525A			National	μA7805			NEC	μPC7815			TI	TMC2911A	
	SGS-Thomson	SG3525A				LM340-5			Samsung SGS-Thomson	MC7815			CMD Micro	G8912B	
	SiliconG	SG3525A				LM7805				μA7815 L7815			Intel	2912	
	TI	SG3525A				μPC7805			SiliconG	SG340-15 SG7815			National	TP3040	
	Unitrode	UC3525A				MC7805				LM340-15 SG7815A			Plessey	MV8912	
IP3526	LinearTech	LT3526				μA7805			TI	μA7815		IM29C510	SGS-Thomson	ETC5040	
	SiliconG	SG3526				L7805				LM340-15 TA78015			TI	TCM2912C	
	Sprague	SG3526				SG7805			National	UC340-15			AMD	AM29L510	
	Unitrode	UC3526				SG7805A				UC7815				AM29510	
IP3527	Cherry Semi	CS3527				μA7805			TI	LM340-15			AD	ADSP1010 (2436)	
	Exar	XR3527A				TA78005			Toshiba	TA78015				ADSP1010A (2436, 2492)	
	LinearTech	LT3527A				TA79005			Unitrode	UC340-15			Cypress	CY7C510	
	SGS-Thomson	SG3527A				UC7805				UC7815			LogicDev	LMA1010	
	SiliconG	SG3527A				GL7812			Motorola	MC7905 (2959)			LSI Logic	LMA2010	
	TI	SG3527A				IP140-12			National	μA7905				L64010	(2888)
	Unitrode	UC3527A				IP340-12				LM7905				L64012	
IP3543	Exar	XR3543				IP7812AC			NEC	μPC7905			Matra-Harris	MS2010	
	SiliconG	SG3543				LM340-12			Samsung	MC7905			TI	SN74HCT9510	
IP3544	Unitrode	UC3543				LM7812			SGS-Thomson	L7905			TRWLSI	TDC1010	
	SiliconG	SG3544				LM340-12				SG7905			VLSI Tech	TMC2210	
IP3658	GE/RCA	CA3219 (2651)				LM7812			TI	SG7905A			Waferscale	WS59510	
	Hitachi	HAI3007				μPC7812			Unitrode	UC7905			Weitek	WS59610	
	National	DS3658				MC7812				GL7912 (2714)				WTL1010	
	SGS-Thomson	L6222				IP7812AC			GoldStar	IP320-12	(2960)			WTL2010	
	TI	SN75437				LM340-12			IPS	MC7912				WTL2044	
	GE/RCA	CA3252 (2651, 2653)				IP7812			National	μA79M12 μA79M12M μA7912				WTL2245	
	National	DS3669				SG7812A				LM320MP12				BLC80/316	
	SGS-Thomson	L9222				SG7812AT				LM7912				AM2864A	
	TI	SN75440				μA7812				LM7912				AM9864	
		(Continued)				TA78012				LM7912				AT28C64	
						UC340-12				μPC7912				XLS2864A	(2621)
						UC7812				MC7912				MBM28C64	
						GL7812				μA7912				HM58064	
						IP140-12				L7912				HN58064	
						IP340-12				SG320P-12				IDT7M7864	
						IP7812				SG7912				28C64A (2918)	
						LM340-12 (2960)				SG7912				M5M28C64	
						MC7812 (2960)				SG7912A				NMC98C64	
						(Continued)				(Continued)				μPD28C64	
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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Intel (Cont'd)				UM2168 (Cont'd)				2128H				2149H Krueger (Cont'd)			
P8031AH		(Cont'd)			Signetics	2332			Motorola	MCM2016				2149-45	(2877)
						2632A				MCM2016H				2149-70	(2877)
						CM3200				MCM6116				SSM2149	
P8032	Signetics	SCN8031			SiliconG	SG3532			2128H	National	MMC2116		2149HL	Saratoga	AM2149
	Intel	SCN8031AH			Supertex	23SC32				OKI	MSM2128			AMD	CY2149
		P8032AH				D51C69					MSM5126			Cypress	2149H
		8032			TI	P51C69					MSM5128			Intel	Krueger
	Matra-Harris	8032				TMM333P					MSM5129				2149-35 (2877)
	Siemens	SAB8032			Toshiba	VT2332				Performance	P4C116				2149-45 (2877)
		SAB8032A			VLSI Tech	MM1101				S-MOS	SMC6116				2149-70 (2877)
		SCN8032 (3128)		1101	National	NCM1101Z				Saratoga	SSM6116		2164	Saratoga	SSM2149
		SCN8032AH			SGS-Thomson	MK6027P				SGS-Thomson	ET2128			Harris	HA5104
P8032AH	Intel	P8032				NCR52004					MK2817			Inmos	IMS2600
		8032				X2004	(3407, 3444)				MK6116			Intel	IDT
	Matra-Harris	8032				AM9114					LH5115				2164A
	Siemens	SAB8032				AM9124					NE5517				2164
		SAB8032A				2114-150	(2877)				CXK5814P				2164
		SCN8032 (3128)				2114-200	(2877)				UDN6116				2164
		SCN8032AH				2114-450	(2877)				STC2018				2164
P8051	AMD	P8051				2114-200	(2877)				STC6116				2164
	Fujitsu	MLB8051AH	(2635)			M5L2114					SMJ68CE16				2164
		P8051AH				MCM2114					TC5517B				2164
	Intel	8051				MCM2015A					TMM2018				2164
	Matra-Harris	8051				TMM2018AP					UM6116				2164
	Siemens	SAB8051				V61C16					V62C16				2164
		SAB8051A				VT20C18	(3343, 3345, 3349)								2164
		SCN8051				MM2142					MM2147				2164
	Signetics	SCN8051AH				AM2147					CY2147				2164
P8051AH	AMD	P8051				CY7C147	(2580)				MBM2147				2164
	Fujitsu	MLB8051AH	(2635)			M2147H					2147H				2164
		P8051AH				2147-35	(2877)				2147-45	(2877)			2164
	Intel	8051				2147-55	(2877)				2147-70	(2877)			2164
	Matra-Harris	8051				MCM6147					2147-70	(2877)			2164
	Siemens	SAB8051				MM2147					2147-70	(2877)			2164
		SAB8051A				NMC2147H					2147-70	(2877)			2164
		SCN8051				NM2147					2147-70	(2877)			2164
	Signetics	SCN8051AH				ET2147					STC2147				2164
P8052	Intel	P8052AH				TMM3150					AM2147				2164
		8052				CY2147					CY2147				2164
	Matra-Harris	8052				MBM2147					2147-35	(2877)			2164
		8052				M2147H					2147-45	(2877)			2164
		8052				2147-55	(2877)				2147-70	(2877)			2164
P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
		8052				2147-70	(2877)				2147-70	(2877)			2164
	Matra-Harris	8052				2147-70	(2877)				2147-70	(2877)			2164
P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
		8052				2147-70	(2877)				2147-70	(2877)			2164
P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
		8052				2147-70	(2877)				2147-70	(2877)			2164
P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
		8052				2147-70	(2877)				2147-70	(2877)			2164
P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
		8052				2147-70	(2877)				2147-70	(2877)			2164
P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
		8052				2147-70	(2877)				2147-70	(2877)			2164
P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
		8052				2147-70	(2877)				2147-70	(2877)			2164
P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
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P8052AH	Intel	P8052				2147-70	(2877)				2147-70	(2877)			2164
		8052				2147-70	(2877)				2147-70	(2877)			2164
P8052AH	Intel	P8052		</											

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Intel (Cont'd)				PEEL22CV10 Gould/AMI PEEL22CV10 (4242)				International Microcircuits				2114-200 (Cont'd)			
8282	OKI	MSM82C82	(Cont'd)	PEEL22CV10Z	Gould/AMI	PEEL22CV10Z		IMI145155	Motorola	MC145155	(2932, 2992)	2114-200	Mitsubishi	M5L2114	
8283	Samsung	KS82C52		PEEL253	Gould/AMI	PEEL253 (4242)		IMI145156	Motorola	MC145156	(2932, 2992)		Motorola	MCM2114	
	Harris	CP82C83H		27CX321	AMD	AM27PS43		IMI145157	Motorola	MC145157	(2932, 2992)		National	M5L2114	
	Intel	82C83				AM27S43		IMI145158	Motorola	MC145158	(2932, 2992)			F2114	
	NEC	μPD71083				AM27S43A							OKI	NMC2114A	
8284A	OKI	MSM82C83				27S43		IMI4X2901	IDT	IDT49C401			Rockwell	MSM2114	
	Calmos	CA82C84A			Fujitsu	MB7142			Waferscale	WS59016			Sharp	R6514	
	Fujitsu	MBL8284 (2635)			MMI	53S3281		IMI6080	AMD	AM6080			Toshiba	LH2114	
	Harris	CP82C84A				63S3281			S-MOS	SLA6080				TMM2114A	
	Intel	82C84A			National	DM77S321		IMI6140	S-MOS	SLA6140			UMC	TMM314A	
	Mitsubishi	M5L8284A				DM87S321		IMI6170	S-MOS	SLA6170		2114-450	AMD	UM6114	
		M5L8284AP			Raytheon	R29671D			Saratoga	SSM6170				AM9114	
	NEC	μPB8284				29671		IMI6270	Motorola	MCM6270			Intel	AM9124	
		μPB8284A				29671A			S-MOS	SLA6270			2114A		
		μPD71084			Signetics	N82H321			SiliconSys	SSI6270			Krueger	2114-150 (2877)	
		μPD71084C			Waferscale	WS57C43 (3390)		IMI6330	S-MOS	SLA6330				2114-200 (2877)	
	OKI	MSM82C84				WS57C43B (3390)		IMI6430	S-MOS	SLA6430			Mitsubishi	M5L2114	
		UC82C84A				WS57C43D (3390)		IMI6620	S-MOS	SLA6620			Motorola	MCM2114	
	Samsung	KS82C84A		27CX322	AMD	AM29C116		MPY12IMI	AD	ADSP1012 (2436)				M5L2114	
	Unicorn	UC82C84A				AM29C116A			IDT	IDT7112			National	NMC2114A	
	UMC	UM82C84A				AM29L116A			LogicDev	LMU12				MSM2114	
		UM8284A				AM29116			TRWLSI	MPY012H			OKI	R6514	
8286	VLSI Tech	VL82C84A			Cypress	CY7C9116 (2592)							Rockwell	LH2114	
	AMD	DP8304				CY7C9117 (2592)							Sharp	TMM2114A	
	Fujitsu	MBL8286 (2635)			National	DM87S421								TMM314A	
	Harris	CP82C86H			Raytheon	R29671S							UMC	UM6114	
	Intel	82C86			TI	74ACT29116							Fujitsu	MBM100422	
	National	DP8304				74ACT29116-1								MBM100422A	
	NEC	μPB8286		27CX641	Atmel	AT27HC64								MB8118	
		μPD71086			GoldStar	GL3320 (2711)							Krueger	2118-150 (2877)	
	OKI	MSM82C86				GM57HC64							Motorola	MCM100422	
8287	AMD	8287			Microchip	27HC64 (2907)		DF320	Mitel	MT4320			National	DM100422	
	Harris	CP82C87H			NEC	μPC1401C		ITT4116	Plessey	MV4320				F100422	
	Intel	82C87			Raytheon	39VP864			Krueger	4116-120 (2877)				NMC5295	
	NEC	μPD8287			Sharp	LH5763				4116-150 (2877)			NEC	μPB100422	
		μPS71087			Toshiba	TA7644BP			National	4116-200 (2877)		2118-150	Fujitsu	MBM100422	
8288	OKI	MSM82C87			Waferscale	WS5C49				F16K				MBM100422A	
	AMD	D82C88				WS5C49B				F4116				MB8118	
	Calmos	CA82C88				WS57C64 (3390)			OKI	MM5290			Krueger	2118-120 (2877)	
	Fujitsu	MBL8288 (2635)		27CX642	Atmel	AT27HC641			SGS-Thomson	MSM3716			Motorola	MCM100422	
	Harris	CP82C88			Crystal	CS203				M4116			National	DM100422	
	Intel	82C88			Cypress	CY7C261 (2585)				HYB4116				F100422	
	Mitsubishi	M5L8288				CY7C263 (2585)			Siemens	2690			NEC	NMC5295	
		M5L8288S				CY7C264 (2585)			Signetics	STC4116			Cypress	μPB100422	
	NEC	μPB8288				CD22203 (2645)			STC	TMM416				CY6116	
		μPD71088			GE/RCA	CD22203 (2645)			Toshiba	UMM416				CY7C128 (2580)	
		μPD71088C			ICT	27CX641 (2875)		ITT505	ITT	505			GE/Intersil	IH6116 (2670)	
	OKI	MSM82C88			Microchip	27HC641 (2908)			National	DM8885			GE/RCA	CDM6116 (2644, 2653)	
	Samsung	KS82C88			National	93Z667				DS8885				CDM6116A (2644, 2653)	
	Unicorn	UC82C88			Sharp	LH5749		SBA5089	National	TP5089			GoldStar	GM76C28 (2696, 2700)	
	UMC	UM82C88			Signetics	LH5762			Samsung	MK5089				HM6516 (2747)	
		UM8288			SiliconSys	27HC641			SGS-Thomson	MK5089			Hitachi	HM65162 (2747)	
8289	VLSI Tech	VL82C88				SSI203				TCM5089				HM6719	
	Fujitsu	MBL8289 (2635)			Waferscale	SSI757203 (3255)			STC	STC5089			Hyundai	HY61C16A	
	Harris	CP82C89				WS57C49 (3390)			TI	TCM5089			Inmos	IMS1433	
	NEC	μPB8289				WS57C49D (3390)			UMC	UM5089			IDT	IDT6116 (2835)	
8355	Toshiba	TMP8355 (3339)				WS57C49T (3390)				UM5089				IDT6116A (2835)	
87C64	Fujitsu	MBM27C64		93C46	Catalyst	CAT93C46			TBA950	National	TBA950			IDT6116L (2835)	
	Intel	M27C64			EXEL	XLS93C46			504	Dionics	D1805A			IDT6116S (2835)	
		27C64			Gould/AMI	S93C46				Motorola	MC3494				
	Krueger	27C64-200			Hyundai	HY93C46 (2778)			505	ITT	ITT505				
		27C64-250			ICT	93C46C (2876)				National	DM8885				
		27C64-300			Microchip	ER5911					DS8885				
	Microchip	27C64 (2911)			National	COP495									
	OKI	MSM27C64				NMC93C46									
	S-MOS	SPM27C64				NMC9346									
	SGS-Thomson				NCR	NCR59308									
		TS27C64				NCR59346									
	Signetics	27C64			SGS-Thomson										
	TI	TMS27C64 (3326)				M9346									
	VLSI Tech	VT27C64				TS93C46									
	Waferscale	WS27C64				SC22011									
8741A	NEC	μPD8741A		93C46C	Sierra	CAT93C46									
8748	National	NS80CX48			Catalyst	XLS93C46									
	NEC	μPD8748			EXEL	S93C46									
8755	Intel	8255A			Gould/AMI	HY93C46 (2778)									
		8755A			Hyundai	93C46 (2876)									
	NEC	μPD8755				ER5911									
		μPD8755A			Microchip	COP495									
8755A	Intel	8255A			National	NMC93C46									
		8755				NMC9346									
	NEC	μPD8755				NCR59308									
		μPD8755A				NCR59346									
					SGS-Thomson										
						M9346									
						TS93C46									
					Sierra	SC22011									
International CMOS Technology															
PEEL153	AMD	AM29C117													
	Gould/AMI	PEEL153 (4242)													
PEEL20CG10	Gould/AMI	PEEL20CG10													
International CMOS Technology (Continued)															

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

♦ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Krueger Company (Cont'd)				27C128-250	Hitachi	HN27C128		27C256-300	TI	(Cont'd)		27C64-300		(Cont'd)	
2148-35	SGS-Thomson	ET2148	(Cont'd)	Intel	M27C128			TMS27C256 (3326)				Signetics	27C64		
		UM2148		Krueger	27C128-200			TMS27C256 (3326)				TI	TMS27C64 (3326)		
2148-45	UMC	AM2148		Microchip	27C128	(2912)			Toshiba	TC54256		27128-200	VLSI Tech	VT27C64	
	AMD	AM2148		Mitsubishi	M5L27C128					TC57256			Waferscale	WS27C64	
	Cypress	CY21L49		TI	SMJ27C128 (3286)				VLSI Tech	VT27C512			AMD	AM27128A	
		CY2148			TMS27C128 (3326)				Waferscale	WS27C256 (3390)			Intel	AM27128A	
		CY7C148	(2580)		TMS27PC128					WS57C256 (3390)				N27128A	
		CY7C149	(2580)			(3326)				WS57C256F (3390)				P27128	
	Hitachi	HM6148		VLSI Tech	VT27C128			27C512-200	Atmel	AT27C512				P27128A	
		HM6148H		Waferscale	WS27C128				Fujitsu	MBM27C512				27128	
		HM6148HL		AMD	AM27C256				Hitachi	HN27C512G				27128A	
		2148H		Atmel	AT27C256				IDT	IDT7M856S				27128-250 (2877)	
	Intel	2148H		Fujitsu	MBM27C256A	(2628)				IDT71256 (2837)				27128-300 (2877)	
	Krueger	2148-35	(2877)							IDT8M824 (2872)				27128-450 (2877)	
		2148-70	(2877)	Hitachi	HN27C256				Intel	MD27512				27128A-200 (2877)	
	National	NMC2148		Intel	M27C256				Krueger	27C512-250				27128A-250 (2877)	
		NMC2148			27C256				Microchip	27C512	(2914)			27128A-300 (2877)	
	Performance	P4C149			27C256-250				Mitsubishi	M5L27512				27128A-450 (2877)	
	Saratoga	SSM2148			27C256-300				NEC	μPD27C512				M5L27128	
	SGS-Thomson				RO9256					μPD27C512D				M27128	
		ET2148		Microchip	27C256	(2913)			Ricoh	TMS27C512				27128	
		UM2148			M5L27256				TI	SMJ27C512 (3286)				SGS-Thomson	
		UM2148			NMC27C256					TMS27C512 (3326)				M27128	
2148-70	AMD	AM2148			μPD27C256A					TMS27PC512	(3326)			Toshiba	
	Cypress	CY21L49			OKI	MSM27C256								TMM24128	
		CY2148			SEEQ	27C256								AM27128	
		CY2148		SGS-Thomson	TS27C256									AM27128A	
		CY7C148	(2580)		27C256									N27128A	
		CY7C149	(2580)		27C256									P27128	
	Hitachi	HM6148			27C256									27128A	
		HM6148H		Signetics	27C256									27128-200 (2877)	
		HM6148HL			27C256									27128-300 (2877)	
		2148H			27C256									27128-450 (2877)	
	Krueger	2148-35	(2877)		27C256									27128A-200 (2877)	
		2148-45	(2877)		27C256									27128A-250 (2877)	
	National	NMC2148			27C256									27128A-300 (2877)	
		NMC2148			27C256									27128A-450 (2877)	
	Performance	P4C149			27C256									M5L27128	
	Saratoga	SSM2148			27C256									M27128	
	SGS-Thomson				27C256									27128	
		ET2148			27C256									SGS-Thomson	
		UM2148			27C256									M27128	
2149-35	AMD	AM2149			27C256									TMM24128	
	Cypress	CY2149			27C256									AM27128	
	Intel	2149H			27C256									AM27128A	
		2149HL			27C256									N27128A	
	Krueger	2149-45	(2877)		27C256									P27128	
		2149-70	(2877)		27C256									27128A	
	Saratoga	SSM2149			27C256									27128-200 (2877)	
		SSM2149			27C256									27128-250 (2877)	
	AMD	AM2149			27C256									27128-450 (2877)	
	Cypress	CY2149			27C256									27128A-200 (2877)	
	Intel	2149H			27C256									27128A-250 (2877)	
		2149HL			27C256									27128A-300 (2877)	
	Krueger	2149-35	(2877)		27C256									27128A-450 (2877)	
		2149-70	(2877)		27C256									M5L27128	
	Saratoga	SSM2149			27C256									M27128	
		SSM2149			27C256									27128	
	AMD	AM2149			27C256									SGS-Thomson	
	Cypress	CY2149			27C256									M27128	
	Intel	2149H			27C256									TMM24128	
		2149HL			27C256									AM27128	
	Krueger	2149-35	(2877)		27C256									AM27128A	
		2149-45	(2877)		27C256									N27128A	
	Saratoga	SSM2149			27C256									P27128	
		SSM2149			27C256									27128A	
	AMD	AM2149			27C256									27128-200 (2877)	
	Cypress	CY2149			27C256									27128-250 (2877)	
	Intel	2149H			27C256									27128-450 (2877)	
		2149HL			27C256									27128A-200 (2877)	
	Krueger	2149-35	(2877)		27C256									27128A-250 (2877)	
		2149-45	(2877)		27C256									27128A-300 (2877)	
	Saratoga	SSM2149			27C256									27128A-450 (2877)	
		SSM2149			27C256									M5L27128	
	AMD	AM2149			27C256									M27128	
	Cypress	CY2149			27C256									27128	
	Intel	2149H			27C256									SGS-Thomson	
		2149HL			27C256									M27128	
	Krueger	2149-35	(2877)		27C256									TMM24128	
		2149-45	(2877)		27C256									AM27128	
	Saratoga	SSM2149			27C256									AM27128A	
		SSM2149			27C256									N27128A	
	AMD	AM2149			27C256									P27128	
	Cypress	CY2149			27C256									27128A	
	Intel	2149H			27C256									27128-200 (2877)	
		2149HL			27C256									27128-250 (2877)	
	Krueger	2149-35	(2877)		27C256									27128-450 (2877)	
		2149-45	(2877)		27C256									27128A-200 (2877)	
	Saratoga	SSM2149			27C256									27128A-250 (2877)	
		SSM2149			27C256									27128A-300 (2877)	
	AMD	AM2149			27C256									27128A-450 (2877)	
	Cypress	CY2149			27C256									M5L27128	
	Intel	2149H			27C256									M27128	
		2149HL			27C256									27128	
	Krueger	2149-35	(2877)		27C256									SGS-Thomson	
		2149-45	(2877)		27C256									M27128	
	Saratoga	SSM2149			27C256									TMM24128	
		SSM2149			27C256									AM27128	
	AMD	AM2149			27C256									AM27128A	
	Cypress	CY2149			27C256									N27128A	
	Intel	2149H			27C256									P27128	
		2149HL			27C256									27128A	
	Krueger	2149-35	(2877)		27C256									27128-200 (2877)	
		2149-45	(2877)		27C256									27128-250 (2877)	
	Saratoga	SSM2149			27C256									27128-450 (2877)	
		SSM2149			27C256									27128A-200 (2877)	
	AMD	AM2149			27C256									27128A-250 (2877)	
	Cypress	CY2149			27C256									27128A-300 (2877)	
	Intel	2149H			27C256									27128A-450 (2877)	
		2149HL			27C256									M5L27128	
	Krueger	2149-35	(2877)		27C256									M27128	
		2149-45	(2877)		27C256									27128	
	Saratoga	SSM2149			27C256									SGS-Thomson	
		SSM2149			27C256									M27128	
	AMD	AM2149			27C256									TMM24128	
	Cypress	CY2149			27C256									AM27128	
	Intel	2149H			27C256									AM27128A	
		2149HL			27C256									N27128A	
	Krueger	2149-35	(2877)		27C256									P27128	
		2149-45	(2877)		27C256									27128A	
	Saratoga	SSM2149			27C256									27128-200 (2877)	
		SSM2149			27C256									27128-250 (2877)	
	AMD	AM2149			27C256									27128-450 (2877)	
	Cypress	CY2149			27C256									27128A-200 (2877)	
	Intel	2149H			27C256									27128A-250 (2877)	

ALT. SOURCE DIRECTORY

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Krueger Company (Cont'd)				2764A-300		(Cont'd)		41256-120	CTI	54HCT241		4164-150	TI		(Cont'd)
2764-300	OKI	MSM2764	(3326)		Mitsubishi	M5L2764			GE/RCA	CD54HCT241				SM4164	
	SEEQ	MSM2764A			National	2764			Krueger	41256-100 (2877)			Toshiba	TMS4164	
	SGS-Thomson	2764			SEEQ	MSM2764A			Micrel	MC54HCT241			Vitellic	TMM4164A	
		5133				5133			Mitsubishi	MIC54HCT241		4164-200	Harris	HA5104	
	TI	M2764A			SGS-Thomson	M2764A			Motorola	M5M4256A			Inmos	IMS2600	
2764-450	AMD	TMS2764	(3326)		TI	TMS2764	(3326)			MCM6256B			IDT	IDT7164	(2848)
	Fujitsu	AM2764A		2764A-450	AMD	AM2764			National	MM54HCT241			Intel	M2164A	
	Intel	MBM2764			Fujitsu	AM2764A			OKI	MSM37256A			Krueger	4164-120 (2877)	
		M2764			Intel	MBM2764			Panasonic	MN41256				4164-150 (2877)	
		P2764A				M2764			Samsung	KM41256A (3036)			MicronTech	MT4264	
		2764				P2764A			Siemens	HYB41256			Motorola	MCM4164	
		2764A				2764			Supertex	54HCT241				MCM4164C	
	Krueger	2764-200 (2877)				2764A			TI	SN54HCT241			National	F4164	
		2764-250 (2877)				2764A			Vitellic	V51C256				F64K	
		2764-300 (2877)				2764A				V51C257				NMC4164	
		2764A-200 (2877)				2764A			41256-150	CTI	54HCT241			MSM3764	
		2764A-250 (2877)				2764A			GE/RCA	CD54HCT241			OKI	MN4164	
		2764A-300 (2877)				2764A			Krueger	41256-100 (2877)			Panasonic	MN4864	
		2764A-450 (2877)				2764A				41256-120 (2877)			Samsung	KM4164A (3036)	
	Mitsubishi	M5L2764				2764A			Micrel	MC54HCT241				KM4164B (3036)	
	National	2764				M5L2764				MIC54HCT241			Saratoga	SSM7164	
	OKI	MSM2764				2764			Mitsubishi	M5M4256A			SGS-Thomson	MKB4564	
	SEEQ	MSM2764A				MSM2764			Motorola	MCM6256B				MK45H64	
		5133				MSM2764A			National	MC54HCT241				TS4164	
	SGS-Thomson	2764				5133			OKI	MSM37256A			Siemens	HYB4164	
		M2764A				SGS-Thomson			Panasonic	MN41256			TI	SMJ4164 (3286)	
	TI	TMS2764	(3326)			M2764A			Samsung	KM41256A (3036)				SM4164	
2764A-200	AMD	AM2764			TI	TMS2764	(3326)		Siemens	HYB41256				TMS4164	
	Fujitsu	AM2764A		4116-120	ITT	ITT4116			Supertex	54HCT241			Toshiba	TMM4164	
	Intel	MBM2764			Krueger	4116-150 (2877)			TI	SN54HCT241				TMM4164A	
		M2764				4116-200 (2877)			Vitellic	V51C256				V51C64	
		P2764A			National	F16K				V51C257			4464-100	Fujitsu	MB81464
		2764				F4116			4164-120	Harris	HA5104			Hitachi	HM50464
		2764A				MM5290				Inmos	IMS2600			Inmos	IMS2820
	Krueger	2764-200 (2877)				MSM3716				IDT	IDT7164	(2848)		Krueger	4464-120 (2877)
		2764-250 (2877)			SGS-Thomson	M4116			Intel	M2164A				4464-150 (2877)	
		2764-300 (2877)				HYB4116			Krueger	4164-150 (2877)			Mitsubishi	MCM41464	
		2764-450 (2877)				2690				4164-200 (2877)				MSM4464P	
		2764A-250 (2877)			Siemens	STC4116			MicronTech	MT4264			NEC	M5M4464	
		2764A-300 (2877)			Signetics	TMM416			Motorola	MCM4164C				μPD41464	
		2764A-450 (2877)			STC	ITT4116				MCM6665			OKI	MSM41464	
	Mitsubishi	M5L2764		4116-150	Toshiba	ITT4116			National	F4164			Samsung	KM41464 (3036)	
	National	2764			Krueger	4116-120 (2877)				F64K			TI	KM41464A	
	OKI	MSM2764				4116-200 (2877)			OKI	NMC4164				SMJ4469	
	SEEQ	MSM2764A			National	F16K			Panasonic	MSM3764			Toshiba	TMM41464	
		5133				MM5290				MN4164			Fujitsu	MB81464	
	SGS-Thomson	M2764A				MSM3716			Samsung	MN4864			Hitachi	HM50464	
2764A-250	TI	TMS2764	(3326)		SGS-Thomson	M4116				KM4164A (3036)			Inmos	IMS2820	
	AMD	AM2764				HYB4116			Saratoga	KM4164B (3036)			Krueger	4464-100 (2877)	
	Fujitsu	AM2764A			Siemens	2690			SGS-Thomson	SSM7164				4464-150 (2877)	
	Intel	MBM2764			Signetics	STC4116				MKB4564			Mitsubishi	MCM41464	
		M2764			STC	TMM416				MK45H64				MSM4464P	
		P2764A			Toshiba	ITT4116				TS4164			NEC	M5M4464	
		2764			Krueger	4116-120 (2877)			Siemens	HYB4164				μPD41464	
		2764A				4116-150 (2877)			TI	SMJ4164	(3286)		OKI	μPD41464	
	Krueger	2764-200 (2877)			National	F16K				SM4164			Samsung	MSM41464	
		2764-250 (2877)				MM5290			Toshiba	TMM4164				KM41464A	
		2764-300 (2877)			OKI	MSM3716				TMM4164A			TI	SMJ4469	
		2764-450 (2877)			SGS-Thomson	M4116			4164-150	Vitellic	V51C64			TMS4464 (3326)	
		2764A-200 (2877)				HYB4116				Harris	HA5104				
		2764A-300 (2877)				2690				Inmos	IMS2600			Toshiba	TMM41464
		2764A-450 (2877)				STC4116				IDT	IDT7164	(2848)		Fujitsu	MB81464
	Mitsubishi	M5L2764				TMM416				Intel	M2164A			Hitachi	HM50464
	National	2764				54HCT241				Krueger	4164-120 (2877)			Inmos	IMS2820
	OKI	MSM2764		41256-100	GE/RCA	CD54HCT241				4164-200 (2877)			Krueger	4464-100 (2877)	
	SEEQ	MSM2764A				(2640)			MicronTech	MT4264				4464-120 (2877)	
		5133				(2877)			Motorola	MCM4164			Mitsubishi	MCM41464	
	SGS-Thomson	M2764A			Krueger	41256-120 (2877)				MCM4164C				MSM4464P	
		TMS2764	(3326)			(2877)			National	MCM6665			NEC	M5M4464	
2764A-300	AMD	AM2764			Micrel	MC54HCT241				F4164				μPD41464	
	Fujitsu	AM2764A				MIC54HCT241				F64K			OKI	μPD41464	
	Intel	MBM2764				M5M4256A				NMC4164			Samsung	MSM41464	
		M2764				MCM6256B			OKI	MSM3764				KM41464A	
		P2764A				MC54HCT241			Panasonic	MN4164			TI	SMJ4469	
		2764				MC54HCT241				MN4864				TMS4464 (3326)	
		2764A				MM54HCT241			Samsung	KM4164A (3036)			Toshiba	TMM41464	
	Krueger	2764-200 (2877)			National	MSM37256A				KM4164B (3036)			Cypress	CY6116	
		2764-250 (2877)			OKI	MSM37256A			Saratoga	SSM7164				CY7C128 (2580)	
		2764-300 (2877)			Panasonic	MN41256			SGS-Thomson	MKB4564				GE/Intersil	
		2764-450 (2877)			Samsung	KM41256A (3036)				MK45H64				GE/RCA	
		2764A-200 (2877)			Siemens	HYB41256				TS4164				IH6116 (2670)	
		2764A-250 (2877)			Supertex	54HCT241				HYB4164				CDM6116 (2644, 2653)	
		2764A-300 (2877)			TI	SN54HCT241				SMJ4164	(3286)			CDM6116A (2644, 2653)	
		2764A-450 (2877)			Vitellic	V51C256				(Continued)				(Continued)	
						V51C257									

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

ALT. SOURCE DIRECTORY

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALT SOURCE DIRECTORY

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◆ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Lambda (Cont'd)				Lansdale Semiconductor				(3057)				(Continued)			
LLM350	IPS	IP350		ML3106	Lansdale	SL54H11		ML54175	National	DM54175		ML5485	National	DM5485	
	LinearTech	LM350		ML5400	National	DM5400		ML54176	National	DM54176		ML5472	National	DM5472	
		LT350			Signetics	5400		ML54177	National	DM54177		ML5473	National	DM5473	
	Motorola	LM350	(2962)		TI	SN5400		ML54178	National	DM54178		ML5474	National	DM5474	
	National	μA350		ML5401	Lansdale	SL5401		ML54179	National	DM54179		ML5475	National	DM5475	
		μA78HGA			National	DM5401		ML54180	National	DM54180		ML5476	National	DM5476	
	SiliconG	LM350		ML5402	Lansdale	SL5402		ML54181	National	DM54181		ML5477	National	DM5477	
	TI	SG350			National	SN5402		ML54182	National	DM54182		ML5478	National	DM5478	
	Unitrode	LM350		ML5403	TI	SN5403		ML54183	National	DM54183		ML5479	National	DM5479	
• LMC7806	GoldStar	UC350	(2714)	ML5404	AMD	AM9016		ML54184	National	DM54184		ML5480	National	DM5480	
	Motorola	MC7806	(2960)		National	DM5404		ML54185	National	DM54185		ML5481	National	DM5481	
	National	μA7806		ML5405	National	DM5405		ML54186	National	DM54186		ML5482	National	DM5482	
• LMC7806	NEC	LM7806		ML5406	TI	SN5406		ML54187	National	DM54187		ML5483	National	DM5483	
	Samsung	μPC7806			Supertex	HV5406		ML54188	National	DM54188		ML5484	National	DM5484	
	SGS-Thomson	MC7806		ML5407	TI	SN5407		ML54189	National	DM54189		ML5485	National	DM5485	
		μA7806			TI	SN5407		ML54190	National	DM54190		ML5486	National	DM5486	
		L7806		ML5410	National	DM5410		ML54191	National	DM54191		ML5487	National	DM5487	
• LMC7806	SiliconG	SG340-6			TI	SN5410		ML54192	National	DM54192		ML5488	National	DM5488	
		SG7806		ML54100	Lansdale	SL54100		ML54193	National	DM54193		ML5489	National	DM5489	
		SG7806A		ML54107	National	DM54107		ML54194	National	DM54194		ML5490	National	DM5490	
• LMC7806	TI	μA7806			TI	SN54107		ML54195	National	DM54195		ML5491	National	DM5491	
	Toshiba	TA78006		ML54121	National	DM54121		ML5492	National	DM5492		ML5492	National	DM5492	
• LMC7808	GoldStar	GL7808	(2714)		Signetics	SN54121		ML5493	National	DM5493		ML5493	National	DM5493	
	Hitachi	HA17808			TI	SN54121		ML5494	National	DM5494		ML5494	National	DM5494	
	Motorola	MC08			TI	SN54121		ML5495	National	DM5495		ML5495	National	DM5495	
• LMC7808	National	μA7808			TI	SN54121		ML5496	National	DM5496		ML5496	National	DM5496	
		LM7808			TI	SN54121		ML5497	National	DM5497		ML5497	National	DM5497	
• LMC7808	NEC	μPC7808			TI	SN54121		ML5498	National	DM5498		ML5498	National	DM5498	
	Samsung	MC7808			TI	SN54121		ML5499	National	DM5499		ML5499	National	DM5499	
	SGS-Thomson	μA7808			TI	SN54121		ML5500	National	DM5500		ML5500	National	DM5500	
		L7808			TI	SN54121		ML5501	National	DM5501		ML5501	National	DM5501	
• LMC7808	SiliconG	SG340-8			TI	SN54121		ML5502	National	DM5502		ML5502	National	DM5502	
		SG7808			TI	SN54121		ML5503	National	DM5503		ML5503	National	DM5503	
		SG7808A			TI	SN54121		ML5504	National	DM5504		ML5504	National	DM5504	
• LMC7808	TI	μA7808			TI	SN54121		ML5505	National	DM5505		ML5505	National	DM5505	
	Toshiba	TA78008			TI	SN54121		ML5506	National	DM5506		ML5506	National	DM5506	
• LMC7812	GoldStar	GL7812	(2714)		TI	SN54121		ML5507	National	DM5507		ML5507	National	DM5507	
	IPS	IP140-12			TI	SN54121		ML5508	National	DM5508		ML5508	National	DM5508	
		IP340-12			TI	SN54121		ML5509	National	DM5509		ML5509	National	DM5509	
		IP7812			TI	SN54121		ML5510	National	DM5510		ML5510	National	DM5510	
		IP7812AC			TI	SN54121		ML5511	National	DM5511		ML5511	National	DM5511	
• LMC7812	Motorola	LM340-12	(2960)		TI	SN54121		ML5512	National	DM5512		ML5512	National	DM5512	
		MC7812	(2960)		TI	SN54121		ML5513	National	DM5513		ML5513	National	DM5513	
• LMC7812	National	μA7812			TI	SN54121		ML5514	National	DM5514		ML5514	National	DM5514	
		LM340-12			TI	SN54121		ML5515	National	DM5515		ML5515	National	DM5515	
		LM7812			TI	SN54121		ML5516	National	DM5516		ML5516	National	DM5516	
• LMC7812	NEC	μPC7812			TI	SN54121		ML5517	National	DM5517		ML5517	National	DM5517	
	Samsung	MC7812			TI	SN54121		ML5518	National	DM5518		ML5518	National	DM5518	
	SGS-Thomson	μA7812			TI	SN54121		ML5519	National	DM5519		ML5519	National	DM5519	
		L7812			TI	SN54121		ML5520	National	DM5520		ML5520	National	DM5520	
• LMC7812	SiliconG	SG340-12			TI	SN54121		ML5521	National	DM5521		ML5521	National	DM5521	
		SG7812			TI	SN54121		ML5522	National	DM5522		ML5522	National	DM5522	
		SG7812A			TI	SN54121		ML5523	National	DM5523		ML5523	National	DM5523	
• LMC7812	TI	SG7812AT			TI	SN54121		ML5524	National	DM5524		ML5524	National	DM5524	
	Toshiba	μA7812			TI	SN54121		ML5525	National	DM5525		ML5525	National	DM5525	
	Unitrode	TA78012			TI	SN54121		ML5526	National	DM5526		ML5526	National	DM5526	
• LMC7815	GoldStar	UC340-12	(2714)		TI	SN54121		ML5527	National	DM5527		ML5527	National	DM5527	
	IPS	UC7812			TI	SN54121		ML5528	National	DM5528		ML5528	National	DM5528	
		IP140-15			TI	SN54121		ML5529	National	DM5529		ML5529	National	DM5529	
		IP340-15			TI	SN54121		ML5530	National	DM5530		ML5530	National	DM5530	
		IP7815			TI	SN54121		ML5531	National	DM5531		ML5531	National	DM5531	
		IP7815AC			TI	SN54121		ML5532	National	DM5532		ML5532	National	DM5532	
• LMC7815	Lambda	LAS1515			TI	SN54121		ML5533	National	DM5533		ML5533	National	DM5533	
	Motorola	LM340-15	(2960)		TI	SN54121		ML5534	National	DM5534		ML5534	National	DM5534	
		MC7815	(2961)		TI	SN54121		ML5535	National	DM5535		ML5535	National	DM5535	
• LMC7815	National	μA7815			TI	SN54121		ML5536	National	DM5536		ML5536	National	DM5536	
		LM340-15			TI	SN54121		ML5537	National	DM5537		ML5537	National	DM5537	
		LM7815			TI	SN54121		ML5538	National	DM5538		ML5538	National	DM5538	
• LMC7815	NEC	μPC7815			TI	SN54121		ML5539	National	DM5539		ML5539	National	DM5539	
	Samsung	MC7815			TI	SN54121		ML5540	National	DM5540		ML5540	National	DM5540	
	SGS-Thomson	μA7815			TI	SN54121		ML5541	National	DM5541		ML5541	National	DM5541	
		L7815			TI	SN54121		ML5542	National	DM5542		ML5542	National	DM5542	
• LMC7815	SiliconG	SG340-15			TI	SN54121		ML5543	National	DM5543		ML5543	National	DM5543	
		SG7815			TI	SN54121		ML5544	National	DM5544		ML5544	National	DM5544	
		SG7815A			TI	SN54121		ML5545	National	DM5545		ML5545	National	DM5545	
• LMC7815	TI	μA7815			TI	SN54121		ML5546	National	DM5546		ML5546	National	DM5546	
		LM340-15			TI	SN54121		ML5547	National	DM5547		ML5547	National	DM5547	
• LMC7815	Toshiba	TA78015			TI	SN54121		ML5548	National	DM5548		ML5548	National	DM5548	
	Unitrode	UC340-15			TI	SN54121		ML5549	National	DM5549		ML5549	National	DM5549	
		UC7815			TI	SN54121		ML5550	National	DM5550		ML5550	National	DM5550	
• LMC7818	Motorola	MC7818	(2961)		TI	SN54121		ML5551	National	DM5551		ML5551	National	DM5551	
	National	μA7818			TI	SN54121		ML5552	National	DM5552		ML5552	National	DM5552	
		LM7818			TI	SN54121		ML5553	National	DM5553		ML5553	National	DM5553	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Lansdale Semiconductor (Cont'd)				SL5472	Lansdale National	ML5472 DM5472 SN5472		GAL16V8	National	(Cont'd)		* SR16K8	GE/Intersil GE/RCA	IH6116 (2670) CDM6116 (2644, 2653)	
ML5497	National	5497		SL74H106	Dense-Pac	DPS7M464 (2606)			Samsung	CPL16L8-25 (3031)		* SR16K8	GoldStar	GM76C28 (2644, 2653)	
ML7417	TI	SN5497		SL8T14	IDT	IDT7M464				CPL16L8-35 (3031)		* SR16K8			
ML74176	Lansdale	ML7420		SL8T96	National	DS55122				CPL16L8L-35 (3031)		* SR16K8	Harris	HM6516 (2696, 2700)	
	National	ML54176		SL8202	TI	SN55122			Signetics	PLHS18P8 (3209, 3227)		* SR16K8	Hitachi	HM65162 (2747)	
	Signetics	54176		SL8224	Raytheon	DM7096									
ML74177	TI	SN54176		SL8230	Signetics	S8202			Sprague	SPL16LC8		* SR16K8	Hyundai	HM6719	
	Lansdale	ML54177		SL8231	National	DM5488			TI	TIBPAL16H8		* SR16K8			
	National	DM54177		SL8241	Raytheon	DM9312				TIBPAL16L8		* SR16K8	Inmos	HY61C16A (2778)	
	Signetics	DM7281			Intel	RM9312				TIBPAL16L8-20		* SR16K8	IDT	IM51433	
	TI	S7281			Raytheon	8231				PAL16V8-15L				IDT6116 (2835)	
ML7420	Lansdale	SN54177		SL8250	Signetics	RM8231			GAL16V8-15L National	PAL16V8-20L				IDT6116A (2835)	
ML7494	GoldStar	GL7101 (2714)			Motorola	S8231			GAL16V8-25L National	PAL16V8-25L				IDT6116L (2835)	
RL8T20	Raytheon	RC8T20			National	SN54LS386 (2938)			GAL16V8-25Q National	PAL16V8-25Q				IDT6116S (2835)	
	Signetics	N8T20 (3076)			Raytheon	DM54LS386			GAL16V8-30L National	PAL16V8-30L				IDT6166	
RL8230	National	DM8312			TI	RM8241			GAL16V8-30Q National	PAL16V8-30Q		* SR16K8	Intel	81C28	
		9312		SL8252	National	SN54LS386			GAL20V8	GE/RCA			Krueger	2128-100 (2877)	
	Raytheon	RC8230				INS8250			Gould/AMI	PEEL20CG10				2128-120 (2877)	
RL8234	Raytheon	RC8234			Raytheon	INS8250A			ICT	PEEL20CG10 (4257)				2128-150 (2877)	
RL8243	Signetics	N8234 (3076)			Signetics	RM8250								2128-200 (2877)	
	Intel	8243		SL8270	Lansdale	S8250								6116-120 (2877)	
	NEC	μPD8243			Motorola	DM8301								6116-150 (2877)	
	Raytheon	RC8243			TI	DM9301								6116-200 (2877)	
	Signetics	N8243			TI	9301								6116LP-120 (2877)	
RL8252	Toshiba	TMP8243			Raytheon	RC8252								6116LP-150 (2877)	
	Lansdale	SL8252		SL8271	Signetics	S8252								6116LP-200 (2877)	
	National	DM8301			Raytheon	RC8266									
		DM9301				RM8266									
		9301			Signetics	N8266 (3076)									
		9301				S8266									
	Raytheon	RC8252				SL8471									
	Signetics	S8252			Lansdale	SL8471									
	Raytheon	RC8271			Motorola	SN54LS12 (2937)									
	Signetics	N8271 (3076)			TI	DM54LS12									
RL8273	Raytheon	RC8273			TI	SN54LS12									
	Signetics	N8273 (3076)		SL8471	Lansdale	SL8270									
RL8274	Raytheon	RC8274			Motorola	SN54LS12 (2937)									
	Signetics	N8274 (3076)			National	DM54LS12									
RL8280	National	DM74176			TI	SN54LS12									
		DM8280													
		96176													
	Raytheon	RC8280													
		RM8280													
	Signetics	S8280													
	TI	74176													
RL8290	National	SN74176													
		DM74196													
		DM8290													
	Raytheon	RC8290													
	Signetics	74196													
	TI	SN74196													
RL8291	National	DM74197													
		DM8291													
		74197													
	Raytheon	RC8291													
	Signetics	74197													
	TI	SN74197													
SL305	Signetics	SE305													
SL54H11	Lansdale	ML3106 (2880)													
SL54H72	Lansdale	SL54H73													
SL54H73	Lansdale	SL54H72													
SL5401	Lansdale	ML5401													
	National	DM5401													
	TI	SN5401													
SL5402	Lansdale	ML5402													
	National	DM5402													
		5402													
	TI	SN5402													
SL5409	National	DM5409													
		5409													
	TI	SN5409													
SL54100	Lansdale	ML54100													
SL54182	Lansdale	ML54182													
	National	DM54182													
	Raytheon	RM9342													
SL54198	National	DM54198													
	TI	SN54198													
SL5453	Lansdale	ML5453													
	National	DM5453													
		MM5453													
	STC	TEL5453													
	TI	SN5453													
SL5470	Lansdale	ML5470													
	National	DM5470													
	TI	SN5470													

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Lattice (Cont'd)				(Cont'd)				Krueger (Cont'd)				(Cont'd)			
• SR256K4	Inmos	IMS1820		• SR64E4	Vitellic	V61C62		• SR64K8		6264LP-120		• 256K8	Toshiba	TC55257	
	IDT	IDT71258	(2839)	• SR64KX4	VLSI Tech	VT65KS4				6264LP-150	(2877)	• 256K8	Vitellic	TC55257A	
		IDT71258L	(2839)		Fujitsu	MB81C74					(2877)			TC55328	
• SR256K4	MicronTech	MT5C2564		• SR64KX4	MicronTech	MT5C6404		• SR64K8	Matra-Harris	HM2064		Linear Technology Corp.			
	Mitsubishi	M5M5258			Toshiba	TC55417	(3335)			HM56162		LF155	AD	AD381	(2428, 2462)
	Motorola	MCM6208		• SR64KX4		MT5C6405		• SR64K8		HM62641				AD544	(2427, 2462)
	NEC	μPD43254				TMM55417		• SR64K8	MicroLinear	ML8464				OPA606	(2540, 2543)
	OKI	MSM52464		• SR64KX4	Vitellic	V61C62		• SR64K8	MicronTech	MT5C6404		Burr-Brown			
	Performance	P4C1258		• SR64K1	Cypress	CY7C187	(2580)	• SR64K8		MT5C6408				LT1022	
	Sharp	LH52252	(3052)	• SR64K1	Fujitsu	MB81C71A		• SR64K8	Mitsubishi	AM99C88			LinearTech	LT1055	
	AMD	AM99C328				MB81C87				M5M165				LT1056	
	Cypress	CY7C197	(2580)	• SR64K1	GoldStar	GM76C64		• SR64K8		M5M165			MicroPwr	MP155	
		CY7C198	(2580)		Hitachi	HM6287				M5M178			National	LF155	
		CY7C199	(2580)	• SR64K1	Hyundai	HY62C87		• SR64K8	Mosel	MS6264				LF353	
SR256K8	Dense-Pac	DPS412S88		• SR64K1	Inmos	IMS1600	(2792)		Motorola	MCM6064				LF411	
	GE/RCA	CDM62256	(2644)			IMS1601	(2793)	• SR64K8		MCM6164				LM110	
	GoldStar	GM76C256	(2696)	• SR64K1	IDT	IDT7187	(2850)	• SR64K8		MCM6164C				LM210	
	Hitachi	HM62256		• SR64K1		IDT7187L	(2850)			MCM6264				LM310	
		HM64456						• SR64K8	National	DP8464				μPC811	
	Hyundai	HY62C256		• SR64K1	MicronTech	MT5C6401		• SR64K8		NMC6164				OP15	
	Inmos	IMS1830			Mitsubishi	M5M5187		• SR64K8	NEC	μPD4364				OP215	
	Inova	S32K8	(2807)	• SR64K1		M5M5187P		• SR64K8	OKI	MSM5164				OP42	
	IDT	IDT7M856S				MCM6287				MSM5165				OP43	
		IDT71256	(2837)	• SR64K1	Motorola	F1600		• SR64K8	Performance	P4C164				PM155	
		IDT71256L	(2837)		National	F1602				P4C188		LF155A			
		IDT71256S	(2837)	• SR64K1	NEC	μPD4361		• SR64K8		SRM2064			National	LF155A	
		IDT8M824	(2872)		OKI	MSM5187		• SR64K8	S-MOS	SRM2264		LF156	AD	AD544	(2427, 2462)
				• SR64K1	Performance	P4C187		• SR64K8		KM6264	(3036)				
	MicronTech	MT5C2568			S-MOS	SRM2261		• SR64K8		KM6264A	(3036)				
	Mitsubishi	M5M5256			Saratoga	SSM7187			Sharp	LH5164					
	Mosel	MS62256			SGS-Thomson	MK41H87		• SR64K8	Sony	LH5165					
	Motorola	MCM60256				LH5261				CVK5864					
		MCM61256				74HC4515	(3057)	• SR64K8		CKX5164P					
		MCM6206				SMJ61CD64				CKX5863P					
	National	NM44251		• SR64K4		TC5562				CKX5865					
	NEC	μPD43256A				TMM5562		• SR64K8		CKX5865P					
	S-MOS	SRM20256		• SR64K4	AMD	AM99C164			STC	STC6264					
		SRM20256C				AM99C165		• SR64K8	TI	SMJ68CE64					
	Samsung	KM62256	(3036)	• SR64K4	Dense-Pac	DPS8M464	(2606)		Toshiba	TC5565					
	Sharp	LH52256			GoldStar	GM76C164				TC5565A					
		LH52259	(3054)		Hitachi	HM6288				TC5585					
	Sony	CKX58255				HM6288				TC5588					
		CKX58256		• SR64K4	Inmos	IMS1620	(2794)			TMM2063					
	Toshiba	TC55257			IDT	DPS8M464		• SR64K8		TMM2064					
		TC55257A				IDT6198				TMM2088					
		TC55328				IDT7188		• SR64K8	Vitellic	V61C62		LF156A			
		V62C256		• SR64K4	MicronTech	MT5C6404				V61C64					
• SR4K4	AMD	AM99C164				MT5C6405				V62C64					
		AM99C165		• SR64K4	Mitsubishi	M5M5188		• SR64K8	VLSI Tech	V65C64					
• SR4K4	Dense-Pac	DPS8M464	(2606)		Motorola	MCM6288				VT20C98					
	GoldStar	GM76C164		• SR64K4		MCM6289		• SR64K8		VT20C99					
	Hitachi	HM6288				MT5C6405		• 256K8	AMD	AM99C328					
		HM6788		• SR64K4	NEC	μPD4362			Cypress	CY7C197	(2580)				
• SR4K4	Inmos	IMS1620	(2794)		Performance	P4C188				CY7C198	(2580)				
	IDT	DPS8M464			S-MOS	SRM2274		• 256K8	Dense-Pac	CY7C199	(2580)				
		IDT6198		• SR64K4	Saratoga	SSM7188				DPS412S88					
		IDT7188				SMJ64C64		• 256K8	GE/RCA	CDM62256	(2644)				
		IDT7188L				TC55416			GoldStar	GM76C256	(2696)				
• SR4K4	MicronTech	MT5C6404		• SR64K4		TC55417	(3335)			Hitachi	HM62256				
		MT5C6405				TMM55416		• 256K8		HM64456					
• SR4K4	Mitsubishi	M5M5188		• SR64K4	VLSI Tech	CT64KS4				HY62C256					
	Motorola	MCM6288		• SR64K8	Cypress	CY7C185	(2580)	• 256K8	Hyundai	IMS1830					
		MCM6289				CY7C186	(2580)		Inmos	S32K8	(2807)				
• SR4K4	NEC	μPD4362		• SR64K8	Dense-Pac	DPS88H08				IDT7M856S					
	Performance	P4C188			Exar	XR8464	(2620)	• 256K8		IDT71256	(2837)				
	S-MOS	SRM2274			Fujitsu	MB8B464				IDT71256L	(2837)				
	Saratoga	SSM7188				MB81C78A		• 256K8	Lattice	IDT71256S	(2837)				
	TI	SMJ64C64				MB8464				IDT8M824	(2872)				
	Toshiba	TC55416		• SR64K8	GE/RCA	CDM6264	(2644, 2653)								
		TC55417	(3335)			GM76C88	(2696, 2703)	• SR64E4	MicronTech	MT5C2568					
• SR4K4	VLSI Tech	CT64KS4				HM65642	(2747)			M5M5256					
• SR64E4	Cypress	CY7C166	(2580)	• SR64K8	GoldStar	GM76C88	(2696, 2703)			MS62256					
	Hitachi	HM6789				HM65642	(2747)	• SR64E4	Mosel	MCM60256					
		HM6789P				HM6264			Motorola	MCM61256					
• SR64E4	Inmos	IMS1624	(2795)			HM6464				MCM6206					
	IDT	IDT6198		• SR64K8	Hyundai	HY6264	(2778)			NM44251					
	MicronTech	MT5C6405			Inmos	IMS1630	(2796)			μPD43256A					
	Mitsubishi	M5M5189AP			IDT	6264-100	(2877)	• 256K8		SRM20256					
• SR64E4	Motorola	MCM6290			Krueger	6264-120	(2877)			SRM20256C					
	National	54LS152				6264-150	(2877)	• 256K8	Samsung	KM62256	(3036)				
	NEC	μPD4363				6264LP-100	(2877)		Sharp	LH52259	(3054)				
	S-MOS	SRM2275						• 256K8		CKX58255					
	Saratoga	SSM7166							Sony	CKX58256					
	SGS-Thomson	T54LS152													
		CKX5465P													
	Toshiba	TC55417	(3335)												
			(Continued)				(Continued)								(Continued)

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Linear Technology Corp. (Cont'd)				LT1013	National	LM158A OP200 OP221	(Cont'd)	LT1022	SGS-Thomson	LF155 LF353 LF411	(Cont'd)	LT1056	SGS-Thomson	LF155 LF353 LF411	(Cont'd)
LT1001	Harris	HA5130 HA5135	(Cont'd)		Raytheon	RM4139 LM158 LM158 LT1013		LT1023	AD	AD518	(2462, 2470)	LT1060	Exar	XR1010 MF10	(2619)
	LinearTech	OP07			Signetics	LM158 LT1013			GoldStar	GL317	(2714)		Maxim	ML2110	
	Maxim	MAX400		LT1014	Exar	XR4741	(2619)		LinearTech	LM318		LT1070	MicroLinear	ML2107	
	Micra	MC0021			Harris	HA4741			National	LM318		LT1078	TI	LT1070	(3011)
	MicroPwr	MP0P07			MicroPwr	MP0P11			NEC	μPC317		LT1079	PMI	OP290	
	National	μA714			Motorola	LM148	(2957)			μPC318		LT108	Dallas	DS1228	
	PMI	OP77				LM248	(2956)		PMI	OP42				DS232	
	Raytheon	OP07	(3024)			MC33174	(2957, 2990)		SGS-Thomson	OP421			LinearTech	LT1081	
	TI	LT1001				MC4741	(2956, 2990)			LM318		LT1081	Maxim	MAX232	
LT1002	MicroPwr	MP0P10			National	μA148			Signetics	NE530			TeledyneS	TSC232	(3278)
LT1003	PMI	OP10				μA248				NE538			Dallas	DS1228	
LT1004	Lambda	LAS1905	(2426, 2462)			LM148				SE530				DS232	
	AD	AD589	(2677)		NEC	μPC4741				SE531			LinearTech	LT108	
	GE/Intersil	ICL8069			PMI	OP11			TI	LM318		LT1084	Maxim	MAX232	(3278)
	Maxim	ICL8069				OP400			TI	MAX680		LT117A	TeledyneS	TSC232	
	MicroPwr	MP5010				OP421		LT1026	Maxim	LT1028			TI	LT1084	
	National	LM113				OP470		LT1028	TI	LM1028			Motorola	LM117A	(2962)
	Plessey	ZN404				PM148		LT1033	National	LM133			SiliconG	SG117A	
	TeledyneS	ZN423				PM248				LM333		LT119	LinearTech	LM119	
		TSC04			Raytheon	HA14741		LT1036	TI	LT1036			National	LM119	
		TSC05				HA34741		LT1037	AD	ADOP37	(2429)		PMI	PM119	
		TSC9491				HA4741			Burr-Brown	OPA37	(2540, 2542)		Signetics	PM119	
LT1007	TI	LT1004				LM148	(3025)		Harris	HAOP37		LT123	IPS	IP123	
	AD	ADOP27	(2429, 2462)			RM4158				HA5137			Lambda	LAS1405	
		AD510	(2462, 2470)		TI	LM148				HA5147	(2770)		LinearTech	LM123	
		AD517	(2429, 2462)	LT1016	TI	LT1016				MA5147			Motorola	LM123	(2960)
	Burr-Brown	OPA27	(2540, 2544)	LT1019-10	AD	ADREF01	(2426, 2462)			OP37				MC78T05	(2959)
						AD581	(2426, 2462)			OP37			National	μA123	
	Harris	HAOP27								Maxim	MP0P37			μA138	
	LinearTech	OP27				LTREF01				MicroPwr	OP37			LM123	
	Maxim	OP27				REF01A				Motorola	OP37			SH123	
	MicroPwr	MP0P27				REF01		LT1054	Raytheon	OP37	(3024)	LT137	SG123	SG123A	
	Motorola	OP27	(2954)			MPREF01		LT1055	TI	OP37			IPS	IP137	
	PMI	OP27				MP5531			AD	LT1054	(2428, 2462)		LinearTech	LM137	
		OP77				MC1400AG10				AD381	(2427, 2462)		MCE	MCELM137	(2962)
	Raytheon	OP27	(3024)			MC1400AU10				AD544	(2427, 2462)		Motorola	LM137	
		RC714				MC1404			Burr-Brown	OPA606	(2540, 2543)		National	LM137	
	TI	OP27				MC1504				LinearTech	LF155		SGS-Thomson	LM137	
LT1008	AD	AD517	(2429, 2462)			REF01				LT1022			SiliconG	SG137	
						REF01AZ				LT1056				SG137A	
	MicroPwr	MP0P08				REF02				OP15			Unitrode	UC137	
	PMI	OP08				REF43	(3012)			MP155			Plessey	ZN454	
		PM1008				REF01	(3025)			LF155			SiliconG	SG138	
	TI	LT1008			Raytheon	TSC9495				LF353			SiliconSys	SS16280	
LT1009	AD	AD1403	(2426)		TeledyneS	TSC9496				LF411			IPS	IP150	
	Motorola	MC1400		LT1019-5	AD	ADREF02	(2426, 2462)			LM110			Lambda	LLM150	
		MC1403	(2989)							LM210				LM150	
		MC1500				REF02				LM310			Motorola	LM150	(2962)
	National	LM185-2.5				LTREF02				μPC811			National	SG150	
		LM236				REF02E				OP15			SiliconG	UC150	
		LM285-2.5				REF02				OP215			Unitrode	CS1524	
		LM385-2.5				MPREF02				OP42			Cherry Semi	CS1524	
	PMI	REF03				REF01				OP43			Exar	XR1524	(2619)
		REF43	(3012)			REF02				PM155			IPS	IP1524	
	Raytheon	REF03				REF02EZ				SGS-Thomson	LF155			IP1524B	
	SiliconG	SG3503			Raytheon	REF02	(3025)			LF353			LinearTech	SG1524	
	TeledyneS	TSC05			TeledyneS	TSC9496			TI	LF411			National	μA1524	
LT1010	Elantec	ELH0002		LT1021	Burr-Brown	REF10	(2551)			AD	AD381	(2428, 2462)		LM1524	
		EL2002		LT1022	AD	AD381	(2428, 2462)		LT1056				SGS-Thomson	SG1524	
		EL2003								AD544	(2427, 2462)			SG1524A	
	Harris	HA5002	(2765)			AD544	(2427, 2462)				AD544	(2427, 2462)		UC1524A	
	Hytek	HY0002				OPA606	(2540, 2543)			Burr-Brown	OPA606	(2540, 2543)		SG1524B	
	Micra	MC0002								LinearTech	LF155			UC1524	
		MC0021								LT1022			Unitrode	UC1524	
	National	LH0002				LF155				LT1055				UC1524A	
	OEI	9910				LT1056				OP15				CS1525A	
	TeledyneC	LH0002				OP15				MP155			Cherry Semi	CS1525A	
LT1011	TI	LTC1011				MP155				LF155			Exar	XR1525A	
LT1012	MicroPwr	MP0P12				LF353				LF353			IPS	IP1525A	
	National	LM112				LF411				LF411			LinearTech	LT1525A	
		LM212				LM110				LM110				SG1525	
		LM312				LM210				LM210			Motorola	SG1525	(2964)
	PMI	OP12				LM310				μPC811			SiliconG	SG1525A	
		OP97				μPC811				OP15				TL1525	
		PM1012				OP215				OP215			TI	UC1525	
	TI	LT1012				OP42				OP42			Unitrode	UC1525A	
		OP12				OP43				PM155				UC1525A	
LT1013	Adv Analog	A158				PM155							Cherry Semi	CS1525A	
	GE/RCA	CA158A	(2647)										Exar	XR1525A	
	Maxim	MAX158											IPS	IP1525A	
	Motorola	LM158	(2955)										LinearTech	LT1525	
			(Continued)				(Continued)							SG1525	(Continued)

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Linear Technology Corp. (Cont'd)				UC3846			(Cont'd)	LMU17			(Cont'd)	LL5320	Burr-Brown Datel	SHC5320 SHM20	(2556) (2597)
SG1525	Cherry Semi Exar IPS LinearTech	CS1525A XR1525A IP1525A LT1525 LT1525A		UC3847	Unitrode SiliconG Siliconix TeledyneS	UC3846 SG3847 SG3847 TSC171 TSC38C47 UC3847	(3268)	LMU18	Harris LogicDev LSI Logic Weitek	HMU17 LMU217 L64017 WTL2517		LL5420	TeledyneP Lansdale National	TP4866 ML5420 DM5420	
	Motorola SiliconG	SG1525A SG1525 SG1525A	(2964)	LMS Electronics				LMU216	AMD	AM29C516 AM29516 AD Cypress			Signetics TI Raytheon Toshiba	SN5420 SN5420 RL7050 TC17G005	
	TI Unitrode	TL1525 UC1525 UC1525A		GR281	LMS SGS-Thomson	NVR2 MK48Z02			Harris IDT LogicDev LSI Logic	HMU16 IDT7216 LMU16 L64015	(2436) (2590)	LL7050	Raytheon Toshiba	RL7080 TC17G008	
SG1527	Cherry Semi IPS LinearTech	CS1527A IP1527A LT1527 LT1527A		NVR2	LMS SGS-Thomson	GR281 MK48Z02			Matra-Harris TI TRWLSI	L64016A MS2516 SN741616 MPY016H MPY016K		LL71000	Raytheon Toshiba	RL71000 TC17G100	
	Motorola SGS-Thomson	SG1527A SG1527 SG1527A	(2964)	Logic Devices					Weitek	WTL1016 WTL1516 WTL2516 AM29517		LL7140	IDT Raytheon Toshiba	IDT7140 RL7140 TC17G014	(2840)
	SiliconG	SG1527 SG1527A		LMA1009	AMD AD IDT TRWLSI	AM29C509 ADSP1009 IDT7209 TDC1009	(2436)	LMU217	AMD	TMC216 TMC216H WTL1016 WTL1516		LL7220	Raytheon Toshiba	RL7220 TC17G022	
	TI Unitrode	TL1527 UC1527 UC1527A		LMA1010	AMD AD	AM29L510 AM29510 ADSP1010 ADSP1010A	(2436) (2462) (2590)		LogicDev Harris LogicDev Weitek	LMU17 L64017 WTL2517 AM255557	(2590)	LL7320	Raytheon Toshiba	RL7320 TC17G032	
SG2524	Cherry Semi Exar IPS LinearTech National	CS2524 XR2524 IP2524 LT2524 μ A2524 LM2524	(2619)		Cypress Intel LogicDev LSI Logic	CY7C510 IM29C510 LMA2010 L64010 L64012	(2436) (2888)	LMU557	AMD	SN54557 SN74S557		LL7420	National	DM7420 DM9004C	
	SGS-Thomson	SG2524 UC2524A			Matra-Harris TI TRWLSI	MS2010 SN74HCT9510 TDC1010 TMC2210		LMU558	AMD	AM25S557 AM25S558 SN74S558 74S558			Raytheon Signetics TI	RL7420 7420 SN7420	(3057)
	SiliconG	SG2524 SG2524B			VLSI Tech Waferscale	VL2010 WS59510 WS59610			LogicDev TRWLSI	LMU08 MPY08HU TMC28KU		LL7600	Raytheon Toshiba	TC17G060 AM29L510	
	TI Unitrode	SG2524 UC2524 UC2524A			Weitek	WTL1010 WTL2010 WTL2044 WTL2245		LMU8	AMD AD	AM25S557 ADSP1080 ADSP1081	(2436) (2436, 2462)	L64010	AMD	AM29510 AD ADSP1010 ADSP1010A	(2436) (2462) (2590)
SG3524	National	μ A3524		LMA2010	AMD AD	AM29L510 AM29510 ADSP1010 ADSP1010A	(2436) (2462) (2590)	LMU8U					LSI Logic Matra-Harris TI	L64012 MS2010 SN74HCT9510	
SG3525	Cherry Semi Ericsson Exar IPS LinearTech	CS3525A RL3525A XR3525A IP3525A LT3525 LT3525A			Cypress Intel LogicDev LSI Logic	CY7C510 IM29C510 LMA1010 L64010 L64012	(2888)	L10C23	TRWLSI	TDC1023 TMC2023 29C520 WS59520			VLSI Tech Waferscale	VL2010 WS59510 WS59610	
	SGS-Thomson	SG3525A			Matra-Harris TI TRWLSI	MS2010 SN74HCT9510 TDC1010 TMC2210		L29C520	MMI	29C520 WS59520			Weitek	WTL1010 WTL2010	
	SiliconG	SG3525A			VLSI Tech Waferscale	VL2010 WS59510 WS59610		L29C521	MMI	29C521 WS59521			WTL2010 WTL2044		
	TI	SG3525A			Weitek	WTL1010 WTL2010 WTL2044 WTL2245		L429C01	AMD	AM2901 CY2901 IDT39C01		L64012	AMD	AM29L510 AM29510	
	Unitrode	UC3525A						L53C80	AMD NCR	AM53C80 KS53C80 VDA	(2994)		AD	ADSP1010 ADSP1010A	(2436) (2462)
SG3527	Cherry Semi Exar IPS LinearTech	CS3527 CS3527A XR3527A IP3527 LT3527 LT3527A			VLSI Tech Waferscale	VL2010 WS59510 WS59610		L5380	Samsung Zilog AMD	KS53C80 Z0538010 AM5380			Cypress Intel LogicDev	CY7C510 IM29C510 LMA1010 LMA2010	(2590)
	Motorola SGS-Thomson	SG3527A SG3527 SG3527A	(2964)		Weitek	WTL1010 WTL2010 WTL2044 WTL2245			National NCR	TP5380 NCR5380 NMOS5380	(2994)		LSI Logic Matra-Harris TI	L64010 MS2010 SN74HCT9510	(2888)
	SiliconG	SG3527A		LMU08	AMD AD	AM25S557 ADSP1080 ADSP1081	(2436) (2436, 2462)		Samsung	KS53C80			TRWLSI	TDC1010 TMC2210 VL2010	
	TI	SG3527A			LogicDev TRWLSI	LMU8 MPY08HU TMC28KU		LSI Computer Systems					VLSI Tech Waferscale	WS59510 WS59610	
UC1846	Unitrode National	UC3527A DM54ALS468 DM54AS1034		LMU16	AMD	AM29C516 AM29516 AD Cypress	(2436) (2590)	LS7231	GE/Intersil Maxim	ICM7231 ICM7231	(2686)		Weitek	WTL1010 WTL2010	
	SGS-Thomson	UC1846			AD Cypress	AM29C516 AM29516 ADSP1016 CY7C516	(2436) (2590)	LS7232	Fujitsu Maxim	MB7232 ICM7232	(2686)			WTL2044 WTL2245	
	SiliconG	SG1846			Harris IDT	HMU16 IDT7216		LS7233	GE/Intersil Maxim	ICM7233 ICM7233	(2686)	L64015	AD Harris	ADSP1016 HMU16	(2436)
	Siliconix	SG1846			LogicDev LSI Logic	LMU216 L64015 L64016A		LS7234	Micrel GE/Intersil Maxim	MIC7233 ICM7234 ICM7234			IDT LogicDev Weitek	IDT7216 LMU16 WTL1516	
	TeledyneS	TSC170 TSC18C46 SN54AS1034A UC1846	(3268)		Matra-Harris TI TRWLSI	MS2516 SN741616 MPY016H MPY016K			Siemens	S576D		L64016A	AMD	AM29C516 AM29516	
UC1847	Unitrode National	UC1847 DM54ALS521 DM54AS04											AD Cypress	ADSP1016 CY7C516	(2436) (2590)
	SiliconG	SG1847			Weitek	WTL1016 WTL1516 WTL2516							IDT	IDT7216	
	Siliconix	SG1847											LSI Logic	LMU16 LMU216	
	TeledyneS	TSC171 UC1847 Ericsson RL3846	(3268)										Matra-Harris	MS2516	
	Unitrode	UC1847		LMU17	AMD	AM29517		LL5080	GE/RCA	PA50800 Toshiba TC15G008			TI	SN741616	
	Ericsson	RL3846			Cypress	CY7C517	(2590)	LL5140	GE/Intersil GE/RCA	IH5140 CD22212	(2671) (2646)		TRWLSI	MPY016H MPY016K	
	SiliconG	SG3846													
	Siliconix	SG3846													
	TeledyneS	TSC170 TSC38C46	(3268)												
	(Continued)														(Continued)

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Matra-Harris (Cont'd)				HM65682 (Cont'd)				HN65641 Krueger (Cont'd)				HN65728 Krueger (Cont'd)			
HM65641	Mosel	MS6264	(Cont'd)		NEC	μPD4134				6264LP-100	(2877)			6116LP-150	(2877)
	Motorola	MCM6064			Performance	μPD4314				6264LP-120	(2877)			6116LP-200	(2877)
		MCM61164			S-MOS	SRM2268				6264LP-150	(2877)				
		MCM6164			SGS-Thomson	MK41H68							Matra-Harris	HM6166	
		MCM6164C			STC	STC2168								HM65161	
		MCM6264			TI	SMJ64C16				Matra-Harris	HM2064			HM65162	
	National	DP8464				SMJ64C64					HM56162			HM65163	
		NMC6164			Toshiba	TMM2068					HM62641			MicronTech	MT5C1608
		μPD4364			VLSI Tech	CT64KS4					HM65641			Mitsubishi	MS8725
	NEC	MSM5164				VT20C19	(3349)			MicroLinear	ML8464				M5M116
	OKI	MSM5165				VT20C68	(3343, 3345, 3350)			MicronTech	MT5C6404				M5M5116
		MSM5188				VT20C69	(3343, 3345, 3350)				MT5C6408				M5M5117
	Performance	P4C164								Mitsubishi	AM99C88				M5M5118
		P4C188									M5M165				M58275
	S-MOS	SRM2064									M5M5164				M58275
		SRM2264									M5M5165				MCM2016
											M5M5178				MCM2016H
	Samsung	KM6264	(3036)		AMD	AM2169					MS6264				MCM2018P
		KM6264A	(3036)			AM99CL68					MCM6064				MCM6116
	Sharp	LH5164			Cypress	CY7C168	(2580)				MCM61164				MCM6116
		LH5165				CY7C169	(2580)				MCM6164				MMC2116
	Sony	CVK5864			Fujitsu	MB81C68					MCM6164C				MSM2128
		CXK5164P				MB81C68A					MCM6264				MSM5126
		CXK5863P			Hitachi	HM6168HP					DP8464				MSM5128
		CXK5865				HM6268					NMC6164				MSM5129
		CXK5865P				HM6268L					μPD4364				Performance P4C116
	STC	STC6264			Hyundai	HY61C68					MSM5164				S-MOS SMC6116
	TI	SMJ68CE64			Inmos	IMS1421C					MSM5165				Saratoga SSM6116
	Toshiba	TC5565			IDT	IDT6120					MSM5188				SGS-Thomson
		TC5565A				IDT6168	(2836)				P4C164				ET2128
		TC5585				IDT6168A	(2836)				P4C188				MK2817
		TC5588				IDT6168L	(2836)				SRM2064				MK6116
		TMM2063				IDT6168LA	(2836)				SRM2264				LH5115
		TMM2064				IDT6168S	(2836)				SRM2264				NE5517
		TMM2088				IDT6168SA	(2836)				KM6264	(3036)			CXK5814P
	Vitelc	V61C62				IDT6169					KM6264A	(3036)			UDN6116
		V61C64			Matra-Harris	HM65682					LH5164				STC2018
		V62C64			MicronTech	MT5C1604					LH5165				STC6116
		V65C64				MT5C1605					CVK5864				SMJ68CE16
	VLSI Tech	VT20C98				MT5C1608					CXK5164P				TC5517B
		VT20C99				MSM21C68P					CXK5863P				TMM2015A
	AMD	AM99CL68				MS6168					CXK5865				TMM2018
		AM99C68				MCM6168					CXK5865P				TMM2018AP
	Cypress	CY7C168	(2580)			MCM6269					STC6264				UMC U6116
	Fujitsu	MB8168			NEC	μPD4314					TC5565A				V61C16
	Inmos	IMS1420				μPD4314C					TC5585				V62C16
		IMS1421				P4C168					TC5588				VLSI Tech VT20C18
		IMS1423				P4C169					TMM2063				(3343, 3345, 3349)
		IMS1424				PS6168					TMM2064				Cypress CY7C147
		IDT6120				SSM6168					TMM2088				(2580)
											V61C62				AMD AM21L48
	Matra-Harris	HM65682				MK41H68					V61C64				Cypress CY21L48
	MicronTech	MT5C1604				MK41H69					V62C64				CY7C148
	Mitsubishi	M5M21C68				MK41L68					V65C64				(2580)
		M5M2168				CXK5416P/K					VT20C98				Performance P4C148
	Motorola	MCM1423				SMJ64C16					VT20C99				AMD AM29L510
		MCM2168				SMJ68CE64					CY6116				AM29510
		MCM61164				TMM2018					CY7C128	(2580)			AD ADSP1010
	NEC	μPD4134				TMM2068					IH6116	(2670)			(2436)
		μPD4314				TMM2068AP					CDM6116	(2644, 2653)			ADSP1010A
	Performance	P4C188									CDM6116A	(2644, 2653)			(2436, 2462)
	S-MOS	SRM2268									GM76C28	(2696, 2700)			(2590)
	SGS-Thomson	MK41H68									HM6516	(2747)			Cypress CY7C510
		STC2168									HM65162	(2747)			Intel IM29C510
		SMJ64C16									HM6716				LMA1010
		SMJ64C64									HM6719				LMA2010
		TMM2068									HY61C16A	(2778)			LSI Logic L64010
	VLSI Tech	CT64KS4									HY6116A				(2888)
		VT20C19	(3349)								IMS1433				L64012
		VT20C68	(3343, 3345, 3350)								IDT6116	(2835)			SN74HCT9510
		VT20C69	(3343, 3345, 3350)								IDT6116A	(2835)			TDC1010
											IDT6116L	(2835)			TMC2210
											IDT6116S	(2835)			VL2010
											IDT6166				WS59510
											81C28				WS59610
											2128-100	(2877)			WTL1010
											2128-120	(2877)			WTL2010
											2128-150	(2877)			WTL2044
											2128-200	(2877)			WTL2245
											6116-120	(2877)			WTL2245
											6116-150	(2877)			AM29C516
											6116-200	(2877)			AM29516
											6116LP-120	(2877)			AD ADSP1016
															(2436)
															Cypress CY7C516
															(2590)
															Intel HMU16
															IDT IDT7216
															LogicDev LMU16
															LMU216
															L64015
															L64016A
															SN741616
															MPY016H
															MPY016K
															TMC216
															TMC216H

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Matra-Harris (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)				
MS2516			(Cont'd)	DN834	Siemens	SAS241 SAS250 SAS251		AD581	Maxim MicroPwr	REF01 MPREF01 MP5531		AD7531	MicroPwr National PMI	MP7531 AD7531 PM7531	(Cont'd)	
	Weitek	WTL1016 WTL1516 WTL2516														
P80C51	Fujitsu	MLB80C51 MLB80C51		DN835	Sprague	UGN3201K (3259)			Motorola	MC1400AG10 MC1400AU10		AD7533	Unitrode AD	PIC7531 AD7533	(2411, 2462)	
	Intel	P80C51 P80C51BH 80C51		DN837	National	DN834 DN839 DN837			PMI	REF01 REF01AZ REF02			Datel GE/Intersil MicroPwr	DAC7533 AD7533 MP7533	(2596) (2666)	
	OKI	M80C51			National	DN839 DN837 DN839				REF43 (3012) REF01 (3025)			National PMI	AD7533 PM7533	(3019)	
	Siemens	SAB80C51			Siemens	SAS241 SAS250 SAS251		AD584	Raytheon TeledyneS	TSC9495 TSC9496		AD7537	Unitrode AD	PIC7533 AD7537	(2413, 2460, 2462)	
	Signetics	SCC80C51B (3126) SC80C51 29C48			Sprague	UGN3201K (3259)		AD650	AD	AD584 (2426, 2462) AD650 (2420, 2462)			PMI	DAC8248	(3005, 3019)	
29C48	Intel	29C48		DN838	National	DN838		AD7224	AD	AD7224 (2410, 2462)		AD7541	AD	AD7541 (2411, 2462, 2470)		
29C53	Intel	29C53			Sprague	UGN3203K							Burr-Brown Datel	DAC7541A DAC7541	(2552) (2596)	
8031	Intel	8031		DN839	National	DN834 DN837 DN839		AD7225	GE/Intersil Maxim PMI	ICM7224 ICM7224 PM7224 (3019) AD7225 (2413, 2462)			GE/Intersil	AD7541 (2666)		
8032	Intel	P8032 P8032AH 8032			Siemens	SAS241 SAS250 SAS251		AD7226	GE/Intersil Maxim AD	ICM7225 (2684) ICM7225 AD7226 (2413, 2461)			Honeywell HybridSys	HDAC7541 DAC331 HS7541		
	Siemens	SAB8032 SAB8032A			Sprague	UGN3201K (3259)			Fujitsu	MB7226 MB7226RA		AD7542	MicroPwr Siliconix TeledyneP TeledyneS	MP7541 SI7541A TP7541 TSC7541	(2411, 2462)	
	Signetics	SCN8032 (3128) SCN8032AH P8051		Maxim				AD7520	PMI AD	PM7226 (3019) AD7520 (2462, 2470)			Honeywell	HDAC7542		
8051	AMD	MBL8051 (2635)		ADC0820	MicroPwr	MP0820			GE/Intersil	AD7520		AD7543	MicroPwr	MP7542		
	Fujitsu	MLB8051AH			National	ADC0820			MicroPwr	MP7520			PMI	PM7542 (3019)		
	Intel	P8051		AD2700	PMI	PM0820			Motorola	MC7520			AD	AD7543 (2411, 2462)		
	Siemens	P8051AH			Samsung	KAD0820			National	AD7520			Honeywell	HDAC7543		
	Signetics	SAB8051 SAB8051A SCN8051			Signetics	ADC0820		AD7521	Sanyo Unitrode	LA7520 PIC7520		AD7545	MicroPwr	MP7543		
8052	Intel	SCN8051AH P8052 P8052AH			AD	AD2700 (2426, 2461)			AD	AD7521 (2462, 2470)			AD	AD7545 (2411, 2462)		
	Intel	8086			HybridSys	HS2700			GE/Intersil	AD7521			Burr-Brown	DAC7545		
	Krueger	8086 (2877)			HyComp	R675-4 HC2700			HybridSys	DAC331-12		AD7547	Honeywell	HDAC7545		
	AMD	EDH8088CL		AD2701	AD	AD2701 (2426)			MicroPwr	MP7521		AD7548	HybridSys	HS7545		
	EDI	EDH8088CL			HybridSys	HS2701			Motorola	MC7521			MicroPwr	MP7545		
	Fujitsu	MBL8088 (2635)			HyComp	R675-5 HC2701		AD7523	Motorola	AD7521		AD7572	MicroPwr	PM7545 (3019)		
	Intel	8088			HyComp	HC2710			National	DAC1220 DAC1221 DAC1222		AD7574	AD	AD7547 (2413, 2462)		
	Krueger	8088 (2877)			AD	AD2710 (2426)			AD	AD7523 (2470) DACL7523 (2596) GE/Intersil AD7523 (2666)			Maxim	MAX160		
82716	Matra-Harris	HC3052		AD2710	AD	AD2710 (2426)			AD	AD7524 (2411, 2460, 2462)		AD7575	Siemens	SDA3203		
	National	TP3052			HyComp	HC201 HC2711			MicroPwr	MP7524		AD7576	Toshiba	TD6316		
Matsushita				AD3554	AMD	29520/1 29520/1A			Motorola	MC7521			AD	AD7576 (2416, 2462)		
DN6835	Matsushita	DN6836			AD	AD3445			National	AD7521				NEC	μPD23C1000A	
	Microswitch	103SR			Hitachi	HA1393			AD	AD7523 (2470) DACL7523 (2596) GE/Intersil AD7523 (2666)		AD7577	Plessey	SP4632		
	National	92SS12-2			Sprague	ULN3793			PMI	AD7523 (2470) DACL7523 (2596) GE/Intersil AD7523 (2666)				SP4653		
	Sprague	UGN3501 (3259)		AD536	AD	AD536 (2432)			MicroPwr	MP7523				8023		
DN6836	Matsushita	DN6835		AD565A	AD	AD565A (2411, 2462)			Motorola	MC7523				SDA4212		
	Microswitch	103SR			Burr-Brown	4341			National	LM7523				SO62P		
	National	92SS12-2			Harris	HI565A			PMI	LM7523				U686BS		
	Sprague	UGN3501 (3259)			MCE	MCE565			National	LM7523				AD7581		
DN6837	Matsushita	DN6835			MicroNet	MN565A			PMI	PM7523				Maxim	MAX161	
	Microswitch	103SR			National	μA565			Raytheon	RC7523				MicroPwr	MP7581	
	National	92SS12-2			Signetics	NE565			Unitrode	PIC7523				AD	AD7628	
	Sprague	UGN3501 (3259)			TeledyneP	TP565A			AD	AD7524 (2411, 2460, 2462)				Dionics	DI604A	
	Microswitch	8SS7			AD	AD566 (2411, 2462)			GE/Intersil	AD7524				MicroPwr	MP7628	
	National	8SS7E1				AD566A (2411, 2462)			MicroPwr	MP7524				Motorola	MC12020	
	Siemens	DN6837				AD566A (2411, 2462)			Motorola	MC7524				SGS-Thomson	L604	
	Sprague	UGN3019 (3259)				AD566A (2411, 2462)			National	DS75S24				Siemens	SO41P	
	TI	TL172C				AD566A (2411, 2462)			PMI	PM7524 (3019)				Signetics	NE604	
DN6838	Microswitch	SS46				AD566A (2411, 2462)			Signetics	7524				Sprague	ULN3820	
	National	8SS1E1				AD566A (2411, 2462)			TI	TLC7524 (3325) AD7528 (2413, 2461)				MicroPwr	MP7645	
	Siemens	8SS5E1				AD566A (2411, 2462)			MicroPwr	MP7528				PMI	PM7645 (3019)	
	Sprague	UGN3030 (3259)				AD566A (2411, 2462)			Motorola	MC7528						
DN6839	Matsushita	DN6837				AD566A (2411, 2462)			Plessey	ZN7528						
	Microswitch	613SS2				AD566A (2411, 2462)			PMI	PM7528 (3019)						
	National	8SS7				AD566A (2411, 2462)			Raytheon	RC7528						
	Siemens	DN6837				AD566A (2411, 2462)			TI	TLC7528 (3325)						
	Sprague	UGN3019 (3259)				AD566A (2411, 2462)			Unitrode	PIC7528						
	TI	TL172C				AD566A (2411, 2462)			AD	AD7530 (2470) GE/Intersil AD7530 (2666)						
DN834	Matsushita	DN837				AD566A (2411, 2462)			MicroPwr	MP7530						
	National	DN839				AD566A (2411, 2462)			National	AD7530						
		DN834				AD566A (2411, 2462)			Sanyo	LA7530						
		DN837				AD566A (2411, 2462)			Unitrode	PIC7530						
		DN839				AD566A (2411, 2462)			AD	AD7531 (2470)						
		DN839				AD566A (2411, 2462)			GE/Intersil	AD7531 (2666)						
		DN839				AD566A (2411, 2462)				AS7531						

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Maxim (Cont'd)				MAX158	TI	LM158 LT1013	(Cont'd)	MAX460	TeledyneC TeledyneP	LH0033 TP1359	(Cont'd)	REF01	Motorola	MC1400AG10 MC1400AU10	(Cont'd)	
IH5141	Crystal GE/Intersil GE/RCA SiliconSys	CS202 IH5141 CD22202 SSI202 SSI75T202	(2645) (3255)	MAX160	AD Maxim MicroPwr PMI	AD7574 MP7574 ADC908 PM7574 AD7581	(2462, 2470)	MAX574	Adv Analog AD Burr-Brown Datel GoldStar Harris HybridSys	ADC574 ADC574A AD574 574 ADC574A ADC574A GL574 HI574	(2401) (2460) (2557) (2595) (2714) (2756)					
IH5142	Siliconix GE/Intersil	DG5141 IH5142		MAX161	AD Maxim MicroPwr Dallas	AD7581 MP7581 DS1228 DS232	(2415)						PMI	REF01AZ REF02 REF43 REF01	(3012) (3025)	
IH5143	GE/Intersil	IH5143		MAX232								REF02	AD	TSC9495 TSC9496 ADREF02	(2426, 2462)	
IH5144	Siliconix GE/Intersil GE/RCA SiliconSys	DG5143 IH5144 CD22223 SSI223	(2646)		LinearTech	LT108 LT1081			MCE MicroNet	MCE574 MN574 MN574A MP574 TP574A			Gennum LinearTech	REF02 LTREF02 LT1019-5 REF02E MPREF02		
IH5145	Siliconix GE/Intersil	DG5144 IH5145		MAX331	TeledyneS AD	TSC232 ADG201	(3278) (2450, 2461, 2470)	MAX680 MAX7129	MicroPwr TeledyneP LinearTech GE/Intersil	LT1026 ICL7129 ICL7129 ICL7129 TSC7129	(2667)			MicroPwr PMI	REF01 REF02 REF02EZ REF02	(3025)
IH5148	GE/Intersil Hitachi MicronTech Mitsubishi Motorola NEC	IH5148 HM514258 MT4C4258 M5M44C258 MCM514258 μPD424258 μPD42458	(2671)		GE/Intersil	DG201 DG201A IH201 IH201 DG201A MP201 LF11201 LF13201		MAX8211 MAX8212	TeledyneS Maxim MicroPwr National	ICL8211 ICL8211 ICL8211 AM8212 CA82C12	(2677)			TeledyneS AD	TSC9496 ADVFC32	(2420, 2462) (2559)
	OKI	MSM514257 MSM514258			PMI	SW201			NEC	μPB8212 8212			Burr-Brown MCE Plessey	VFC32 MCEVFC32 ADVFC32		
	Samsung Sharp TI Toshiba	KM44C258 LH64258 TMS44C257 TC514258 TC51428	(3326)	MAX332	PMI	TSC4201 TSC4202 SW02 SW202 DG202		MF10	Intel LinearTech MicroLinear	MSM82C12 XR1010 LT1060 ML2110	(2619)	MCE				
IH5341	GE/Intersil	IH5341	(2670)		Siliconix	DG202		MM74C945	National	MM74C945		• MCEAD15	Exar	XR400		
IH5352	GE/Intersil	IH5352		MAX358	TeledyneS Burr-Brown	TSC4201 TSC4202 HI508A MPC8S		MM74C947	National	MM74C947		MCEAD15C	Exar	XR400		
LH0033	AD	ADLH0033	(2429, 2461)		Datel GE/Intersil	MX808 IH5108	(2600) (2670)	OP07	AD	AD517	(2429, 2462)	MCEAD20	Exar	XRA100 XRM100 MCEA20A MOA MOM		
	Burr-Brown	OPA633	(2542, 2544)		Harris Maxim	HI508A DG509A HI508A			Harris	OP07 HA5130 HA5135 LT1001 OP07		MCEA20A	Exar	XRA100 XRM100 MCEA20 MOA MOM		
	Elantec	ELH0033 ELH2004 ELH2005 EL2004 EL2005 EL2033		MAX359	MicroPwr Burr-Brown Fujitsu	MP7508DI HI509A MB5208			LinearTech	MAX400 MC0021 MPOPO7 μA714		MCEA20B	Exar	XR8100 MOB		
	Harris	HA5033	(2766)		GE/Intersil	IH5208	(2670)		Maxim	OP77		MCEA20C	Exar	XRC100A		
	Maxim	MAX460			Harris	HI509A			Maxim	OP07 LT1001 OP07D	(3024)	MCEA20E	Exar	CS2000 XRE100		
	Micra	MC0033		MAX368	PMI	MUX24		OP27	AD	ADOP27	(2429, 2462)		Plessey	MOC		
	MicroPwr	MP0033 MP0033C MP2004		MAX369	Harris MicroPwr	HI508 MP7508DI ICL6109				AD510	(2462, 2470)	MCEA20F	Cherry Semi	CS3000		
	National	LH0033		MAX400	GE/Intersil Harris	HI509 MP7509DI				AD517	(2429, 2462)		Exar	XRF100		
	OEI	AH001			MicroPwr	MP7509DI				AD517	(2429, 2462)		Plessey	MCF MOF		
	TeledyneC	LH0033			AD	AD517	(2429, 2462)		Burr-Brown	OPA27	(2540, 2544)	MCEA20G	Cherry Semi	CS2500 XRG100		
	TeledyneP	TP1359				OP07			Harris	HAOP27			Exar	MOG		
LH0063	National	LH0063			Harris	HA5130 HA5135			LinearTech	LT1007		MCEA20H	Exar	XRH100		
LH0101	Apex	PA02 PA07	(2480) (2480)		LinearTech	LT1001 OP07				OP27			Plessey	MOH		
	Burr-Brown	3571 3572			Maxim	OP07			MicroPwr	MPOPO27		MCEA20J	Exar	XRJ100		
	Elantec	ELH0101			Micra	MC0021			Motorola	OP27	(2954)		Plessey	MOJ		
	National	LH0101			MicroPwr	MPOPO7			PMI	OP27		MCEA20L	Cherry Semi	CS3200		
LT1001	Raytheon	LT1001	(3024)		National	μA714			Raytheon	OP27 RC714	(3024)		Exar	XRL100		
MAX136	TeledyneS	TSC810	(3277, 3279)		PMI	OP77				OP27			Plessey	MOL		
MAX150	AD	AD7820	(2414, 2416, 2462)		Raytheon TI	OP07 LT1001 OP07D	(3024)	OP37	TI AD Burr-Brown	OP27 ADOP37 OPA37	(2429) (2540, 2542)	MCEA20P MCEA40D	Exar	MOP XRD100 MOD		
	Crystal	CS7820		MAX4193	Raytheon	RC4193	(3025)						Plessey	MOD		
	Maxim	AD7820		MAX420	TeledyneS	TSC9420			Harris	HAOP37 HA5137 HA5147		MCED15B	Exar	XR500		
	National	μA7820 DS7820 LM7820		MAX4391	Raytheon	RC4391	(3025)			MA5147	(2770)	MCELM10	LinearTech	LM10		
	PMI	PM0820		MAX460	AD	ADLH0033	(2429, 2461)			LT1037			National	IP117		
	Samsung	KAD0820				HOS100	(2429)		LinearTech	OP37 MPOPO37			LinearTech	LM117		
	SGS-Thomson	L7820			Burr-Brown	OPA633	(2542, 2544)			OP37 OP37 OP37			National	μA117 LM117	(2962)	
	SiliconG	SG7820 SG7820A			Elantec	ELH0033 ELH2004			MicroPwr	OP37 OP37			SGS-Thomson	LM117		
	Siliconix	SI7820				ELH2005			Motorola	OP37				SG117		
	TI	μA7820 SN55182 TLC0820	(3325)			EL2004 EL2005 EL2033			Raytheon TI	OP37 OP37	(3024)		SiliconG	TL117		
						EL2005 EL2033			Burr-Brown	PGA100	(2545)		Unitrode	UC117		
	Adv Analog	A158			Harris	HA5033	(2766)		AD	ADREF01	(2426, 2462)		MCELM137	IPS	IP137	
	GE/RCA	CA158A	(2647)		Maxim	LH0033 MAX460				AD581	(2426, 2462)			LinearTech	LM137 LT137	
	LinearTech	LT1013				MC0033			LinearTech	LTREF01 LT1019-10 REF01A			Motorola	LM137	(2962)	
	Motorola	LM158	(2955)		Micra	MP0033				AD581 MPREF01			National	LM137		
	National	LM158A			MicroPwr	MP0033C				MP5531			SGS-Thomson	LM137		
	PMI	OP200				MP2004			Maxim					LM137		
		OP221				LH0033			MicroPwr				SiliconG	SG137 SG137A		
	Raytheon	RM4139			National	AH001							Unitrode	UC137		
	Signetics	LM158			OEI											(Continued)

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Micrel (Cont'd)				MIC74HCT573 (Cont'd)				ML8464 (Cont'd)				DAC85 (Cont'd)			
MIC74HCT374	GE/RCA	CD74HCT374 (2641, 2653)		MIC74HCT574	CTI	74HCT574		GoldStar	GM76C88	(2696, 2703)		Burr-Brown	DAC80	(2553)	
	Hitachi	HD74HCT374			GE/RCA	CD74HCT574 (2641)		Harris	HM65642	(2747)		Datel	DACHZ12B	(2596)	
	Motorola	MC74HCT374			National	MM74HCT574		Hitachi	HM6264			Harris	HI5685		
	National	MM74HCT374			Plessey	MV74HCT574			HM6464			HybridSys	DAC9356		
	Plessey	MV74HCT374			SGS-Thomson	M74HCT574		Hyundai	HY6264	(2778)		National	DAC1280		
	SGS-Thomson	M74HCT374			Signetics	74HCT574 (3057)		Inmos	IMS1630	(2796)		TeledyneP	TPDAC80		
	Signetics	74HCT374			Supertex	74HCT574		IDT	IDT7165			Adv Analog	DACHK12	(2596)	
	Supertex	74HCT374			TI	SN74HCT574		Krueger	6264-100	(2877)		Datel	DACHK12	(2596)	
	TI	SN74HCT374			Toshiba	TC74HCT574			6264-120	(2877)		Adv Analog	ADAC80	(2557)	
	Toshiba	TC74HCT374A							6264-150	(2877)		Burr-Brown	ADC80	(2557)	
MIC74HCT533	CTI	74HCT533		Micro Linear					6264LP-100	(2877)		Adv Analog	ADAC80	(2557)	
	GE/RCA	CD74HCT533	(2641)	ADC0809	National	ADC0809		Matra-Harris	HM2064			ADAC80	ADC84	(2401)	
	Hitachi	HD74HCT533			Samsung	KAD0809			HM56162			ADAC80	ADC85	(2401)	
	Motorola	MC74HCT533		ADC0831	Intel	ADC0831			HM62641			ADAC80	ADC87	(2401)	
	National	MM74HCT533			MicroLinear	ML2281			HM65641			ADAC80	ADAC84	(2417, 2462)	
	Plessey	MV74HCT533			National	ADC0831			HN65641			ADAC80	ADAC85	(2417, 2462)	
	Signetics	74HCT533 (3057)			TI	ADC0831A			MT5C6404			ADAC80	ADAC87	(2557)	
	TI	SN74HCT533			ADC0832	Intel	ADC0832		MT5C6408			ADAC80	ADC85	(2557)	
	CTI	74HCT534				MicroLinear	ML2282		AM99C88			ADAC80	ADC87	(2557)	
	GE/RCA	CD74HCT534	(2641)			National	ADC0832		M5M165			ADAC80	ADCHX12B	(2595)	
	Hitachi	HD74HCT534				TI	ADC0832B		M5M5164			ADAC80	ADCHZ12B	(2595)	
	Motorola	MC74HCT534				ADC0834	MicroLinear	ML2284	M5M5178			ADAC80	ADCHZ12BGZ	(2595)	
	National	MM74HCT534					National	ADC0834	MS6264			ADAC80	ADC581		
	Plessey	MV74HCT534				ADC0838	MicroLinear	ML2288	MCM6064			ADAC80	ADC581B		
	Signetics	74HCT534 (3057)					National	ADC0838	MCM6164			ADAC80	HSADC85		
	TI	SN74HCT534					TI	ADC0838B	MCM6164C			ADAC80	HSADC85C		
MIC74HCT540	CTI	74HCT540					Exar	XR1010	(2619)			ADAC80	DDC5240		
	GE/RCA	CD74HCT540	(2641)				LinearTech	LT1060				ADAC80	DDC5240		
	Motorola	MC74HCT540					Maxim	MF10				ADAC80	DDC5240		
	National	MM74HCT540					MicroLinear	ML2110				ADAC80	DDC5240		
	Plessey	MV74HCT540					Elantec	ELH0002				ADAC80	DDC5240		
	SGS-Thomson	M74HCT540					Exar	XR117	(2620)			ADAC80	DDC5240		
	Signetics	74HCT540 (3057)					Harris	HA5002	(2765)			ADAC80	DDC5240		
	TI	SN74HCT540					SiliconSys	SSI117				ADAC80	DDC5240		
	Toshiba	TC74HCT540						SSI32R117	(3254)			ADAC80	DDC5240		
	CTI	74HCT541						VM117	(3385)			ADAC80	DDC5240		
	GE/RCA	CD74HCT541	(2641)					XR1010	(2619)			ADAC80	DDC5240		
	Motorola	MC74HCT541						LinearTech	LT1060			ADAC80	DDC5240		
	National	MM74HCT541						Maxim	MF10			ADAC80	DDC5240		
	Plessey	MV74HCT541						National	ADC0808			ADAC80	DDC5240		
	SGS-Thomson	M74HCT541						Samsung	KAD0808			ADAC80	DDC5240		
	Signetics	74HCT541 (3057)						SGS-Thomson	MK0808			ADAC80	DDC5240		
	Supertex	74HCT541							SDA0808			ADAC80	DDC5240		
	TI	SN74HCT541							ADC0808			ADAC80	DDC5240		
	Toshiba	TC74HCT541							ADC0831			ADAC80	DDC5240		
	CTI	74HCT563							ADC0831			ADAC80	DDC5240		
	GE/RCA	CD74HCT563	(2641)						ADC0831A			ADAC80	DDC5240		
	National	MM74HCT563							ADC0832			ADAC80	DDC5240		
	Plessey	MV74HCT563							ADC0832			ADAC80	DDC5240		
	SGS-Thomson	M74HCT563							ADC0832			ADAC80	DDC5240		
	Signetics	74HCT563 (3057)							ADC0832B			ADAC80	DDC5240		
	TI	SN74HCT563							ADC0834			ADAC80	DDC5240		
	Toshiba	TC74HCT563							ADC0834A			ADAC80	DDC5240		
MIC74HCT564	CTI	74HCT564							ADC0838			ADAC80	DDC5240		
	GE/RCA	CD74HCT564	(2641)						ADC0838			ADAC80	DDC5240		
	Motorola	MC74HCT564							ADC0838B			ADAC80	DDC5240		
	National	MM74HCT564							EL2007			ADAC80	DDC5240		
	Plessey	MV74HCT564							SSI32R501	(3254)		ADAC80	DDC5240		
	SGS-Thomson	M74HCT564							SSI501			ADAC80	DDC5240		
	Signetics	74HCT564 (3057)							TDA2030			ADAC80	DDC5240		
	TI	SN74HCT564							TDA2030			ADAC80	DDC5240		
	Toshiba	TC74HCT564							SSI510			ADAC80	DDC5240		
	CTI	74HCT573							SSI511			ADAC80	DDC5240		
	GE/RCA	CD74HCT573	(2641)						XR541	(2620)		ADAC80	DDC5240		
	National	MM74HCT573							FGC8000			ADAC80	DDC5240		
	Plessey	MV74HCT573							DAC88			ADAC80	DDC5240		
	SGS-Thomson	M74HCT573							SSI541			ADAC80	DDC5240		
	Signetics	74HCT573 (3057)							CY7C185	(2580)		ADAC80	DDC5240		
	Supertex	74HCT573							CY7C186	(2580)		ADAC80	DDC5240		
									DPS88H08			ADAC80	DDC5240		
									XR8464	(2620)		ADAC80	DDC5240		
									MB8B464			ADAC80	DDC5240		
									MB81C78A			ADAC80	DDC5240		
									MB8464			ADAC80	DDC5240		
									MB8464A			ADAC80	DDC5240		

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Micro Networks (Cont'd)								Micro Power Systems							
MNDAC71	AD	ADDAC71 (2410)		MN5203	AD	AD5203		MN574A	MicroNet	MN574	(Cont'd)	MPOP11	Raytheon	LM148	(Cont'd)
	Burr-Brown	DAC700 (2552)		MN5204	AD	AD5204 (2462)			MicroPwr	MP574				RM4158	(3025)
		DAC701 (2552)		MN5205	AD	AD5205 (2462)			TeledyneP	TP574A		MPOP12	TI	LM148	
		DAC702 (2552)		MN5206	AD	AD5206		MN7146	HybridSys	HS9411			LinearTech	LT1012	
		DAC703 (2552)		MN5207	AD	AD5207		MN7147	HybridSys	HS9412			National	LM112	
		DAC71 (2552)			Adv Analog	ADC5210		MN7150	Datel	HDAS16 (2597)				LM212	
		DAC72 (2552)			Fujitsu	MS5210	(2417)		Sanyo	LC7150			PMI	LM312	
		DAC72 (2552)			HybridSys	HS5210			Datel	ADC815 (2595)				OP12	
MNDAC812	Burr-Brown	DAC812 (2553)		MN5211	AD	AD5211 (2462)		MN815	Datel	ADC815 (2595)				OP97	
MNDAC87	AD	ADDAC87 (2410, 2460, 2462)			Datel	ADC5211 (2595)		MN825	Datel	ADC825 (2595)				PM1012	
	Burr-Brown	DAC851		MN5212	AD	AD5212 (2462)		Micro Power Systems				MPOP14	TI	LT1012	
		DAC87 (2553)			Datel	ADC5212 (2595)		DAC01	PMI	DAC01			Fujitsu	MB3607	
	Harris	HI5687		MN5213	AD	AD5213		DAC100	AD	ADDAC100 (2471)			GE/RCA	CA1458	(2647)
	HybridSys	DAC335		MN5214	Datel	ADC5214 (2595)			PMI	DAC100			Harris	HA21458	
		HSADC87			HybridSys	MS5214		MPINA101	Burr-Brown	INA101 (2545)				MC1458	(2954, 2989)
MNDAC88	Adv Analog	DAC88 (2404)			TeledyneP	TP5214		MPOP01	PMI	OP01			Motorola	μA1458HC	
MNO605	AD	HDC0605 (2412)		MN5215	AD	AD5215 (2462)		MPOP02	Burr-Brown	OPA11 (2543)			National	LF412	
MNO805	Adv Analog	0805H			Datel	ADC5215 (2595)			GE/RCA	CA741 (2647)				μPC1458	
	AD	HDG0805 (2412)		MN5216	Datel	ADC5216 (2595)			PMI	OP02			NEC	μPC251	
MN0300A	Adv Analog	SH376 (2403)			HybridSys	HS5216		MPOP04	Signetics	SA741				OP14	
	AD	HTC0300A (2423, 2462)		MN5240	Adv Analog	ADC84 (2401)			GE/RCA	CA747 (2647)			PMI	OP215	
	HybridSys	HS9720				ADC85 (2401)			Hitachi	HA17747				OP270	
	MicroNet	MN376			AD	ADADC84 (2417)			Motorola	MC1747 (2954, 2989)			Raytheon	RC2041	
		MN377				ADADC85 (2417, 2462)			National	μA747			SGS-Thomson	MC1458	(3039)
MN050	ILC-DDC	ADH050				ADADC87			NEC	LM747				μA1458	
MN0805	Adv Analog	VDAC0805				ADC84 (2557)			PMI	μPC1418			Signetics	MC1458	
MN2020	HybridSys	HS2020			Burr-Brown	ADC85 (2557)				OP04				NE5512	
MN3020	HybridSys	HS3020				ADC87 (2557)			Raytheon	RC747 (3024)				SA1458	
MN3349	HybridSys	DAC349			Datel	ADCHX12B (2595)				RM747 (3024)				SE5512	
MN346	Adv Analog	SH347 (2403)				ADCHZ12B (2595)			Signetics	μA747				LF412	
	AD	AD346 (2423, 2462)				ADCHZ12BG2 (2595)			TeledyneS	TSC747			TI	TA75458	
	HybridSys	HS346			HybridSys	ADC581			TI	μA747M			Toshiba	TA75558	
MN347	MicroNet	MN347				ADC581B		MPOP05	AD	AD510 (2462, 2470)			MPOP207	LinearTech	LT1002
	Adv Analog	SH347 (2403)				HSADC85			GE/Intersil	OP05				MicroPwr	MP207
	AD	AD346 (2423, 2462)				HSADC85C			LinearTech	OP05			MPOP227	PMI	OP207
	HybridSys	HS346				DDC5240			PMI	OP05				LinearTech	OP227
MN370	MicroNet	MN346			ILC-DDC	MNADC84			Raytheon	OP05			MPOP27	TI	OP227
	AD	AD370 (2470)			MicroNet	MNADC85			AD	AD517 (2429, 2462)				AD	ADOP27 (2429, 2462)
	HybridSys	DAC346				MNADC87									AD510 (2462, 2470)
		DAC347			MN5245	Adv Analog	ADC5245 (2401)								AD517 (2429, 2462)
		DAC356			MN5246	Adv Analog	ADC5246 (2401)								OPA27 (2540, 2544)
MN371	MicroNet	MN371			MN5250	HybridSys	HS5250								HAOP27
	AD	AD371			MN5251	HybridSys	HS5251			Harris	HA5130			LinearTech	LT1007
	HybridSys	DAC346				Mitsubishi	MS251			LinearTech	LT1001				OP27
		DAC347					MS252			Maxim	MAX400				OP27
		DAC356			MN5252	HybridSys	HS5252				OP07			Maxim	OP27
MN376	MicroNet	MN370			MN5253	HybridSys	HS5253			Micra	MC0021			Motorola	OP27 (2954)
	Adv Analog	SH376 (2403)			MN5610	Adv Analog	ADC5610			National	μA714			PMI	OP27
	AD	HTC0300A (2423, 2462)			MN565A	AD	AD565A (2411, 2462)			PMI	OP77				OP77
	HybridSys	HS9720					AD565J (2411, 2462)			Raytheon	OP07 (3024)			Raytheon	OP27 (3024)
	MicroNet	MN0300A				Harris	HI565A			TI	LT1001				RC714
		MN377				Maxim	AD565A				OP07D			TI	OP27
MN377	Adv Analog	SH376 (2403)				MCE	MCE565			MPOP08	AD	AD517 (2429, 2462)		MPOP37	AD
	AD	HTC0300A (2423, 2462)				National	μA565							Burr-Brown	ADOP37 (2429)
	HybridSys	HS9720				Signetics	LM565				LinearTech	LT1008			OPA37 (2540, 2542)
	MicroNet	MN0300A					SE565				PMI	OP08			
MN3860	AD	AD3860 (2462, 2470)				TeledyneP	TP565A				TI	PM1008		Harris	HAOP37
						AD	ADC574 (2401)					LT1008			HA5137
	HybridSys	HS3860					ADC574A (2401)				MicroPwr	MP4136			HA5147
	GE/RCA	CA3065 (2658)					AD574 (2460)				National	μA4136		LinearTech	LT1037
	GoldStar	GL3201 (2711)					574				PMI	OP09			OP37
	Hitachi	HA1125				Burr-Brown	ADC574A (2557)				LinearTech	LT1002		Maxim	OP37
	Motorola	LSC1008				Datel	ADC574A (2595)				PMI	OP10		Motorola	OP37
	National	LM3064				GoldStar	GL574 (2714)				Exar	XR4741		PMI	OP37
	NEC	μPC1382				Harris	HI574 (2756)				Harris	HA4741		Raytheon	OP37 (3024)
	TI	SN76666				HybridSys	HS574				LinearTech	LT1014		TI	OP37
MN5101	AMD	AM2101					HS74A				Motorola	LM148 (2957)		MPREF-Q2	AD
		AM91L01					MAX574					MC33174 (2957, 2990)			ADREF02 (2426, 2462)
		AM9101					MCE574					MC4741 (2956, 2990)			
	Datel	ADC5101 (2595)					MN574A							Gennum	REF02
	Harris	HA5101 (2767)					MicroNet							Maxim	REF02
	Intel	5101					MicroPwr							MicroPwr	MPREF02
	Mitsubishi	MS5101					TeledyneP							PMI	REF02
	Motorola	MCM51L01					Adv Analog	ADC574 (2401)						Raytheon	REF02 (3025)
		MCM145101					AD	AD574 (2460)						Burr-Brown	REF10 (2551)
	National	MM74C920												LinearTech	LT1021
	Sharp	MNS101												PMI	REF10
		LH5101												AD	ADREF01 (2426, 2462)
	HybridSys	HS5131													AD581 (2426, 2462)
MN5131	HybridSys	HS5150												LinearTech	LTREF01
MN5201	AD	AD5201 (2462)													LT1019-10
	GE/Intersil	IH5201													REF01A
MN5202	AD	AD5202 (2462)												Maxim	AD581
															REF01

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Micro Power Systems (Cont'd)				• MP1010	AD	ADSP1010 (2436) ADSP1010A (2436, 2462) (2590)		MP157	PMI	PM157 PM157A 29621 PLS157 (3209, 3213)	(Cont'd)	• MP2365	Toshiba	TC5364 VT2365 LF255 PM155 PM255	(Cont'd)
MPREF01	MicroPwr Motorola	MP5531 MC1400AG10 MC1400AU10 MC1404 MC1504 REF01 REF01AZ REF02 REF43 (3012) REF01 (3025)	(Cont'd)	• MP1010	Cypress Intel LogicDev	CY7C510 IM29C510 LMA1010 LMA2010			Raytheon Signetics	29621 PLS157	(3209, 3213)	MP255	VLSI Tech National PMI	LM255 LM255 LM255	
	PMI	REF01 REF01AZ REF02 REF43 (3012) REF01 (3025)		• MP1010	LSI Logic	L64010 (2888) L64012 MS2010 SN74HCT9510 TRWLSI TDC1010 TMC2210		• MP200	AD	ADG200 (2471) GE/Intersil DG200 (2671)		MP302	SGS-Thomson	LM255 HI302 DG302A DG302A HI303 DG303A DG303A	
MPREF02	Raytheon TeledyneS	TSC9495 TSC9496 ADREF02 (2426, 2462)		• MP1010	Matra-Harris TI	MS2010 SN74HCT9510 TDC1010 VL2010 Waferscale WS59510		• MP200	Harris PMI Siliconix Unithode	HI200 SW05 DG200A PIC7513		MP303	Harris Maxim Siliconix	LM255 HI302 DG302A DG302A HI303 DG303A DG303A	
	AD	ADREF02 (2426, 2462)		• MP1010	VLSI Tech	WTL1010 WTL2010 WTL2044 WTL2245		MP2004	AD	ADLH0033 (2429, 2461) HOS100 (2429) OPA633 (2542, 2544)		• MP308	AD	AD308 (2470) Burr-Brown 3500 3501	
	Gennum Maxim PMI	REF02 REF02 REF02		• MP1010	Weitek	WTL1010 WTL2010 WTL2044 WTL2245			Burr-Brown			• MP308	GE/Intersil	AD308 LM308	
• MPS6551	Raytheon TeledyneS Commodore	TSC9495 MPS6551 MP6551 S6551 HM6551 (2749) AN6551 R6551 (3028)		MP108	AD	AD108 (2470) GE/Intersil LinearTech Motorola National			Elantec	ELH0033 ELH2004 ELH2005 EL2004 EL2005 EL2033 HA5033 (2766) H0033 MAX460 MAX460 MC0033 MP0033 MP0033C		• MP308	Motorola	LM308 (2952, 2989) National µA308 LM308 OP97 PM1008 PM1012 PM308 LM308 AD AD308A (2470) LinearTech Motorola LM308A (2952, 2989)	
• MPS6551	Gould/AMI Harris Panasonic Rockwell Unicorn UMC VLSI Tech National	S6551 HM6551 (2749) AN6551 R6551 (3028) UC6551 UM6551 VL6551 LM194 LM394 LM3942 MAT02			PMI	OP97 PM1008 PM108 SSI108 LM208 AD AD108A LinearTech Motorola National PMI TI			Harris Maxim	HA5033 (2766) MAX460 MAX460 MC0033 MP0033 MP0033C		• MP308	PMI	µA308A LM308A PM308A LF355 LF355 OP15 OP43 PM355	
MPT02A	PMI	MAT02		• MP108A	AD	AD108A (2952) LinearTech Motorola National PMI TI		MP201	Micra MicroPwr	MC0033 MP0033 MP0033C LH0033 AH001 TeledyneC TeledyneP TP1359 ADG201 (2450, 2461, 2470) GE/Intersil DG201 DG201A IH201 HI201 DG201A MAX331 LF11201 LF13201		• MP308A	Raytheon AD	AD308A (2470) LM308A LM308A	
• MPVFC32	AD	ADVFC32 (2420, 2462) (2559)			LinearTech	LM108A (2952) National µA108A PM108A TI LM108A			National	OEI LH0033 AH001 TeledyneC TeledyneP TP1359 ADG201 (2450, 2461, 2470) GE/Intersil DG201 DG201A IH201 HI201 DG201A MAX331 LF11201 LF13201		• MP355	LinearTech Motorola National PMI	LF355 LF355 OP15 OP43 PM355	
	Maxim	VFC32		MP1208	National	DAC1208			PMI	OEI LH0033 AH001 TeledyneC TeledyneP TP1359 ADG201 (2450, 2461, 2470) GE/Intersil DG201 DG201A IH201 HI201 DG201A MAX331 LF11201 LF13201		• MP355	SGS-Thomson	LF355 LF356 LF356	
	MCE	MCEVFC32		MP1209	National	DAC1209			National	SW201 DG201A TSC4201 TSC4202		• MP356	LinearTech Motorola National NEC	µPC356 µPC813 OP16 PM356	
	Plessey	ADVFC32		MP1210	National	DAC1210			Siiconix	DG201A TSC4201 TSC4202		• MP356	PMI	OP16 PM356	
MP0P11	Motorola	MC471CP		MP1230	National	DAC1230			TeledyneS	DG201A TSC4201 TSC4202		• MP356	SGS-Thomson	LF356 MPOP17 OP17	
MP0033	AD	ADLH0033 (2429, 2461) (2542, 2544)		MP1231	National	DAC1231			PMI	SW201 DG201A TSC4201 TSC4202		MP4136	MicroPwr National PMI	MPOP09 µA4136 OP09 AD AD589 (2426, 2462) (2677)	
	Burr-Brown	HOS100 (2429) OPA633 (2542, 2544)		MP1232	National	DAC1232			National	µA208A LM208A OP97 PM208A AM9114 AM9124 2114A 2114-150 (2877) 2114-200 (2877) 2114-450 (2877)		MP5010	GE/Intersil LinearTech Maxim National Plessey TeledyneS	ICL8069 LT1004 ICL8069 LM113 LM313 ZN404 ZN423 TSC04 TSC05 TSC9491 LT1004 MC3420 MC3520 AD ADREF01 (2426, 2462) (2426, 2462)	
	Elantec	ELH0033 ELH2004 ELH2005 EL2004 EL2005 EL2033 HA5033 (2766) H0033 MAX460 MAX460 MC0033 MP0033C MP2004 LH0033 AH001 TeledyneC TeledyneP TP1359 ADLH0033 (2429, 2461) (2429) HOS100 (2429) OPA633 (2542, 2544)		MP155	AD	AD381 (2428, 2462) (2542, 2462) (2540, 2543) AD544 (2427, 2462) (2540, 2543) Burr-Brown OPA606 (2540, 2543) LinearTech LF155 LT1022 LT1055 LT1056 OP15 LF155 LF353 LF411 LM110 LM210 LM310 µPC811 OP15 OP215 OP42 OP43 PM155		MP207	LinearTech MicroPwr PMI	LT1002 MPOP207 OP207 AD AD208A (2470) Motorola LM208A (2952, 2989) National µA208A LM208A OP97 PM208A AM9114 AM9124 2114A 2114-150 (2877) 2114-200 (2877) 2114-450 (2877)			TI	LT1004 MC3420 MC3520 AD ADREF01 (2426, 2462) (2426, 2462)	
	Harris	HA5033 (2766)			National	LF155 LF353 LF411 LM110 LM210 LM310 µPC811 OP15 OP215 OP42 OP43 PM155		• MP208A	AD	AD208A (2470) Motorola LM208A (2952, 2989) National µA208A LM208A OP97 PM208A AM9114 AM9124 2114A 2114-150 (2877) 2114-200 (2877) 2114-450 (2877)		MP5078	Motorola	LT1004 MC3420 MC3520 AD ADREF01 (2426, 2462) (2426, 2462)	
	Micra	MC0033 MP0033C MP2004 LH0033 AH001 TeledyneC TeledyneP TP1359 ADLH0033 (2429, 2461) (2429) HOS100 (2429) OPA633 (2542, 2544)			SGS-Thomson	LF155 LF353 LF411 LM110 LM210 LM310 µPC811 OP15 OP215 OP42 OP43 PM155		• MP2114	AMD	AM9114 AM9124 2114A 2114-150 (2877) 2114-200 (2877) 2114-450 (2877)			LinearTech	LTREF01 LT1019-10 REF01A AD581 REF01 MPREF01 MC1400AG10 MC1400AU10 MC1404 MC1504 REF01 REF01AZ REF02 REF43 (3012) REF01 (3025)	
	Elantec	ELH0033 ELH2004 ELH2005 EL2004 EL2005 EL2033 HA5033 (2766)			NEC	µPC811 OP15 OP215 OP42 OP43 PM155		• MP2114	Intel	2114A 2114-150 (2877) 2114-200 (2877) 2114-450 (2877)		• MP5531	AD	ADREF01 (2426, 2462) (2426, 2462)	
	Harris	HA5033 (2766)			SGS-Thomson	LF155 LF353 LF411 LM110 LM210 LM310 µPC811 OP15 OP215 OP42 OP43 PM155		• MP2114	Krueger	2114A 2114-150 (2877) 2114-200 (2877) 2114-450 (2877)			TI	LT1004 MC3420 MC3520 AD ADREF01 (2426, 2462) (2426, 2462)	
	Maxim	MAX460 MAX460 MC0033 MP0033 MP2004 LH0033 AH001 TeledyneC TeledyneP TP1359 ADC0820 ADC0820 PM0820 KAD0820 ADC0820 AM29LS10 AM29510			TI	LF155 TL081 27S29 LF157A LF351 LF353 µPC157 OP15		• MP2114	Mitsubishi Motorola	M5L2114 MCM2114 MCM2114 M5L2114 F2114 NMC2114A MSM2114 R6514 LH2114 TMM2114A TMM314A UM6114 LH2208A LH2208A S2364 NCR NCR2364 MSM3864 SL2364C S-MOS SMM2364 Sharp LH2364A 2364 TMS2364 VT2364 SC8164 NCR NCR2365 S-MOS SMM2365			LinearTech	LTREF01 LT1019-10 REF01A AD581 REF01 MPREF01 MC1400AG10 MC1400AU10 MC1404 MC1504 REF01 REF01AZ REF02 REF43 (3012) REF01 (3025)	
	Micra	MC0033 MP0033 MP2004 LH0033 AH001 TeledyneC TeledyneP TP1359 ADC0820 ADC0820 PM0820 KAD0820 ADC0820 AM29LS10 AM29510			National	LF156 LF156A LF156 LF156A OPA101 OP16 OP43 PM156 PM156A		• MP2208A	UMC	UM6114 LH2208A LH2208A S2364 NCR NCR2364 MSM3864 SL2364C S-MOS SMM2364 Sharp LH2364A 2364 TMS2364 VT2364 SC8164 NCR NCR2365 S-MOS SMM2365			Maxim	REF01 MPREF01 MC1400AG10 MC1400AU10 MC1404 MC1504 REF01 REF01AZ REF02 REF43 (3012) REF01 (3025)	
	National	LH0033 AH001 TeledyneC TeledyneP TP1359 ADC0820 ADC0820 PM0820 KAD0820 ADC0820 AM29LS10 AM29510			SGS-Thomson	LF156 TL081 27S29 LF157A LF351 LF353 µPC157 OP15		• MP2364C	GE/Intersil National Gould/AMI NCR NCR2364 MSM3864 SL2364C S-MOS SMM2364 Sharp LH2364A 2364 TMS2364 VT2364 SC8164 NCR NCR2365 S-MOS SMM2365			MicroPwr Motorola	MPREF01 MC1400AG10 MC1400AU10 MC1404 MC1504 REF01 REF01AZ REF02 REF43 (3012) REF01 (3025)		
	Elantec	ELH0033 ELH2004 ELH2005 EL2004 EL2005 EL2033 HA5033 (2766)			SGS-Thomson	LF156 TL081 27S29 LF157A LF351 LF353 µPC157 OP15		• MP2365	VLSI Tech	VT2364 SC8164 NCR NCR2365 S-MOS SMM2365			Raytheon TeledyneS	TSC9495 TSC9496	
	Harris	HA5033 (2766)			NEC	µPC157 OP15			Weitek	WTL2010 WTL2044 WTL2245					
	Maxim	MAX460 MAX460 MC0033 MP0033 MP2004 LH0033 AH001 TeledyneC TeledyneP TP1359 ADC0820 ADC0820 PM0820 KAD0820 ADC0820 AM29LS10 AM29510			SGS-Thomson	LF156 TL081 27S29 LF157A LF351 LF353 µPC157 OP15			Siiconix	DG201A TSC4201 TSC4202					
	Micra	MC0033 MP0033 MP2004 LH0033 AH001 TeledyneC TeledyneP TP1359 ADC0820 ADC0820 PM0820 KAD0820 ADC0820 AM29LS10 AM29510			TI	TL081 27S29 LF157A LF351 LF353 µPC157 OP15			Unithode	DG200A PIC7513					
	National	ADC0820 ADC0820 PM0820 KAD0820 ADC0820 AM29LS10 AM29510			AMD	27S29 LF157A LF351 LF353 µPC157 OP15			VLSI Tech	VT2364 SC8164 NCR NCR2365 S-MOS SMM2365					
• MP1010	AMD	AM29LS10 AM29510			NEC	µPC157 OP15			Witek	WTL2010 WTL2044 WTL2245					

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Micro Power Systems (Cont'd)				• MP6116	National OKI	MMC2116 MSM2128 MSM5126 MSM5128 MSM5129		MP7502	AD	AD7502	(2425, 2462)	• MP7516	Unitrode	PIC7516	
MP5532	Exar PMI	XR5532 OP270		• MP6116	Performance S-MOS Saratoga SGS-Thomson	P4C116 SMC6116 SSM6116 ET2128 MK2817 MK6116 LH5115		MP7503	Toshiba Unitrode AD	TA7502 PIC7502 AD7503	(2425, 2462) (2600)	MP7520	AD	AD7520	(2462, 2470) (2666)
	Signetics	NE5532 NE5532A SE5532 SE5532A NE5532 NE5532A	(3144) (3144)	• MP6116	Sharp Signetics Sony Sprague STC	NE5517 CXK5814P UDN6116 STC2018 STC6116		MP7506	Datel HybridSys Unitrode AD	MV808 MUX201 PIC7503 AD7506	(2425, 2462) (2600) (2600)	• MP7521	GE/Intersil Maxim Motorola National	AD7520 AD7520 MC7520 AD7520 DAC1020 DAC1021 DAC1022	
• MP562	AD	AD562	(2411, 2462) (2596)	• MP6116	TI	SMJ68CE16 TC5517B TMM2015A TMM2018 TMM2018AP		MP7507	Datel Harris PMI Siliconix AD	MV1606 MX1606 HI506 MC7506 MUX16 DG506A AD7507	(2425, 2462) (2600) (2600) (2425, 2462)	AD	Sanyo Unitrode AD	LA7520 PIC7520 AD7521	(2462, 2470) (2666)
• MP571	Harris Plessey PMI	HI562A SL562 PM562		• MP6116	UMC Vitelc	UM6116 V61C16 V62C16		MP7508DI	GE/Intersil Harris PMI Siliconix Burr-Brown	IH6216 HI507 MUX28 DG507A TP4551 HI508A MPC8S	(2425, 2462) (2600) (2600) (2670)	AD	GE/Intersil HybridSys Maxim Motorola National	AD7521 DAC331-12 AD7521 MC7521 AD7521 DAC1220 DAC1221 DAC1222 7521	
• MP571	Adv Analog	AD571	(2416, 2462) (2416, 2462)	• MP6116	VLSI Tech	VT20C18	(3343, 3349)	MP7509DI	Datel GE/Intersil Harris PMI Siliconix TeledyneP	MVD807 MXD807 IH6216 HI507 MUX28 DG507A	(2600) (2600) (2670)	AD	PMI	AD7521	
MP574	MCE National NEC PMI	MCE571 μA571 μPC571 ADC910		• MP6116	Fujitsu	MBM8418 MB8418 SRM2018 SCM20C16		MP7510DI	Datel GE/Intersil Harris Maxim	MX808 IH5108 HI508A DG509A	(2600) (2670)	AD	GE/Intersil Maxim Motorola National	PIC7522 AD7523 DAC7523 AD7523 MC7523	(2462, 2470) (2470) (2596) (2666)
	Signetics	NE571	(3163)	• MP6117	S-MOS	SRM2018		MP7511DI	GE/Intersil	ICL6109	(2670)	AD	Maxim Motorola National	LM7523 PM7523 RC7523 PIC7523	
	Adv Analog	ADC574	(2401)	• MP6118	Dionics	CS594 CS594C DI513B DI514B DI514BR		MP7512DI	Harris Maxim	HI509 DG509A MAX359 MAX369		AD	GE/Intersil Maxim Motorola National	AD7524 AD7524 MC7524 DS75524	
	AD	AD574A	(2401)	• MP6118	Exar	XR6118	(2619)	• MP7513	PMI Siliconix AD	DG509A AD7510	(2424, 2462)	AD	PMI	PM7524	(3019)
	Burr-Brown	ADC574A	(2557)	• MP6118	Motorola National	MC3490 DM8887 DS8887		• MP7516	TeledyneS Unitrode AD	SW7510 TSC445 PIC7510 AD7511	(3273) (2424, 2462) (2424, 2462)	AD	Maxim Motorola Plessey PMI	AD7528 MC7528 ZM7528 PM7528	(3019)
	Datel	ADC574A	(2595)	• MP6118	OKI	MSL912 LB1290		• MP7516	National PMI	DM7590 SW7511		AD	Raytheon	RC7528	
	GoldStar	GL574	(2714)	• MP6118	Sanyo Signetics	NE594 SA594		• MP7516	TeledyneS Unitrode AD	TSC445 PIC7511 AD7512	(3273) (2424, 2462) (2424, 2462)	AD	TI	TL7528	(3325)
	Harris	HI574	(2756)	• MP6118	Sprague	UDN6118	(3258)	• MP7516	GE/Intersil	AD7590	(2424, 2462)	AD	Maxim Motorola Plessey PMI	AD7528 MC7528 ZM7528 PM7528	(3019)
	HybridSys	HS574		• MP6118	TI	UDQ6118 TL594C TL594M		• MP7516	National PMI	DM7590 SW7511		AD	Raytheon	RC7528	
	Maxim	MAX574		• MP6118	Toshiba	TD62781		• MP7516	TeledyneS	TSC445	(3273)	AD	TI	TL7528	(3325)
	MCE	MCE574		• MP6504	AMD	AM2141 AM9244		• MP7516	Unitrode AD	PIC7511 AD7512	(2424, 2462)	AD	Unitrode	PIC7528	
	MicroNet	MN574		• MP6504	Cypress	CY7C147	(2580)	• MP7516	GE/Intersil	DG200	(2671)	AD	GE/Intersil	AD7530	(2470)
• MP6116	TeledyneP	TP574A		• MP6504	Harris	MA5104 MA5104 HM4315		• MP7516	Unitrode AD	AD7512	(2424, 2462)	AD	Maxim National	AD7530	(2666)
• MP6116	Cypress	CY6116		• MP6504	Hitachi	5104		• MP7516	TeledyneS	AD7592	(2424, 2462)	AD	Sanyo Unitrode	LA7530 PIC7530	
• MP6116	GE/Intersil	IH6116	(2580)	• MP6504	Intel	81C28		• MP7516	Unitrode AD	PIC7512	(2471)	AD	AD	AD7531	(2470)
• MP6116	GE/RCA	CDM6116	(2644, 2653)	• MP6504	Matra-Harris	HM6504		• MP7516	GE/Intersil	DG200	(2671)	AD	GE/Intersil	AD7531	(2666)
• MP6116	CDM6116A	CDM6116A	(2644, 2653)	• MP6504	Mitsubishi	M58981		• MP7516	Maxim	IH200		AD	Maxim	AS7531	
• MP6116	GoldStar	GM76C28	(2696, 2700)	• MP6504	National	NMC6504		• MP7516	Harris	HI200		AD	National	AD7531	
• MP6116	Harris	HM6516	(2747)	• MP6504	OKI	MSM5104		• MP7516	PMI	SW05		AD	PMI	PM7531	
• MP6116	Hitachi	HM6116		• MP6504	Rockwell	R6504		• MP7516	Siliconix	DG200A		AD	Unitrode	PIC7531	
• MP6116	Hyundai	HY61C16A		• MP6504	Toshiba	TMM315		• MP7516	Unitrode	PIC7513		AD	AD	AD7533	(2411, 2462)
• MP6116	Inmos	IMS1433		• MP6504	Fujitsu	MB8401		• MP7516	GE/RCA	CD4016	(2639, 2653, 2655)	AD	Datel	DAC7533	(2596)
• MP6116	IDT	IDT6116	(2835)	• MP6504	GE/Intersil	IM6508-1		• MP7516	Motorola	MC14016	(2945)	AD	GE/Intersil	AD7533	(2666)
• MP6116	Intel	IDT6116S	(2835)	• MP6504	Harris	HM6508	(2748)	• MP7516	National	CD4016	(2945)	AD	Maxim	AD7533	
• MP6116	Krueger	81C28		• MP6504	National	MM74C929		• MP7516	Sanyo	LC4016		AD	MicroPwr	MP7633	(3019)
		2128-100	(2877)	• MP6504	AMD	AM9124		• MP7516	SGS-Thomson	HCC/HCF4016		AD	National	AD7533	
		2128-120	(2877)	• MP6504	CMD Micro	G2114		• MP7516	Signetics	HEF4016		AD	PMI	PM7533	
		2128-150	(2877)	• MP6504	Cypress	CY7C148	(2580)	• MP7516	Unitrode	AD7512		AD	Unitrode	PIC7533	
		2128-200	(2877)	• MP6504	Harris	HA5114		• MP7516	AD	AD7512		AD	AD	AD7541	(2411, 2462, 2470)
		6116-120	(2877)	• MP6504	Inmos	IMS1223	(2789)	• MP7516	Sanyo	LC4016		AD	Burr-Brown	DAC7541A	(2552)
		6116-150	(2877)	• MP6504	Intel	5114		• MP7516	SGS-Thomson	LC4066		AD	Datel	DAC7541	(2596)
		6116-200	(2877)	• MP6504	Matra-Harris	HM6514		• MP7516	Signetics	HEF4066		AD	GE/Intersil	AD7541	(2666)
		6116LP-120	(2877)	• MP6504	Mitsubishi	M58981		• MP7516	Unitrode	AD7512		AD	Honeywell	HDAC7541	
		6116LP-150	(2877)	• MP6504	OKI	MSM5114		• MP7516	Solitron	CM4016		AD	HybridSys	DAC331	
		6116LP-200	(2877)	• MP6504	Sanyo	LC3514		• MP7516	AD	CM4066		AD	Maxim	AD7541	
• MP6116	Matra-Harris	HM6166		• MP6504	Signetics	5114		• MP7516	Toshiba	TC4016B	(3341)	AD	Siliconix	SI7541A	
• MP6116	MicronTech	MT5C1608		• MP6504	UMC	UM6104		• MP7516	AD	TC4066B	(3341)	AD	TeledyneP	TP7541	
• MP6116	Mitsubishi	MS8725		• MP6504	Harris	HM6518	(2748)	• MP7516	AD	AD7501	(2425, 2462)	AD	TeledyneS	TSC7541	
• MP6116	M5M116	M5M116		• MP6504	National	MM74C930		• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5117	M5M5117		• MP6504	Unitrode	PIC7501		• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	
• MP6116	M5M5118	M5M5118		• MP6504	AD	AD7501	(2425, 2462)	• MP7516	AD	AD7501	(2425, 2462)	AD	AD	AD7501	

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Micro Power Systems (Cont'd)				AY2661B AY2661C AY31014A	Signetics Signetics Hitachi Motorola National SGS-Thomson	SC2661-2 SC2661-3 HD6850 MC6850 F6850 EF6850	(2932)	♦ RO93967	Mitsubishi	M5M23C64 M5M2364 M5M2365 F3568 F3569 F357C MM52264 NM52264 MSM3864 MN2364		RO9433	Supertex	23C32	(Cont'd)
MP7542	AD	AD7542	(2411, 2462)	♦ AY31014A				♦ RO93967	National	F3568 F3569 F357C MM52264 NM52264 MSM3864 MN2364		RO9464	Supertex UMC Mitsubishi National Signetics	23C32 UM2333 M58334 MM52164 26S64 2664	
MP7543	Honeywell Maxim PMI AD	HDAC7542 AD7542 PM7542 AD7543	(3019) (2411, 2462)	AY31015 AY38913	SMC NCR TI	COM8017 NCR8489 SN76489 SN76489A MV500 HD6850 F6850		♦ RO93967	OKI Panasonic SGS-Thomson	MM52264 MSM3864 MN2364 MK37000 CM6400 23SC64 23SC64A TMS2364 UM2366 MB831000 MB831124 HM62301 NCR23C1000 NEC μPD23C1000A μPD23C1010		♦ RO9580	Fujitsu Signetics TI	MB7118 NB2LS135 28L22 Z3S64	
MP7545	Honeywell Maxim PMI AD	HDAC7543 AD7543 PM7543 AD7545	(3019) (2411, 2462)	AY500 ♦ AY51013A	Plessey Hitachi Motorola National SGS-Thomson	HD6850 F6850 EF6850 KR9600 COM8116 WD1943 COM8136 WD1945 WD6850 F6850	(2932)	♦ RO93967	TI	23SC64 TMS2364 UM2366 MB831000 MB831124 HM62301 NCR23C1000 NEC μPD23C1000A μPD23C1010		RO9864	Gould/AMI Microchip Mitsubishi	Z3S64 RO39365 M5M23C64 M5M2364 M5M2365	
MP7550	Burr-Brown Honeywell HybridSys Maxim PMI SiliconG	DAC7545 HDAC7545 HS7545 AD7545 PM7545 SG7545A	(2552) (3019)	AY53600 AY58116	SMC SMC	EF6850 KR9600 COM8116 WD1943 COM8136 WD1945 WD6850 F6850		♦ RO93967	UMC Fujitsu	23SC64 TMS2364 UM2366 MB831000 MB831124 HM62301 NCR23C1000 NEC μPD23C1000A μPD23C1010			National	F3568 F3569 F3570 MM52264 NM52264 MSM3864 MN2364	
MP7574	AD	AD7550 LA7550 AD7574	(2470) (2462, 2470)	AY58136 ♦ AY6-1013	Western SMC Western Hitachi Motorola National SGS-Thomson	WD1943 COM8136 WD1945 WD6850 F6850 EF6850 SMJ320C10 TMS320C10 SMJ32010 TMS32010	(2932)	♦ RO91000	Hitachi NCR NEC	23SC64 TMS2364 UM2366 MB831000 MB831124 HM62301 NCR23C1000 NEC μPD23C1000A μPD23C1010		RO9128	OKI Panasonic SGS-Thomson	MSM3864 MN2364 MK37000 CM6400 23SC64 23SC64A TMS2364 UM2366	
MP7581	Maxim PMI AD	AD7574 MAX160 ADC908 PM7574 AD7581 AD7581 MAX161	(2415)	DSP320C10 DSP32010	TI	EF6850 SMJ320C10 TMS320C10 SMJ32010 TMS32010	(3288)	♦ RO91000	Toshiba VLSI Tech AMD Gould/AMI Mitsubishi NCR Signetics Supertex UMC VLSI Tech	TC531000 VT23C1024 AM9128 S23128 M5M23128 NCR23128 23128 CM1310 UM23128 VT23128 VT23129 VT23129A VT23130 VT23131 VT23138 AM27C256 AT27C256 MBM27C256A		27C1024	Supertex TI UMC AMD Atmel Fujitsu Hitachi National NEC OKI SGS-Thomson	CM6400 23SC64 23SC64A TMS2364 UM2366 AM27C1024 AT27C1024 MBM27C1024 HN27C1024 HN27C1024G μPD27C1024 NMC27C1024 μPD27C1024 MSM27C1024 M27C1024 VT27C1024 HN27C128 M27C128 27C128A 27C128-200 27C128-250 M5L27C128 SMJ27C128 (3286) TMS27C128 (3326) TMS27PC128 (3326)	
MP7621	AMD GE/Intersil	AM27513 ICL7621	(2673, 2675)	ER3400 ER5911	Hughes Catalyst EXEL Gould/AMI Hyundai ICT	HNVM3104A CAT93C46 XLS93C46 S93C46 HY93C46 93C46 93C46C COP495 NMC93C46 NMC9346 NCR59308 NCR59346	(2778) (2876) (2876)	♦ RO9256	AMD Atmel Fujitsu	27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 27C256 (2913) M5L27256 NMC27C256 NEC OKI MSM27C256 27C256 SGS-Thomson		27C128	VLSI Tech Hitachi Intel Krueger Mitsubishi TI	M27C1024 VT27C1024 HN27C128 M27C128 27C128A 27C128-200 27C128-250 M5L27C128 SMJ27C128 (3286) TMS27C128 (3326) TMS27PC128 (3326)	
♦ MP7623	Maxim MMI National	ICL7621 63S241 DM74S571 DM74S571A	(2411, 2462, 2470)	♦ MEM4053	SGS-Thomson	M9346 TS93C46 SC22011 COP494 NMC9306		♦ MP7623	Microchip Mitsubishi National NEC OKI MSM27C256 27C256 SGS-Thomson	27C256 M5L27256 NMC27C256 μPD27C256A MSM27C256 27C256 TS27C256 27C256 CKX54256P SMJ27C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		27C256	VLSI Tech Waferscale AMD Atmel Fujitsu	VT27C128 WS27C128 AM27C256 AT27C256 MBM27C256A	(2628)
♦ MP7623	Burr-Brown Datel	DAC7541A DAC7541 DA867541	(2552) (2596)	ER59256	Sierra National	M9346 TS93C46 SC22011 COP494 NMC9306		♦ MP7623	Hitachi Intel	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 TS27C256 27C256 CKX54256P SMJ27C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)		27C256	Hitachi Intel Krueger Microchip Mitsubishi National NEC OKI SEEQ SGS-Thomson	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 RO9256 M5L27256 NMC27C256 μPD27C256A MSM27C256 27C256 TS27C256 27C256 CKX54256P SMJ27C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)	
♦ MP7623	GE/Intersil	AD7541 AD7641	(2666)	♦ MEM4053	GE/RCA	CD4053 MC14053 CD4053 F4053	(2639, 2655, 2658) (2945)	♦ MP7623	SGS-Thomson	HCC/HCF4053		♦ MP7623	Maxim MicroPwr Siliconix TeledyneP TeledyneS	MP7541 SI7541A TP7541 TSC7541	
♦ MP7623	Honeywell HybridSys	HDAC7541 DAC331 HS7541		♦ MEM4053	SGS-Thomson	HCC/HCF4053		MP7628	Signetics Solitron Toshiba	HEF4053 CM4053 TC4053B	(3341)	MP7628	Dionics Maxim Motorola SGS-Thomson	DI604A AD7628 MC12020	
♦ MP7623	Maxim MicroPwr Siliconix TeledyneP TeledyneS	AD7541 MP7541 SI7541A TP7541 TSC7541		♦ PIC1655A PIC7000	Signetics Solitron Toshiba Plessey SEEQ	HEF4053 CM4053 TC4053B PIC1655A 72720 TMS7000 TMS7001 72720 TMS7020 TMS7040 TMS7041 NCR NCR23C512 VLSI Tech Gould/AMI Microchip Mitsubishi		♦ PIC1655A PIC7000	PIC1655A 72720 TMS7000 TMS7001 72720 TMS7020 TMS7040 TMS7041 NCR NCR23C512 VLSI Tech Gould/AMI Microchip Mitsubishi		MP7628	Dionics Maxim Motorola SGS-Thomson	DI604A AD7628 MC12020		
MP7628	AD	AD7628	(2413)	♦ PIC1655A PIC7000	SEEQ	72720 TMS7000 TMS7001 72720 TMS7020 TMS7040 TMS7041 NCR NCR23C512 VLSI Tech Gould/AMI Microchip Mitsubishi		♦ PIC1655A PIC7000	PIC1655A 72720 TMS7000 TMS7001 72720 TMS7020 TMS7040 TMS7041 NCR NCR23C512 VLSI Tech Gould/AMI Microchip Mitsubishi		MP7628	Dionics Maxim Motorola SGS-Thomson	DI604A AD7628 MC12020		
MP7633	Siemens Signetics Sprague AD	NE604 ULN3820 AD7533	(3157) (2411, 2462)	♦ RO93967	SGS-Thomson	HEF4053 CM4053 TC4053B PIC1655A 72720 TMS7000 TMS7001 72720 TMS7020 TMS7040 TMS7041 NCR NCR23C512 VLSI Tech Gould/AMI Microchip Mitsubishi		♦ RO93967	SGS-Thomson	HCC/HCF4053		MP7628	Dionics Maxim Motorola SGS-Thomson	DI604A AD7628 MC12020	
MP7645	Datel GE/Intersil Maxim MicroPwr National PMI	DAC7533 AD7533 AD7533 MP7533 AD7533 PM7533	(2596) (2666)	RO39365	SGS-Thomson	HEF4053 CM4053 TC4053B PIC1655A 72720 TMS7000 TMS7001 72720 TMS7020 TMS7040 TMS7041 NCR NCR23C512 VLSI Tech Gould/AMI Microchip Mitsubishi		♦ RO93967	SGS-Thomson	HCC/HCF4053		MP7628	Dionics Maxim Motorola SGS-Thomson	DI604A AD7628 MC12020	
MP7645	Unitrode Maxim PMI	PIC7533 AD7645 PM7645	(3019)	♦ RO93967	SGS-Thomson	HEF4053 CM4053 TC4053B PIC1655A 72720 TMS7000 TMS7001 72720 TMS7020 TMS7040 TMS7041 NCR NCR23C512 VLSI Tech Gould/AMI Microchip Mitsubishi		♦ RO93967	SGS-Thomson	HCC/HCF4053		MP7628	Dionics Maxim Motorola SGS-Thomson	DI604A AD7628 MC12020	
MP7682	GE/RCA Hitachi	CA3306 HA19216	(3019)	♦ RO93967	SGS-Thomson	HEF4053 CM4053 TC4053B PIC1655A 72720 TMS7000 TMS7001 72720 TMS7020 TMS7040 TMS7041 NCR NCR23C512 VLSI Tech Gould/AMI Microchip Mitsubishi		♦ RO93967	SGS-Thomson	HCC/HCF4053		MP7628	Dionics Maxim Motorola SGS-Thomson	DI604A AD7628 MC12020	
MP9377	HybridSys	DAC9377		♦ RO93967	SGS-Thomson	HEF4053 CM4053 TC4053B PIC1655A 72720 TMS7000 TMS7001 72720 TMS7020 TMS7040 TMS7041 NCR NCR23C512 VLSI Tech Gould/AMI Microchip Mitsubishi		♦ RO93967	SGS-Thomson	HCC/HCF4053		MP7628	Dionics Maxim Motorola SGS-Thomson	DI604A AD7628 MC12020	
Microchip Technology Inc.				AY04381	Hughes National	HLCD0438 MM58438		AY2661	Motorola	MC2661 MC68661	(2926)	AY2661A	Signetics	SC2261-1	
				AY2661	Signetics SMC	SCN2661 AY2661 COM2661		AY2661A	Signetics	SC2261-1		(Continued)			
				AY2661A	Signetics	SC2261-1		AY2661A	Signetics	SC2261-1		(Continued)			

◆ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Microchip Technology Inc. (Cont'd)				28C16A	Xicor	X2816 (3411, 3451)	(Cont'd)	MT4C1024	Hitachi	HM51101 HM51102 HM561003 HY51C1000 (2778) HY51C1002 (2778)	(Cont'd)	MT4264	Motorola	MCM4164 MCM4164C MCM6665 F4164 F64K NMC4164 MSM3764 MN4164 MN4864 KM4164A (3036) KM4164B (3036)	(Cont'd)
27C512	Mitsubishi NEC	M5L27512 μPD27C512 μPD27C512D	(Cont'd)			X2816A (3411, 3451)			Hyundai				National	F4164 F64K NMC4164 MSM3764 MN4164 MN4864 KM4164A (3036) KM4164B (3036)	
	Ricoh TI	TMS27C512 SMJ27C512 (3286) TMS27C512 (3326) TMS27PC512 (3326)		28C17A	AMD EXEL National OKI Samsung SEQ	AM2817A XL2817A NMC9817 MSM2816 KM2817A (3038) DQ2817A 2817A			MicronTech Mitsubishi	MT1259 MH25608 MH25609 M5M4C1000 M5M41000S M5M410000 MCM511000 μPD421000 MC421000 MSM41000 MN411000 KM41C1000 (3036) KM41256A (3036) HYB511000 TMS4C1024 (3326) TMX4C1025 TMX4C1026 TMX4C1029 TM4256FC1 TM5256 TX4C1024 TC511000 TC511000C TC511001C TMM411001C			OKI Panasonic Samsung <		

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Micron Technology (Cont'd)				MT5C1608 (Cont'd)				MT5C2568 (Cont'd)				MT5C6407 (Cont'd)			
MT5C1604 (Cont'd)				Matra-Harris				Motorola				MT5C6408			
				HM6166				MCM61256				Cypress			
				HM65161				MCM6206				IDT			
				HM65162				NM44251				Performance			
				HM65163				µPD43256A				Saratoga			
				HN65728				SRM20256				Cypress			
				MS8725				SRM20256C				CY7C185			
				M5M116				Sharp				CY7C186			
				M5M5116				CM62256 (3036)				Dense-Pac			
				M5M5117				LH52259 (3054)				Exar			
				M5M5118				Sony				Fujitsu			
				M58275				Toshiba				MB81C78A			
				M58725								MB8464			
				Motorola								MB8464A			
				MCM2016								GE/RCA			
				MCM2016H								CDM6264			
				MCM2018P								GoldStar			
				MCM6116								GM76C88			
				MMC2116				MT5C6401				Harris			
				MSM2128				Vitellic				Hitachi			
				MSM5126				Cypress				HM65642			
				MSM5128				Fujitsu				HM6264			
				MSM5129								HM6464			
				Performance								MB6264			
				P4C116				GoldStar				Hyundai			
				S-MOS				Hitachi				IMS1630			
				Saratoga				Hyundai				IDT			
				SSM6116				Inmos				Krueger			
				SGS-Thomson				IDT				6264-100			
				ET2128				Mitsubishi				6264-120			
				MK2817								6264-150			
				MK6116								6264LP-100			
				LH5115								(2877)			
				NE5517								6264LP-120			
				CXK5814P								(2877)			
				UDN6116								6264LP-150			
				STC2018								(2877)			
				STC6116											
				SMJ68CE16											
				TC5517B											
				TMM2015A											
				TMM2018											
				TMM2018AP											
				UMC											
				UM6116											
				V61C16											
				V62C16											
				VLSI Tech											
				VT20C18											
				MT5C2561											
				Cypress											
				HM6207											
				IMS1800											
				IDT											
				IDT71257											
				IDT71257L											
				IDT71257S											
				MT5C2564											
				Cypress											
				HM6208P											
				HM6708											
				MT5C2568											
				Hitachi											
				IMS1820											
				IDT											
				IDT71258											
				IDT71258L											
				IDT71258S											
				MT5C2564											
				Cypress											
				M5M5258											
				MCM6208											
				µPD43254											
				MSM52464											
				P4C1258											
				Sharp											
				LH52252											
				Cypress											
				CY7C196											
				MB81C86											
				MT5C2565											
				Fujitsu											
				IDT61298											
				TC55465											
				AM99C328											
				Cypress											
				CY7C197											
				CY7C198											
				CY7C199											
				MT5C2568											
				Dense-Pac											
				DPS412S88											
				GE/RCA											
				CDM62256											
				GoldStar											
				GM76C256											
				HM62256											
				HM64456											
				HY62C256											
				IMS1830											
				Inova											
				S32K8											
				IDT7M856S											
				IDT71256											
				IDT71256L											
				IDT71256S											
				IDT8M824											
				SR256K8											
				M5M5256											
				MS62256											
				Motorola											
				MCM60256											
				(Continued)											

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Micron Technology (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
MT8259	Intel	82C59A 8259A	(Cont'd)	103SR	Microswitch	92SS12-2 DN3836 DN6835	(3259)	92SS12-2	Microswitch	103SR DN3836 DN6835	(3259)	AM99C88	Dense-Pac Exar Fujitsu	DPS88H08 XR8464 MB8B464 MB81C78A MB8464 MB8464A CDM6264	(2620)
	Mitsubishi	M5M82C59 M5M82C59AP M5M8259AP		103SR13A-1	Microswitch	8SS3 UGS3019		MIPS Computer Systems							
	National	INS8259		103SR17A-1	Microswitch	617SS2		R2000	IDT	IDT79R2000		GE/RCA			
	NEC	μPD71059 μPD71059C μPD8259A			Sprague	UGS3030		R2010	IDT	IDT79R2010		GoldStar		GM76C88	(2644, 2653)
	OKI	MSM82C59A		103SR5A-1	Microswitch	55SS16 65SS2 8SS3E1		R2020	IDT	IDT79R2020		Harris		HM65642	(2696, 2703)
	S-MOS	SMC82C59AC			Sprague	UGN3013	(3259)	Mitel Corp.							
	Samsung	KS82C59A		513SS16	Sprague	UGS3020		MD4332	Plessey	MV4332		Hitachi		HM6264 HM6464 HM6264 MB264	(2747)
	Toshiba	TMP82C59 (3339) TMP8259 (3339)		517SS16	Sprague	SS31EA SS41 SS81CA UGS3131		MD65SC51B	Sanyo Gould/AMI Rockwell	STK4332 S65C51 R65C51	(3028)	Hyundai		HY6264	(2778)
	Unicorn	UC82C59A			Microswitch	SS41		♦ ML8204	Cherry Semi	CS8204	(3040)	Inmos		IMS1630	(2796)
	UMC	UM82C59A		55SS16	Sprague	UGS3131		♦ ML8205	Plessey	MV8204	(3040)	IDT		IDT7165	
	VLSI Tech	VL82C59A			Microswitch	103SR5A-1		♦ MT3506	Cherry Semi	CS8205	(3040)	Krueger		6264-100 6264-120 6264-150 6264LP-100	(2877)
MT9259	Dense-Pac	DPD42569			Sprague	UGN3013	(3259)	♦ MT3507	Exar	XRT8205	(3040)			6264LP-120	(2877)
	Mitsubishi	MH25609A		6SS	National	DN835		MT35212A	Gould/AMI	S3506		Matra-Harris		6264LP-150	(2877)
	NEC	MC41256A9		613SS2	Matsushita	DN835 DN6837 DN6839			Plessey	MV3506					
	OKI	MSC2304K59 MSC2304YS9			Microswitch	DN6839			Gould/AMI	S3507					
	TI	TM4256EL9 TM4256GU9			National	DN835			Plessey	MV3507					
Micropac					Microswitch	8SS7 8SS7E1 DN6837 DN6839			EG&G-Reticon	RM5632A R5632 XR2126 XR2127	(2618)				
MLAS3905	Lambda	LAS3905			National	DN6837			Exar	RM5632A R5632 XR2126 XR2127	(2618)				
	Micropac	M78P05			Siemens	SAS261			Gould/AMI	S35212A		MicroLinear		ML8464	
	National	μA78P05			Sprague	UGN3019	(3259)		Hitachi	HA17815		MicronTech		MT5C6404	
MLAS3912	Lambda	LAS39U		617SS2	TI	TL172C			Sierra	SC11000 SC11005		Mitsubishi		M5M165 M5M5164 M5M5165 M5M5178	
MLAS3915	Lambda	LAS39U			Microswitch	103SR17A-1		MT35213	Gould/AMI	S35213				M5M5165	
MLM138	IPS	IP138			Sprague	UGS3030		MT3530	Gould/AMI	S3530		Mosel		MS6264	
	Lambda	LLM138		65SS2	Microswitch	103SR5A-1		MT4320	ITT	DF320		Motorola		MCM6064 MCM61L64 MCM6164 MCM6164C MCM6264	
	LinearTech	LM138			Sprague	UGN3013	(3259)	MT4325	Plessey	MV4325					
	National	LM138		8SS1	Microswitch	103SR17A-1		MT8804	National	F8804					
MLM196	National	LM196			Sprague	UGN3013	(3259)	MT8812	Plessey	MV8804					
MLM338	IPS	IP338			Microswitch	617SS2			GoldStar	GM62093	(2713)				
	Lambda	LLM338			Microswitch	8SS5			SGS-Thomson	M093					
	LinearTech	LM338			Sprague	UGS3030		MT8814	SiliconSys	SSI78093B					
	National	LT338		8SS1E1	Matsushita	DN6838		MT8860	CMD Micro	G8860					
	μA338	LM338			Microswitch	SS46			Plessey	MB8860					
	LM338	LM338			National	DN6838		MT8865	CMD Micro	G8865					
	LM338	LM338			Sprague	UGN3030	(3259)		Plessey	MV8865					
	LT338	LT338			TI	TL170			SGS-Thomson	MK8865					
	μA338	LM323	(2960)	8SS3	Microswitch	103SR13A-1		MT8870	CMD Micro	G8870	(2567)				
	SG338	LM323		8SS3E1	Sprague	UGS3019			Crystal	CS8870					
	SG323	LM323			Microswitch	103SR5A-1			Fujitsu	MB87017A					
	SG323	LM323			Microswitch	55SS16			Plessey	MV8870					
	SH323	SH323			Sprague	UGN3013	(3259)		Sierra	SC11270					
	SH323	SH323			Microswitch	103SR17A-1			SC11271	SC11271	(2566)				
	LM323	LM323		8SS5	Microswitch	617SS2		MT8880	CMD Micro	G8880					
	SG323	SG323			Sprague	UGS3030		♦ MT8912	CMD Micro	G8912B					
	LAS1412	LAS1412		8SS5E1	Matsushita	DN6838			Intel	ID2912					
	μA78H12A	μA78H12A			Microswitch	SS46		MT8912	National	TP3040					
	LAS3905	LAS3905			National	DN6838			Plessey	MV8912					
	MLAS3905	MLAS3905			Sprague	UGN3030	(3259)		SGS-Thomson	ETC5040					
	μA78P05	μA78P05			TI	TL170		MT8940	TI	TMC2912C					
	μA78P05	μA78P05			Matsushita	DN6837			Gould/AMI	S8940					
	SS31EA	SS41			Microswitch	DN6839		MT8960	Hitachi	HA17808					
	SS81CA	SS81CA			National	613SS2		MT8961	Plessey	MV8960					
	517SS16	517SS16			Sprague	UGS3131		MT8962	Plessey	MV8961					
	UGS3131	UGS3131			Microswitch	SS31EA		MT8963	Plessey	MV8962					
	SS31EA	SS31EA			Siemens	SAS261		MT8964	Plessey	MV8963					
	SS81CA	SS81CA			Sprague	UGN3019	(3259)	MT8965	Plessey	MV8964					
	517SS16	517SS16			TI	TL172C		MT8966	Plessey	MV8965					
	UGS3131	UGS3131			Matsushita	DN6837		MT8970	Gould/AMI	S8970					
	DN6838	DN6838			Microswitch	DN6839		MT8975	Hitachi	HA17812					
	8SS1E1	8SS1E1			National	613SS2		MT8978	Gould/AMI	S8975					
	8SS5E1	8SS5E1			Microswitch	8SS7			Hitachi	HA17806					
	DN6838	DN6838			National	DN6837			Hitachi	HA17807					
	UGN3030	UGN3030	(3259)		Siemens	SAS261		MT8980	National	μA7807					
	TL170	TL170			Sprague	UGN3019	(3259)	MT8981	Gould/AMI	S8980					
	SS31EA	SS31EA			TI	TL172C			Gould/AMI	S8981					
	SS41	SS41			Sprague	UGN3030			Hitachi	HA17805					
	517SS16	517SS16			TI	TL1731									
	UGS3131	UGS3131													
	UGN3131	UGN3131	(3259)												
	DN6835	DN6835													
	DN6836	DN6836													
Microswitch															
SS31EA	Microswitch	SS41 SS81CA 517SS16		91SS12-2	Sprague	TL173C		Mitsubishi Electronics							
	Sprague	UGS3131		92SS12-2	Matsushita	DN6835 DN6836		AM99C88	Cypress	CY7C185 (2580) CY7C186 (2580)					
SS41	Microswitch	SS31EA SS81CA 517SS16													
	Sprague	UGS3131													
	Matsushita	DN6838													
	Microswitch	8SS1E1 8SS5E1 DN6838													
	National	DN6838													
	Sprague	UGN3030	(3259)												
	TI	TL170													
	Microswitch	SS31EA SS41 517SS16													
	Sprague	UGN3131	(3259)												
	UGN3131	UGN3131													
	DN6835	DN6835													
	DN6836	DN6836													
(Continued)				(Continued)				(Continued)							

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Mitsubishi Electronics (Cont'd)				MS8725				MS8725				M5E555			
MCM41464	Krueger	(Cont'd)		Motorola	MCM511000	(Cont'd)		Motorola	6116-150	(2877)		Motorola	MC1455	(2989)	
		4464-120	(2877)	NEC	μPD421000			National	6116-200	(2877)			μA555		
	Mitsubishi	MSM4464P		OKI	MC421000				6116LP-120	(2877)		NEC	μPC1555		
		M5M4464		Panasonic	MSM41000				6116LP-150	(2877)			μPC617		
	NEC	μPD41464		Samsung	MN411000				6116LP-200	(2877)		Raytheon	μPD555		
		μPD4464			KM41C1000	(3036)		Matra-Harris	HM6166				RC555		
	OKI	MSM41464		Siemens	KM41256A	(3036)			HM65161				RM555		
	Samsung	KM41464A	(3036)	TI	HYB511000				HM65162			Samsung	NE555	(3039)	
		SMJ4469			TMS4C1024	(3326)			HM65163			Sanyo	LB8555		
	TI	TMS4464	(3326)		TMX4C1025				HN65728			SGS-Thomson	NE555		
		TMM41464			TMX4C1026				MT5C1608			Signetics	NE555		
	Toshiba	TM4256FC1			TMX4C1029				M5M116				SE555		
MH1M08	Hitachi	TM5256			TM4256GU9			MicronTech	M5M117			TI	SE555		
	Mitsubishi	TM5511000			TM4256GU9				M5M5118				SE555M		
	OKI	TM5511001C			TM4256GU9				M58275				TLC555	(3325)	
	TI	TM024GAD8	(3326)		TM4256GU9				M58725			Toshiba	TA7555		
		THM81000			TM4256GU9				Motorola	MCM2016		M5E556	Samsung	NE556	(3039)
MH1M09	TI	TM024EAD9	(3326)		TM4256GU9					MCM2016H			SGS-Thomson	NE556	
		TM024GAD8	(3326)		TM4256GU9					MCM2018P			Signetics	NE556	
		TM024GAD8	(3326)		TM4256GU9					MCM6116		♦ M5K4116	ITT	ITT4116	
MH1M09A	Hitachi	HB56A19			TM4256GU9					MMC2116			Krueger	4116-120	(2877)
		HB56A19B			TM4256GU9					MSM2128				4116-150	(2877)
	MicronTech	MT8C902MN			TM4256GU9					MSM5126				4116-200	(2877)
	Mitsubishi	TH310008			TM4256GU9					MSM5128		♦ M5K4116	National	F16K	
	TI	TM024GAD8	(3326)		TM4256GU9					MSM5129				F4116	
MH25608	Dense-Pac	DPD411M	(2608)		TM4256GU9					P4C116		♦ M5K4116	OKI	MM5290	
	Fujitsu	MB81C1000			TM4256GU9					SMC6116			SGS-Thomson	MSM3716	
		TH22568			TM4256GU9					SSM6116				M4116	
	GoldStar	GM7C1024			TM4256GU9					ET2128			Siemens	HYB4116	
	Hitachi	HB561003			TM4256GU9					MK2817			Signetics	2690	
		HM511000			TM4256GU9					MK6116			STC	STC4116	
		HM51101			TM4256GU9					LH5115			Toshiba	TMM416	
		HM51102			TM4256GU9					NE5517		♦ M5K4164	Motorola	MCM6665	
		HM561003			TM4256GU9					CKX5814P			Vitellic	V51C64	
	Hyundai	HY51C1000	(2778)		TM4256GU9					UDN6116		M5L2114	AMD	AM9114	
		HY51C1002	(2778)		TM4256GU9					STC2018				AM9124	
	MicronTech	MT1259			TM4256GU9					STC6116			Intel	2114A	
		MT4C1024			TM4256GU9					SMJ68CE16			Krueger	2114-150	(2877)
	Mitsubishi	MH25609			TM4256GU9					TC5517B				2114-200	(2877)
		M5M4C1000			TM4256GU9					TMM2015A				2114-450	(2877)
		M5M41000S			TM4256GU9					TMM2018			Motorola	MCM2114	
		M5M410000			TM4256GU9					TMM2018AP				MCM2114	
	Motorola	MCM511000			TM4256GU9					UM6116			National	M5L2114	
	NEC	μPD421000			TM4256GU9					V61C16				F2114	
		MC421000			TM4256GU9					V62C16				NMC2114A	
	OKI	MSM41000			TM4256GU9					V720C18	(3343, 3345, 3349)		OKI	MSM2114	
	Panasonic	MN411000			TM4256GU9					AM27512			Rockwell	R6514	
	Samsung	KM41C1000	(3036)		TM4256GU9					HN27512			Sharp	LH2114	
		KM41256A	(3036)		TM4256GU9					N27512			Toshiba	TMM2114A	
	Siemens	HYB511000			TM4256GU9					P27512				TMM314A	
	TI	TMS4C1024	(3326)		TM4256GU9					27512			UMC	UM6114	
		TMX4C1025			TM4256GU9					27512-200	(2877)	M5L27C128	Hitachi	HN27C128	
		TMX4C1026			TM4256GU9					27512-250	(2877)		Intel	M27C128	
		TMX4C1029			TM4256GU9					M27512			Krueger	27C128A	
		TM4256FC1			TM4256GU9					TMM27512				27C128-200	
		TM5256			TM4256GU9					TMM27512D				27C128-250	
		TX4C1024			TM4256GU9								Microchip	27C128	(2912)
		TC511000C			TM4256GU9								TI	SMJ27C128	(3286)
		TC511000C			TM4256GU9									TMS27C128	(3326)
		TC511001C			TM4256GU9									TMS27PC128	(3326)
		TMM411001C			TM4256GU9										
MH25608A	Dense-Pac	DPD42568			TM4256GU9								VLSI Tech	VT27C128	
	Hitachi	HB561008B			TM4256GU9								Waferscale	WS27C128	
	NEC	MC41256A8			TM4256GU9								AMD	AM27128	
	OKI	MSC2304KS8			TM4256GU9									AM27128A	
		MSC2304VS8			TM4256GU9								Intel	M27128	
		TM4256FL8			TM4256GU9									N27128A	
	TI	TM4256GU8			TM4256GU9									P27128	
		TM4256GU8			TM4256GU9									P27128A	
MH25609	Dense-Pac	DPD411M	(2608)		TM4256GU9								Krueger	27128A	
	Fujitsu	MB81C1000			TM4256GU9									27128-200	(2877)
		TH22568			TM4256GU9									27128-250	(2877)
	GoldStar	GM7C1024			TM4256GU9									27128-300	(2877)
	Hitachi	HB561003			TM4256GU9									27128-450	(2877)
		HM511000			TM4256GU9									27128A-200	(2877)
		HM51101			TM4256GU9									27128A-250	(2877)
		HM51102			TM4256GU9									27128A-300	(2877)
		HM561003			TM4256GU9									27128A-450	(2877)
	Hyundai	HY51C1000	(2778)		TM4256GU9								SEEQ	M27128	
		HY51C1002	(2778)		TM4256GU9									27128	
	MicronTech	MT1259			TM4256GU9								SGS-Thomson	M27128	
		MT4C1024			TM4256GU9									TMM24128	
	Mitsubishi	MH25608			TM4256GU9									HM6617	(2752)
		M5M4C1000			TM4256GU9							♦ M5L2716	Krueger	2716-350	(2877)
		M5M41000S			TM4256GU9										(Continued)
		M5M410000			TM4256GU9										(Continued)
		(Continued)			TM4256GU9										(Continued)

♦ Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Mitsubishi Electronics (Cont'd)				M5L2764	Krueger	(Cont'd)		M5L82885	(Cont'd)			M5M165	(Cont'd)			
• M5L2716	Krueger	2716-450 (2877) 2716T-350 (2877) 2716T-450 (2877)		2764A-300 (2877) 2764A-450 (2877)	National OKI	2764 MSM2764 MSM2764A		UMC	UM82C88 UM8288 VL82C88			GE/RCA	CDM6264 (2644, 2653)			
• M5L2716	National OKI SGS-Thomson	MM2716 MSM2716		SEEQ	SGS-Thomson	2764 5133		M5M116	VLSI Tech Cypress	CY6116 CY7C128 (2580)		GoldStar	GM76C88 (2696, 2703)			
M5L27256	AMD Atmel Fujitsu	M2716 AM27C256 AT27C256 MBM27C256A (2628)		TI	AMD	M2764A TMS2764 (3326)		GE/Intersil GE/RCA	IH6116 (2670) CDM6116 (2644, 2653)			Harris Hitachi	HM65642 (2747) HM6264 HM6464 MB6264			
	Hitachi Intel	HN27C256 M27C256		M5L5101	Intel	AM2101 AM911L01 AM9101		GoldStar	GM76C28 (2696, 2700)			Hyundai Inmos IDT	HY6264 (2778) IMS1630 (2796) IDT7165			
	Krueger	27C256-200 27C256-250 27C256-300		Datel	Intel	ADC5101 (2595) HA5101 (2767)		Harris	HM6516 (2747) HM65162 (2747)			Krueger	6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877)			
	Microchip	RO256 27C256 (2913)		Motorola	MicroNet	5101 MN5101		Hitachi	HM6116 HM6716 HM6719				6264LP-120 (2877)			
	National	NMC27C256		National	Motorola	MCMS1L01 MCM145101		Hyundai	HY61C16A (2778)				6264LP-150 (2877)			
	NEC	μPD27C256A		Sharp	National	MM74C920		Inmos	HY6116A (2778)			Matra-Harris	HM2064			
	OKI	MSM27C256		Intel	Panasonic	MNS101		IDT	IMS1433				HM56162			
	SEEQ	27C256		Toshiba	Sharp	LH5101			IDT6116 (2835)				HM62641			
	SGS-Thomson	TS27C256		M5L8039	Intel	8039			IDT6116L (2835)				HM65641			
	Signetics	27C256		M5L8042	Intel	8042			IDT6116S (2835)				HN65641			
	Sony	CKX54256P		M5L8226	National	8226		Intel	IDT6166			MicroLinear	ML8464			
	TI	SMJ27C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)			NEC	DP8226 INS8226 μPB8226		Krueger	2128-100 (2877) 2128-120 (2877) 2128-150 (2877)			MicronTech	MT5C6404			
	Toshiba	TC54256 TC57256		M5L8284A	Calmos	CA82C84A			2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116-200 (2877)			Mitsubishi	AM99C88 M5M5164 M5M5165 M5M5178			
	VLSI Tech	VT27C256		Fujitsu	Harris	CP82C84A			6116LP-120 (2877)			Mosel	MS6264			
	Waferscale	WS27C256 (3390) WS57C256 (3390) WS57C256F (3390)		Intel	Intel	82C84A			6116LP-150 (2877)			Motorola	MCM6064 MCM61164 MCM6164C MCM6264			
• M5L2732	AMD	AM2732		Mitsubishi	NEC	μPB8284 μPB8284A μPD71084 μPD71084C			6116LP-200 (2877)			National	DP8464			
	Intel	M2732		OKI	OKI	MSM82C84 UC82C84A		Matra-Harris	HM6166 HM65161 HM65162 HM65163				NMC6164			
• M5L2732	Krueger	2732A 2732-250 (2877) 2732-300 (2877) 2732-350 (2877) 2732A-250 (2877) 2732A-300 (2877) 2732A-350 (2877) 2732A-450 (2877)		Samsung	Unicorn	UC82C84A UM82C84A UM8284A			HN65728			NEC	μPD4364			
				UMC	VLSI Tech	VL82C84A		MicronTech	MT5C1608			OKI	MSM5164 MSM5165 MSM5188			
					Calmos	CA82C84A		Mitsubishi	MS8725			Performance	P4C164 P4C188			
					Fujitsu	MBL8284 (2635)			M5M5116 M5M5117 M5M5118			S-MOS	SRM2064 SRM2264			
					Harris	CP82C84A			M5M5116 M5M5117 M5M5118			Samsung	KM6264 (3036) KM6264A (3036)			
					Intel	82C84A			M58275			Sharp	LH5164 LH5165			
• M5L2732	National	MM2732		Mitsubishi	NEC	μPB8284 μPB8284A μPD71084 μPD71084C		Motorola	MCM2016 MCM2016H MCM2018P			Sony	CVK5864 CVK5164P CVK5863P			
• M5L2732	OKI	NMC2732		OKI	OKI	MSM82C84 UC82C84A			MCM6116 MCM6116 MCM6116				STC	TC5565A		
	SGS-Thomson	MSM2732		Samsung	Unicorn	UC82C84A UC82C84A		National	MMC2116 MSM2128			STC	TC5585			
	TI	TMS2732A (3326)		UMC	VLSI Tech	VL82C84A		OKI	MSM5126 MSM5128 MSM5129			TI	SMJ68CE64			
M5L27512	Toshiba	TMM324C			Calmos	CA82C88			MSM5126 MSM5128 MSM5129			Toshiba	TC5565A			
	Atmel	AT27C512			Fujitsu	MBL8288 (2635)			ET2128 MK2817 MK6116				TC5585			
	Fujitsu	MBM27C512			Harris	CP82C88			NE5517 NE5517 NE5517				TC5588			
	Hitachi	HN27C512G			Intel	82C88			NE5517 NE5517 NE5517				TMM2063			
	IDT	IDT7M856S			Mitsubishi	5L82885			NE5517 NE5517 NE5517				TMM2064			
	Intel	IDT71256 (2837) IDT8M824 (2872)			NEC	μPB8288 μPD71088 μPD71088C			NE5517 NE5517 NE5517				TMM2088			
	Krueger	MD27512			OKI	MSM82C88			NE5517 NE5517 NE5517				V61C62			
		27C512-200 27C512-250			Samsung	UC82C88			NE5517 NE5517 NE5517				V61C64			
	Microchip	27C512 (2914)			Unicorn	UM82C88			NE5517 NE5517 NE5517				V62C64			
	NEC	μPD27C512 μPD27C512D			UMC	UM8288			NE5517 NE5517 NE5517				V65C64			
	Ricoh	TMS27C512			VLSI Tech	VL82C88			NE5517 NE5517 NE5517				VT20C98			
	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27PC512 (3326)			AMD	D82C88			NE5517 NE5517 NE5517				VT20C99			
	Toshiba	TC54512 TC57512			Calmos	CA82C88			NE5517 NE5517 NE5517				SSM6167			
	VLSI Tech	VT27C512			Fujitsu	MBL8288 (2635)			NE5517 NE5517 NE5517				CY7C167 (2580)			
M5L2764	AMD	AM2764 AM2764A MBM2764			Intel	82C88			NE5517 NE5517 NE5517				CDM5167			
	Fujitsu	M2764			Mitsubishi	5L82885			NE5517 NE5517 NE5517				HM65262 (2747)			
	Intel	P2764A 2764 2764A			NEC	μPB8288 μPD71088 μPD71088C			NE5517 NE5517 NE5517				IMS1400			
	Krueger	2764-200 (2877) 2764-250 (2877) 2764-300 (2877) 2764-450 (2877) 2764A-200 (2877) 2764A-250 (2877)			OKI	MSM82C88			NE5517 NE5517 NE5517				IMS1403 (2790)			
					Samsung	UC82C88			NE5517 NE5517 NE5517				IDT	IDT6167		
					Unicorn	UM82C88			NE5517 NE5517 NE5517				Intel	51C67		
					UMC	UM8288			NE5517 NE5517 NE5517				Matra-Harris	HM65262 HM65263		
					VLSI Tech	VL82C88			NE5517 NE5517 NE5517				MicronTech	MT5C1601		
					AMD	D82C88			NE5517 NE5517 NE5517				Mitsubishi	M5M2167		
					Calmos	CA82C88			NE5517 NE5517 NE5517				NEC	μPD4311		
					Fujitsu	MBL8288 (2635)			NE5517 NE5517 NE5517				S-MOS	SRM2267		
					Harris	CP82C88			NE5517 NE5517 NE5517				SGS-Thomson	MK41H66 MK41H67		
					Intel	82C88			NE5517 NE5517 NE5517							
					Mitsubishi	5L82885			NE5517 NE5517 NE5517							
					NEC	μPB8288 μPD71088 μPD71088C			NE5517 NE5517 NE5517							
					OKI	MSM82C88			NE5517 NE5517 NE5517							
					Samsung	UC82C88			NE5517 NE5517 NE5517							
					Unicorn	UM82C88			NE5517 NE5517 NE5517							
					UMC	UM8288			NE5517 NE5517 NE5517							
					VLSI Tech	VL82C88			NE5517 NE5517 NE5517							
					AMD	D82C88			NE5517 NE5517 NE5517							
					Calmos	CA82C88			NE5517 NE5517 NE5517							
					Fujitsu	MBL8288 (2635)			NE5517 NE5517 NE5517							
					Harris	CP82C88			NE5517 NE5517 NE5517							
					Intel	82C88			NE5517 NE5517 NE5517							
					Mitsubishi	5L82885			NE5517 NE5517 NE5517							
					NEC	μPB8288 μPD71088 μPD71088C			NE5517 NE5517 NE5517							
					OKI	MSM82C88			NE5517 NE5517 NE5517							
					Samsung	UC82C88			NE5517 NE5517 NE5517							
					Unicorn	UM82C88			NE5517 NE5517 NE5517							
					UMC	UM8288			NE5517 NE5517 NE5517							
					VLSI Tech	VL82C88			NE5517 NE5517 NE5517							
					AMD	D82C88			NE5517 NE5517 NE5517							
					Calmos	CA82C88			NE5517 NE5517 NE5517							
					Fujitsu	MBL8288 (2635)			NE5517 NE5517 NE5517							
					Harris	CP82C88			NE5517 NE5517 NE5517							
					Intel	82C88			NE5517 NE5517 NE5517							
					Mitsubishi	5L82885			NE5517 NE5517 NE5517							
					NEC	μPB8288 μPD71088 μPD71088C			NE5517 NE5517 NE5517							
					OKI	MSM82C88			NE5517 NE5517 NE5517							
					Samsung	UC82C88			NE5517 NE5517 NE5517							
					Unicorn	UM82C88			NE5517 NE5517 NE5517							
					UMC	UM8288			NE5517 NE5517 NE5517							
					VLSI Tech	VL82C88			NE5517 NE5517 NE5517							
					AMD	D82C88			NE5517 NE5517 NE5517							
					Calmos	CA82C88			NE5517 NE5517 NE5517							
					Fujitsu	MBL8288 (2635)			NE5517 NE5517 NE5517							
					Harris	CP82C88			NE5517 NE5517 NE5517							
					Intel	82C88			NE5517 NE5517 NE5517							
					Mitsubishi	5L82885			NE5517 NE5517 NE5517							
					NEC	μPB8288 μPD71088 μPD71088C			NE5517 NE5517 NE5517							
					OKI	MSM82C88			NE5517 NE5517 NE5517							

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Mitsubishi Electronics (Cont'd)				M5M21C68P				M5M23C64				M5M27C101K			
M5M21C67 (Cont'd)				M5M2167				M5M23128				M5M27C102			
	Sharp	LH5167			AMD	VT20C98	(2580)		National	F3568			Hitachi		(Cont'd)
	STC	STC2167			Cypress	VT2069				F3569				HN27C101	
	TI	SMJ61CD16			Fujitsu	SSM6167				F3570				HN27C101G	
	UMC	UM6167			GE/RCA	CY7C167				MM52264			Intel	HN27C301G	
M5M21C68	AMD	AM99CL68			Hitachi	MB8167A			OKI	NM52264				27010	
		AM99C68			Harris	CDM5167	(2747)		Panasonic	MSM3864			Mitsubishi	M5M23C1000	
	Cypress	CY7C168	(2580)		Inmos	HM6267			SGS-Thomson	MN2364				M5M27C102	
	Fujitsu	MB8168				IMS1400	(2790)			MK37000			National	NMC27C1023	
	Inmos	IMS1420			IDT	IMS1403			Supertex	CM6400			NEC	μPDC1024	
		IMS1421			Intel	IDT6167				23SC64				μPD23C1010	
		IMS1423			Matra-Harris	51C67			TI	23SC64A			OKI	MSM271000	
		IMS1424				HM65262			UMC	TMS2364				MSM271024	
	IDT	IDT6120			MicronTech	HM65263			AMD	UM2366			S-MOS	SMM63100	
	Matra-Harris	HM65681			Mitsubishi	MT5C1601			Gould/AMI	AM9128			TI	TMS27C010 (3326)	
		HM65682			NEC	M5M21C67			Microchip	S23128				TMS27C210 (3326)	
		MT5C1604			S-MOS	μPD4311			NCR	RO9128			Toshiba	TMX27C210	
		SRM2268			SGS-Thomson	SRM2267			Signetics	NCR23128				TC541000	
						SRM2367			Supertex	23128				TC571024	
	MicronTech	MT5C1604				MK41H66			UMC	CM1310				WS27C010 (3390)	
	Mitsubishi	M5M2168				MK41H67			VLSI Tech	UM23128				WS27C210L	
	Motorola	MCM1423				LH5167				VT23129				AM27C010	
		MCM2168			Sharp	STC2167				VT23129A				AM27010	
		MCM61L64			STC	STC6167				VT23130			Atmel	AT27C010	
	NEC	μPD4134			TI	SMJ61CD16				VT23131			Hitachi	HN27C010G	
		μPD4314			UMC	UM6167				VT23138				HN27C101	
	Performance	P4C188			M5M2168	AM99CL68			M5M23256	Dense-Pac	DP592256 (2609)			HN27C101G	
	S-MOS	SRM2268				AM99C68	(2580)			Gould/AMI	S23256			HN27C301G	
	SGS-Thomson					Cypress	CY7C168			NCR	NCR23256			27010	
						Fujitsu	MB8168				NCR23257			M5M23C1000	
						Inmos	IMS1420			OKI	MSM38256			M5M27C101K	
							IMS1421			Panasonic	MN23256			M5M27C102K	
							IMS1423				MN23257			NMC27C1023	
							IMS1424			S-MOS	SMM23256			μPDC1024	
							IMS1424				SMM6325			μPD23C1010	
							IDT6120			Signetics	23256A			MSM271000	
							Matra-Harris				TC53257			MSM271024	
							HM65681				VLSI Tech	VT23256		S-MOS	SMM63100
							HM65682					VT23257		TI	TMS27C010 (3326)
							MT5C1604					VT23257			TMS27C210 (3326)
							M5M21C68							Toshiba	TC541000
							MCM1423								TC571024
							MCM2168								WS27C010 (3390)
							MCM61L64								WS27C210L
							μPD4134								
							μPD4314								
							P4C188								
							SRM2268								
							SGS-Thomson								
							MK41H68								
							STC2168								
							SMJ64C16								
							SMJ64C64								
							TMM2068								
							CT64KS4								
							VT20C19 (3349)								
							VT20C68 (3343, 3345, 3350)								
							VT20C69 (3343, 3345, 3350)								
							VT2068								

◆ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

ABSTRACT: SOURCE DIRECTORY

◆ **Discontinued**

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Mitsubishi Electronics (Cont'd)				M5M5187AP (Cont'd)				M5M5188AP (Cont'd)				M5M5258			
M5M5178		(Cont'd)		M5M5187P				M5M5189				M5M5258	Cypress	CY7C194	(2580)
Performance	P4C164			MicronTech	MT5C6401			TI	TIBPAL20L8			Cypress	Hitachi	HM6208P	
S-MOS	SRM2064			Mitsubishi	M5M5187			VLSI Tech	TIBPAL20L8-20	(3283)		Inmos		HM6708	
SRM2264				Motorola	MCM6287			Cypress	VT64KS4			Hitachi	IMS1820		
NEC	μPD4361			National	F1600			Hitachi	CY7C166	(2580)		Hitachi	IDT	IDT71258	(2839)
Samsung	KM6264	(3036)		OKI	MSM5187			Inmos	HM6789P			MicronTech	MT5C2564		
Sharp	KM6264A	(3036)		Performance	P4C187			IDT	IMS1624	(2795)		Motorola	MCM6208		
LH5164				S-MOS	SRM2261			MicronTech	IDT6198			NEC	μPD43254		
LH5165				Saratoga	SSM7187			Mitsubishi	MT5C6405			OKI	MSM52464		
Sony	CVK5864			SGS-Thomson	TC5562			Motorola	MCM6290			Performance	P4C1258		
STC	STC6264			Sharp	MK41H87			National	54LS152			Sharp	LH52252	(3052)	
TI	SMJ68CE64			Signetics	LH5261			NEC	μPD4363			Signetics	SCC80C39		
Toshiba	TC5565			TI	SMJ61CD64	(3057)		S-MOS	SRM2275			Toshiba	TMP80C39		
	TC5565A			Toshiba	TC5562			Saratoga	SSM7166			AMD	AM8085AH		
	TC5585				TMM5562			SGS-Thomson	T54LS152			Calmos	CA80C85B		
	TMM2063			Cypress	CY7C187	(2580)		Sony	CTXK5465P			Intel	P8085AH		
	TMM2064			Fujitsu	MB81C71			Toshiba	TC55417	(3335)		Krueger	8085AH	(2877)	
	TMM2088				MB81C71A			Vitelc	V61C62			NEC	μPD8085		
	V61C62			GoldStar	GM76C64			VLSI Tech	VT65KS4			OKI	MSM8085		
	V61C64			Hitachi	HM6287			Cypress	CY7C166	(2580)		AMD	AM8237A		
	V62C64			Hyundai	HY62C87			Hitachi	HM6789P				D8237A		
	V65C64			Inmos	IMS1600	(2792)		Inmos	IMS1624	(2795)		Calmos	CA82C37A		
	VT20C98			IDT	IMS1601	(2793)		IDT	IDT6198			Harris	CP82C37A		
	VT20C99			IDT	IDT7187	(2850)		MicronTech	MT5C6405			Intel	8037A		
	CY7C183			MicronTech	MT5C6401			Motorola	MCM6290				8237A-4		
	MB81C79			Mitsubishi	M5M5187			National	54LS152			Mitsubishi	8237A-5		
	MB81C79A			Motorola	MCM6287			NEC	μPD4363			NEC	M5M82C37AP		
	μPD4369			National	F1600			S-MOS	SRM2275				μPD8237		
	SONY5971P			NEC	μPD4361			Saratoga	SSM7166			OKI	μPD8237A		
	SMJ69CE72			OKI	MSM5187			SGS-Thomson	T54LS152			S-MOS	SMC82C37AC-5		
	TC5589			Performance	P4C187			Sony	CTXK5465P			Samsung	KS82C37A		
	TMM2089			S-MOS	SRM2261			Toshiba	TC55417	(3335)		Toshiba	TMP82C37	(3339)	
	CY7C183			Saratoga	SSM7187			Vitelc	V61C62			Unicorn	UC82C37A		
	MB81C79			SGS-Thomson	TC5562			VLSI Tech	VT65KS4			UMC	UM8237A		
	MB81C79A			Sharp	MK41H87			AMD	AM99C328				UM8737A		
	M5M5179			Signetics	LH5261			Cypress	CY7C197	(2580)		VLSI Tech	VL82C37A		
	μPD4369			TI	SMJ61CD64	(3057)		CY7C198	(2580)			AMD	AM8237A		
	SONY5971P			Toshiba	TC5562			CY7C199	(2580)				D8237A		
	SMJ69CE72				TMM5562			Dense-Pac	DPS412S88				8237A		
	TC5589				AM99C164			GE/RCA	CDM62256	(2644)		Calmos	CA82C37A		
	TMM2089				AM99C165			GoldStar	GM76C256	(2696)		Harris	CP82C37A		
	CY7C183				GM76C164			Hitachi	HM62256			Intel	8037A		
	MB81C71A				HM6288			Hyundai	HY62C256				8237		
	MB81C87				HN6288			Inmos	IMS1830				8237A-4		
	GM76C64				IMS1620	(2794)		Inova	S32K8	(2807)			8237A-5		
	HM6287				DPS8M464			IDT	IDT71256L	(2837)		Mitsubishi	M5M82C37A		
	HM6787				GM76C164			IDT	IDT71256L	(2837)		NEC	μPD8237		
	HY62C87				HM6288				IDT71256S	(2837)			μPD8237A		
	IMS1600	(2792)			INMOS1620				IDT8M824	(2872)		OKI	MSM82C37A		
	IMS1601	(2793)			DPS8M464			Lattice	SR256K8			S-MOS	SMC82C37AC-5		
	IDT7187	(2850)			IDT6198			MicronTech	MT5C2568			Samsung	KS82C37A		
	IDT7187L	(2850)			IDT7188			Mosel	MS62256			Toshiba	TMP82C37	(3339)	
	MT5C6401				IDT7188L			Motorola	MCM60256			Unicorn	UC82C37A		
	M5M5187AP				MT5C6405				MCM61256			UMC	UM8237A		
	M5M5187P				MCM6288				MCM6206				UM8737A		
	MCM6287				MCM6289				NM44251			VLSI Tech	VL82C37A		
	F1600				μPD4362				NEC	μPD43256A		AMD	82C54		
	F1602				Performance	P4C188			S-MOS	SRM20256		Calmos	CA82C54		
	μPD4361				S-MOS	SRM2274				SRM20256C		Harris	CP82C54		
	MSM5187				Saratoga	SSM7188			Samsung	KM62256	(3036)	Intel	82C54		
	MSM5187				TI	SMJ64C64			Sharp	LH52256			8254		
	P4C187				TC55416				LH52259	(3054)		Mitsubishi	M5M82C54P		
	SRM2261				TMM55416			Sony	CTXK58255			NEC	μPD71054C		
	SSM7187				CT64KS4			Toshiba	CTXK58256			OKI	MSM82C54		
	MK41H87				CYPLDC20G10				TC55257			S-MOS	SMC82C54A		
	LH5261				MB81C88				TC55257A				SMC82C54AC		
	74HC4515	(3057)			PEEL20C87				TC55328			Samsung	KS82C54		
	SMJ61CD64				HM7688HP				V62C256			Unicorn	UC82C54A		
	TC5562				HY62C88				MB84256-L			UMC	UM8254		
	TMM5562				PEEL20C87				HM62256L			VLSI Tech	VL82C54		
	CY7C187	(2580)			ICT				MCM60L256			AMD	82C54		
	MB81C71A				MT5C6404				μPD43256-L	(3036)		Calmos	CA82C54		
	MB81C71A				M5M5188				KM62256L	(3036)		Harris	CP82C54		
	MB81C87				PAL20L8				TC55257AL			Intel	82C54		
	GM76C64				F100165				CY7C197	(2580)			8254		
	HM6287				PAL20L8				HM6207			Mitsubishi	M5M82C54		
	HM6787				μPD4362C				IMS1800			NEC	μPD71054C		
	HY62C87				MSM5188A				IDT71257	(2838)		OKI	MSM82C54		
	IMS1600	(2792)			Samsung	CPL20L8-35	(3031)		IDT71257L	(2838)		S-MOS	SMC82C54A		
	IMS1601	(2793)			Sharp	LH5262			IDT71257S	(2838)			SMC82C54AC		
	IDT7187	(2850)			Signetics	100165	(3074)					Samsung	KS82C54		
	IDT7187L	(2850)			Sony	CTXK5464AP						Unicorn	UC82C54A		
	(Continued)				(Continued)							UMC	UM8254		
												VLSI Tech	VL82C54		
													(Continued)		

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Mitsubishi Electronics (Cont'd)				M5M8259AP (Cont'd)				M54523				M58275 (Cont'd)			
M5M82C55A	AMD	D8255A		Toshiba	TMP82C59	TMP8259	(3339)		Exar	XR2003C	(2619)		Hyundai	HY61C16A	(2778)
	Calmos	CA82C55A		Unicorn	UC82C59A				Mitsubishi	M52523			Inmos	IMS1433	
	Harris	CP82C55A		UMC	UM8259A				Motorola	MC1413	(2984, 2989)		IDT	IDT6116	(2835)
	Intel	P8255		VLSI Tech	VL82C59A					ULN2003				IDT6116A	(2835)
		82C55A		GoldStar	GM76C28	(2696, 2700)			National	μA9667				IDT6116L	(2835)
	Mitsubishi	M5M82C55AP								MC1413				IDT6116S	(2835)
	NEC	μPD71055		Harris	HM6516	(2747)			Sanyo	LB1233			Intel	IDT6166	
		μPD8255A			HM65162	(2747)			SGS-Thomson	L203			Krueger	81C28	
		μPD8255A-21-5		Matra-Harris	HM65163					ULN2003				2128-100	(2877)
	OKI	MSM82C55A		Motorola	MCM2016					ULN2003				2128-120	(2877)
	S-MOS	SMC82C55A-5		OKI	MSM2128				SiliconG	SG2003				2128-150	(2877)
		SMC82C55AC			MSM5128				Sprague	ULN2003	(3258)			2128-200	(2877)
	Samsung	KS82C55A		S-MOS	SRM2016					ULS2003				6116-120	(2877)
	Toshiba	TMP82C55	(3339)	SGS-Thomson	ETL2128				TI	ULN2003				6116-150	(2877)
		TMP8255	(3339)		LH5115				Toshiba	TD62003				6116-200	(2877)
	Unicorn	UC82C55A			SMJ68CE16					TD62103				6116LP-120	
	UMC	UM82C55A		Toshiba	TMM2018			M54524	Exar	XR2001	(2619)				(2877)
M5M82C55AP	AMD	D8255A		Vitellic	V61C16					XR2001C	(2619)				(2877)
	Calmos	CA82C55A			V62C16					XR2201	(2619)				(2877)
	Harris	CP82C55A							Motorola	MC1411	(2984)			6116LP-200	(2877)
	Intel	P8255		VLSI Tech	VT20C18	(3343, 3345, 3349)				ULN2001					
		82C55A							National	μA9665			Matra-Harris	HM6166	
	Mitsubishi	M5M82C55A		GoldStar	GL3165				Sanyo	LB1231				HM65161	
	NEC	μPD71055		NEC	μPC1032H				SGS-Thomson	L201				HM65162	
		μPD8255A		ROHM	BA328					ULN2001				HM65163	
		μPD8255A-21-5		Sanyo	LA3161				SiliconG	SG2001				HN65728	
	OKI	MSM82C55A		Toshiba	TA7325P				Sprague	ULN2001	(3258)		MicronTech	MT5C1608	
	S-MOS	SMC82C55A-5		Sanyo	LA3160					ULQ2001			Mitsubishi	MS8725	
		SMC82C55AC		Toshiba	TA7312P					ULS2001				M5M116	
	Samsung	KS82C55A		Exar	XR555	(2619)			TI	ULN2001				M5M5116	
	Toshiba	TMP82C55	(3339)		XR555M	(2619)				ULN2001A				M5M5117	
		TMP8255	(3339)	GE/Intersil	NE555				Toshiba	ULN2001A				M5M5118	
	Unicorn	UC82C55A			SE555					TD62001				M58725	
	UMC	UM82C55A		GE/RCA	CA555	(2656)				TD62101				MCM2016	
	Calmos	CA82C59A		GoldStar	GLC555	(2713)		M54525	Exar	XR2002C	(2619)			MCM2016H	
	Intel	P8255			GL555	(2713)				XR2202	(2619)			MCM2018P	
		82C59A		Hitachi	HA17555				Motorola	MC1412	(2984)			MCM6116	
		8259A		Mitsubishi	ME5555					ULN2002			National	MMC2116	
	MicronTech	MT8259			M51848				National	μA9666			OKI	MSM2128	
	Mitsubishi	M5M82C59AP		Motorola	MC1455	(2989)				MC1412				MSM5126	
		M5M8259AP		National	μA555				NEC	μPA2002				MSM5128	
		M5M8259AP		NEC	LM555				Sanyo	LB1232				MSM5129	
	National	INS8259			μPC617				SGS-Thomson	L202			Performance	P4C116	
	NEC	μPD71059		Raytheon	RC555					ULN2002			S-MOS	SMC6116	
		μPD71059C			RM555				SiliconG	SG2002			Saratoga	SSM6116	
	OKI	MSM82C59A		Samsung	NE555	(3039)			Sprague	ULN2002	(3258)		SGS-Thomson	ET2128	
	S-MOS	SMC82C59AC		Sanyo	LB8555					ULS2002				MK2817	
	Samsung	KS82C59A		SGS-Thomson					TI	ULN2002				MK6116	
	Toshiba	TMP82C59	(3339)							ULN2002A				LH5115	
		TMP8259	(3339)	Signetics	NE555				Toshiba	ULN2002A				NE5517	
	Unicorn	UC82C59A			SE555					TD62002			Sharp	CKX5814P	
	UMC	UM8259A		TI	NE555			M54526	Exar	XR2204	(2619)		Sony	UDN6116	
	VLSI Tech	VL82C59A			SE555				Motorola	MC1416	(2984)		Sprague	STC2018	
M5M82C59AP					SE555M					ULN2004				STC6116	
	Calmos	CA82C59A			SE555M				Sanyo	LB1234				SMJ68CE16	
	Fujitsu	MBL8259	(2635)		TLC555	(3325)			SGS-Thomson	L204			Toshiba	TC5517B	
	Harris	CP82C59A		Toshiba	TA7555					ULN2004				TMM2015A	
	Intel	82C59A		GoldStar	GL5526				SiliconG	SG2004				TMM2018	
		8259A		Sanyo	LA3600				Sprague	ULN2004	(3258)			TMM2018AP	
	MicronTech	MT8259		HybridSys	HS5251					ULS2004			UMC	UM6116	
	Mitsubishi	M5M82C59		MicroNet	MN5251				TI	ULN2004			Vitellic	V61C16	
		M5M8259AP		Exar	XR2003C	(2619)				ULN2004A				V62C16	
	National	INS8259			XR2203	(2619)			Toshiba	ULN2004A			VLSI Tech	VT20C18	(3343, 3345, 3349)
	NEC	μPD71059		Mitsubishi	M54523					TD62004					
		μPD71059C		Motorola	MC1413	(2984, 2989)				TD62104					
		μPD8259A						M54527	Sanyo	LB1271					
	OKI	MSM82C59A			ULN2003			M54532	IPS	IP2064					
	S-MOS	SMC82C59AC		National	μA9667				Motorola	ULN2064					
	Samsung	KS82C59A			MC1413				SGS-Thomson	ULN2064					
	Toshiba	TMP82C59	(3339)	Sanyo	LB1233					ULN2064					
		TMP8259	(3339)	SGS-Thomson						ULN2064	(3258)				
	Unicorn	UC82C59A			L203					ULN2064					
	UMC	UM8259A			ULN2003					ULN2064					
	VLSI Tech	VL82C59A		SiliconG	SG2003					ULN2064					
	Calmos	CA82C59A		Sprague	ULN2003	(3258)				ULN2064					
	Fujitsu	MBL8259	(2635)		ULS2003					ULN2064					
	Harris	CP82C59A		TI	ULN2003					ULN2064					
	Intel	82C59A		Toshiba	TD62003					ULN2064					
		8259A			TD62103					ULN2064					
	MicronTech	MT8259			ML54123					ULN2064					
	Mitsubishi	M5M82C59		Lansdale	DM54123					ULN2064					
		M5M82C59AP		National	DM54123					ULN2064					
	National	INS8259			54123					ULN2064					
	NEC	μPD71059		Signetics	54123					ULN2064					
		μPD71059C			SN54123					ULN2064					
	OKI	MSM82C59A		Lambda	LAS1415					ULN2064					
	S-MOS	SMC82C59AC		Sanyo	LB1288					ULN2064					
	Samsung	KS82C59A			LB1275					ULN2064					
				Sprague	ULN2801	(3258)				ULN2064					
				Toshiba	TD62105					ULN2064					
										ULN2064					
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The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Monolithic Memories (Cont'd)				PALC22V10H-25				PAL12L10				PAL16A4			
PALC16L8Q-25				Samsung (Cont'd)				TI (Cont'd)				Signetics (Cont'd)			
GoldStar GM6375 (2713)				CPL22V10L-25				TIBPAL20L10				PLC153			
ICT PEEL18CV8 (4257)				CPL22V10L-35				TIBPAL20L10A-2				PLHS153			
MMI PAL16L8D-4				PLS173 (3209, 3226)				PEEL20CG10				PLHS18P8 (3209, 3227)			
Samsung CPL16L8L-25 (3031)				TI TIBPAL22V10 (3304)				Lattice GAL20V8-25L (4257)				PLS153 (3209, 3223)			
SGS-Thomson MK5375				TIBPAL22V10A (3283, 3304)				MMI PAL16L6				PAL16C1 Gould/AMI PEEL22CV10 (4242)			
PALC16R4Q-25				PALC22V10H-35				National Samsung CPL20L8-35 (3031)				ICT PEEL153 (4257)			
AMD AMPAL16R4				AMD AMPAL22V10				Signetics PEEL173				National Signetics PAL16C1			
Cypress CYPALC16R4				Cypress CYPALC22V10				PLS173 (3209, 3226)				PLC153			
CYPAL16R4				CYPALC22V10-25				TI TIBPAL16L6				PLHS153			
GoldStar GM231024				CYPALC22V10-35				PEEL18CV8 (4257)				PLHS18P8 (3209, 3227)			
Harris HPL16R4				CYPALC22V10L-25				Lattice GAL16V8-25L (4259)				PLS153 (3209, 3223)			
ICT PEEL18CV8 (4257)				CYPALC22V10L-35				National Signetics PAL12L6				PAL16HD8 AMD AMPAL16HD8			
MMI PAL16R4				Gould/AMI PEEL22CV10 (4242)				PLC153				ICT PEEL18CV8 (4257)			
National Samsung PAL16R4D-4				ICT PEEL22CV10 (4257)				PLHS153				ICT PEEL18CV8 (4257)			
PAL16R4				Lattice GAL16V8-25L (4259)				PLHS18P8 (3209, 3227)				Lattice GAL16V8-25L (4259)			
CPL16R4L-25 (3031)				MMI PALC22V10				PLS153 (3209, 3223)				National Signetics PAL16H2			
Toshiba TC53100				PALC22V10H-25				GAL16V8-25Q (4259)				PLC153			
Cypress CYPALC16R6L-25				PAL14L8				PAL16H2-2 Lattice GAL16V8-25Q (4259)				PLHS153			
Lattice GAL16V8-25Q (4259)				National Samsung CPL20L8-35 (3031)				PAL14H4 ICT Lattice GAL16V8-25L (4257)				PLHS18P8 (3209, 3227)			
PALC16R6Q-25				Samsung CPL16R6L-25 (3031)				National Signetics PAL14H4				PAL16L2 Lattice GAL16V8-25L (4259)			
GoldStar GM6376				CPL22V10-25				PLC153				PAL16L2-2 National Lattice GAL16V8-25Q (4259)			
ICT PEEL18CV8 (4257)				CPL22V10-35				PLHS153				PAL16L8 AMD AMPAL16L8			
MMI PAL16R8D-4				CPL22V10L-25				PLHS18P8 (3209, 3227)				ICT PEEL18CV8 (4257)			
Samsung CPL16R8L-25 (3031)				CPL22V10L-35				PLS153 (3209, 3223)				Lattice GAL16V8-25L (4259)			
SGS-Thomson MK5376				Signetics PLS173 (3209, 3226)				GAL16V8-25Q (4259)				National Lattice PAL16L2			
AMD AMPAL22V10				TI TIBPAL22V10 (3304)				PAL14H4-2 Lattice GAL16V8-25Q (4259)				PAL16L6			
AMPAL22V10A				TIBPAL22V10A (3283, 3304)				PAL14L4 Gould/AMI ICT PEEL20CG10				MMI National Samsung CPL20L8-35 (3031)			
CYPALC22V10				PEEL18CV8 (4257)				Lattice GAL16V8-25L (4259)				Signetics PEEL173 (3209, 3226)			
CYPALC22V10-25				GAL16V8-25L (4259)				National Signetics PAL14L4				TI TIBPAL16L6			
CYPALC22V10-35				MMI PAL16A4				PLC153				AMD AMPAL16H8			
CYPALC22V10L-25				National PAL10H8				PLHS153				CYPALC16L8			
CYPALC22V10L-35				Signetics PLHS18P8 (3209, 3223)				PLS153 (3209, 3223)				Harris HPL16L8			
Gould/AMI PEEL22CV10 (4242)				PAL10H8-2 Lattice GAL16V8-25Q (4259)				GAL20V8-25L (4260)				HPL16L8C-5 (2745)			
ICT PEEL22CV10 (4257)				PAL10L8 Gould/AMI ICT PEEL253 (4242)				PAL14L4-2 Lattice GAL16V8-25Q (4259)				CYPALC16L8 (4216)			
Lattice GAL16V8-25L (4259)				PEEL153 (4257)				AMD AMPAL22V10				CYPALC16L8			
GAL20V8-25L (4260)				PEEL18CV8 (4257)				CYPALC22V10A				HPL16L8C-5 (2745)			
MMI PALC22V10H-25				PEEL253 (4257)				CYPALC22V10				HPL16L8C-5 (2745)			
PALC22V10H-35				GAL16V8-25L (4259)				CYPALC22V10-25				ICT PEEL18CV8 (4257)			
PAL14L8				National Signetics PAL10L8				CYPALC22V10-35				Lattice GAL16V8 (4259)			
National PAL14L8				PLC153				CYPALC22V10L-25				National GAL16V8-25L (4259)			
Samsung CPL20L8-35 (3031)				PLHS153				CYPALC22V10L-35				Samsung GAL16V8			
CPL22V10-25				PLS173 (3209, 3226)				PEEL22CV10 (4242)				SPL16L8			
CPL22V10-35				TI TIBPAL22V10 (3304)				ICT PEEL22CV10 (4257)				TI TIBPAL16H8			
CPL22V10L-25				TIBPAL22V10A (3283, 3304)				Lattice GAL16V8-25L (4259)				TIBPAL16L8			
CPL22V10L-35				PALC22V10H-25				MMI PALC22V10				TIBPAL16L8-20			
Signetics PLS173 (3209, 3226)				PALC22V10H-35				National Samsung CPL20L8-35 (3031)				AMD AMPAL16L8A</			

♦ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

המחלקה לבריאות הציבור

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Monolithic Memories (Cont'd)				PAL16R6A	Samsung	CPL16R6-25 (3031)	(Cont'd)	PAL18L4	Cypress	(Cont'd)	(Cont'd)	PAL20L8	MicronTech	MT5C6404	(Cont'd)
PAL16L8A-2		(Cont'd)			TI	TIBPAL16R6A			Gould/AMI	CYPALC22V10L-25 CYPALC22V10L-35			Mitsubishi	M5M5188	
PAL16L8B	AMD Lattice	TIBPAL16L8A-2 AMPAL16L8B GAL16V8-15L (4259)		PAL16R6A-2	ICT Lattice	PEEL18CV8 GAL16V8-25L (4259)	(4257)		ICT	PEEL20CG10 PEEL20CG10 (4257)			National	M5M5188AP F100165 PAL20L8 μPD4362C MSM5188A CPL20L8-35 (3031)	
PAL16L8D	National	F16L8B PAL16L8B AMPAL16L8D GAL16V8A-10L (4259)			Samsung	CPL16R4-35 (3031)			Lattice	GAL20V8-25L (4260)			NEC OKI Samsung		
PAL16L8D-4	AMD Lattice	GM6375 PEEL18CV8 PALC16L8Q-25 MMI Samsung	(2713) (4257) (3031)	PAL16R6B	TI AMD Lattice	TIBPAL16R6A-2 AMPAL16R6B GAL16V8-15L (4259)	(3031)		MMI	PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL18L4 CPL20L8-35 (3031)			Sharp Signetics Sony TI	LH5262 100165 CXK5464AP TIBPAL20L8 TIBPAL20L8-20 (3283)	
	SGS-Thomson			PAL16R6B2	National	F16R6B PAL16R6B GAL16V8-25L (4259)			National Samsung	CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL18L4 TIBPAL22V10 (3304)		PAL20L8A	VLSI Tech AMD Lattice	VT64KS4 AMPAL20L8A GAL20V8-25L (4260)	
PAL16R4	AMD Cypress	MK5375 AMPAL16R4 CYPALC16R4 CYPAL16R4 GM231024 HPL16R4 PEEL18CV8 PALC16R4Q-25 PAL16R4D-4 PAL16R4 CPL16R4L-25 (3031)		PAL16R6D	Samsung	CPL16R6-25 (3031)		PAL18P8	TI	TIBPAL22V10A (3283, 3304)			MMI National Samsung	PAL20L8B-2 PAL20L8A CPL20L8-25 (3031)	
	GoldStar Harris ICT MMI			PAL16R6D-4	AMD Lattice	AMPAL16R6D GAL16V8A-10L (4259)		PAL20C1	AMD ICT	AMPAL18P8 PEEL18CV8 AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL20C1 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL22V10 (3304)			TI	TIBPAL20L8-25 (3303)	
PAL16R4A	National Samsung				MMI Samsung	PALC16R6Q-25 CPL16R6L-25 (3031)			Cypress			PAL20L8A-2	Lattice	TIBPAL20L8A GAL20V8-25L (4260)	
	Toshiba AMD Lattice	TC53100 AMPAL16R4A GAL16V8-25L (4259)		PAL16R6Q-25	Cypress GoldStar Samsung	PALC46R6 GM76C256 CPL16R6L-35 (3031)	(2696)		MMI				Samsung	CPL20L8-35 (3031)	
	National			PAL16R8	AMD Cypress	AMPAL16R8 CYPALC16R8 CYPAL16R8 HPL16RC8 HPL16RC8-5 (2745)	(2745)		National Samsung			PAL20L8B	TI AMD Lattice	TIBPAL20L8A-2 AMPAL20L8B GAL20V8-15L (4260)	
	Samsung				Harris				TI	TIBPAL22V10 (3304)		PAL20L8B-2	AMD Lattice	AMPAL20L8A GAL20V8-25L (4260)	
PAL16R4A-2	TI ICT Lattice	TIBPAL16R4A PEEL18CV8 GAL16V8-25L (4257) (4259)			ICT Lattice	PEEL18CV8 GAL16V8 GAL16V8-25L (4257) (4259)		PAL20L10	AMD Cypress Gould/AMI ICT	AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10 (4257)			MMI National Samsung	PAL20L8A PAL20L8A CPL20L8-25 (3031)	
	Samsung				National Samsung	PAL16R8 CPL16R8-35 (3031)			MMI	TIBPAL22V10A (3283, 3304)			TI	CPL20L8-35 (3031)	
PAL16R4B	TI AMD Lattice	TIBPAL16R4A-2 AMPAL16R4B GAL16V8-15L (4259)			TI	CPL16R8L-35 (3031)			MMI National			PAL20R10	Cypress National	TIBPAL20L8A PLDC20R10 PAL20R10 CYPALC20G10 PEEL20CG10 PEEL20CG10 (4257)	
PAL16R4D	National	F16R4B PAL16R4B AMPAL16R4D GAL16V8A-10L (4259)		PAL16R8A	AMD Lattice	SN74PAL16R8A TIBPAL16R8-20 TIBPAL16R8-30 AMPAL16R8A GAL16V8-25L (4259)			Samsung	PAL12L10 PAL12L10 PAL20L10 CPL20L10-35 (3031)		PAL20R4	Cypress Gould/AMI ICT	CYPALC20G10 PEEL20CG10 (4257)	
PAL16R4D-4	AMD Cypress	AMPAL16R4 CYPALC16R4 CYPAL16R4 GM231024 HPL16R4 PEEL18CV8 PALC16R4Q-25 PAL16R4 CPL16R4L-25 (3031)			National	PAL16R8A 16RP8A 16RP8B2 16R8A CPL16R8-25 (3031)		PAL20L10A	Signetics TI	PEEL173 TIBPAL12L10 TIBPAL20L10 TIBPAL20L10A-2 AMPAL20L10AL CPL20L10-25 (3031)			National TI	F100179 TIBPAL20R4 TIBPAL20R4-20 (3283)	
	GoldStar Harris ICT MMI				Samsung				MMI			PAL20R4A	AMD Lattice	AMPAL20R4A GAL20V8-25L (4260)	
	National			PAL16R8A-2	TI ICT Lattice	TIBPAL16R8A PEEL18CV8 GAL16V8-25L (4257) (4259)		PAL20L2	TI AMD	TIBPAL20L10-30 AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PEEL20CG10 PEEL20CG10 (4257)			MMI National TI	PAL20R4B-2 PAL20R4A TIBPAL20R4-25 (3303)	
PAL16R6	Toshiba AMD Cypress Harris	TC53100 AMPAL16R6 CYPAL16R6 HPL16RC6 HPL16RC6-5 (2745) (2745)			National Samsung	PAL16R8C CPL16R8-35 (3031)			Cypress			PAL20R4A-2	Lattice	TIBPAL20R4A GAL20V8-25L (4260)	
	ICT Lattice	HPL16R6 PEEL18CV8 GAL16V8 GAL16V8-25L (4257) (4259)		PAL16R8B	TI AMD Lattice	TIBPAL16R8A-2 AMPAL16R8B GAL16V8-15L (4259)	(4259)		Gould/AMI ICT	PEEL20CG10 PEEL20CG10 (4257)			Samsung	CPL20R4-35 (3031)	
	National Samsung				National	F16R8B PAL16R8B GAL16V8-25L (4259)			Lattice	GAL20V8-25L (4260)		PAL20R4B	TI AMD Lattice	TIBPAL20R4A-2 AMPAL20R4B GAL20V8-15L (4260)	
	TI			PAL16R8B2	Samsung	CPL16R8-25 (3031)			MMI			PAL20R4B-2	AMD Lattice	AMPAL20R4A GAL20V8-25L (4260)	
	National			PAL16R8D	AMD Lattice	AMPAL16R8D GAL16V8A-10L (4259)			National Samsung				MMI National TI	PAL20R4A PAL20R4A TIBPAL20R4-25 (3303)	
PAL16R6A	AMD Lattice	TIBPAL16R6 TIBPAL16R6-20 TIBPAL16R6-30 AMPAL16R6A GAL16V8-25L (4259)	(3031) (3031)	PAL16R8D-4	GoldStar ICT MMI Samsung	GM6376 PEEL18CV8 PALC16R8Q-25 CPL16R8L-25 (4257) (3031)		PAL20L8	Cypress Fujitsu Gould/AMI Hitachi Hyundai ICT	CYPALC20G10 MB81C88 PEEL20CG10 HM7688HP HY62C88 PEEL20CG10 (4257)		PAL20R6	Cypress Gould/AMI ICT	TIBPAL20R4A CYPALC20G10 PEEL20CG10 (4257)	
	National				SGS-Thomson	MK5376 PAL16X4 AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 (Continued)					(Continued)		National	F100170 PAL20R6 100170 TIBPAL20R6 TIBPAL20R6-20 (3283) (Continued)	

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Monolithic Memories (Cont'd)															
PAL20R6A	AMD Lattice	AMPAL20R6A GAL20V8-25L (4260)			TI	TIBPAL20X4-25 (3283)	(Cont'd)	• SN54LS241	Motorola National	SN54LS241 (2939) 54LS241	• SN74S182	Signetics TI	74S182 SN74S182	(3057)	
	National Samsung	PAL20R6A CPL20R6-25 (3031)				TIBPAL22V10 (3304)		• SN54LS244	SGS-Thomson	T54LS241 SN54LS241	• SN74S373	Signetics TI	74S373 SN74S373	(3057)	
	TI	TIBPAL20R6-25 (3303)			AMD	AMPAL22V10 AMPAL22V10A CYPALC22V10		• SN54LS245	SGS-Thomson	T54LS244 SN54LS244	• SN74S374	Signetics TI	74S374 SN74S374	(3057)	
PAL20R6A-2	Lattice	TIBPAL20R6A GAL20V8-25L (4260)			Cypress	CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25		• SN54LS245	Motorola National	SN54LS244 (2939) 54LS245		AMD	SN74S374 AM25S557		
	Samsung	CPL20R6-35 (3031)			MMI	PALC22V10L-35 PALC22V10		• SN54LS245	SGS-Thomson	DM54LS245 54LS245		LogicDev MMI	LMU557 SN54557		
PAL20R6B	TI AMD Lattice	TIBPAL20R6A-2 AMPAL20R6B GAL20V8-15L (4260)				PALC22V10H-25 PALC22V10H-35 PAL20X8		• SN54LS273	Motorola National	SN54LS273 (2942) 54LS273		Waferscale LogicDev	W559520 L29C521		
PAL20R8	Cypress Gould/AMI ICT	CYPLDC20G10 PEEL20CG10 PEEL20CG10 (4257)			National Samsung	CPL22V10H-35 CPL22V10H-25 CPL22V10L-35 TIBPAL20X8-25 (3283)		• SN54LS377	SGS-Thomson	T54LS273 54LS273		Waferscale AMD	W559521 AM27S85		
	National	F100166 PAL20R8			TI	CPL22V10-25 CPL22V10-35 CPL22V10L-25 TIBPAL20X8-25 (3283)		• SN54LS377	SGS-Thomson	T54LS273 54LS273		MMI	63DA1643 63D1641		
	Samsung	CPL20R8-35 (3031)				TIBPAL22V10 (3304)		• SN54LS377	SGS-Thomson	54LS377 SN54LS377		Cypress Fujitsu	CY7C245 MB7238	(2585)	
	TI	TIBPAL20R8 TIBPAL20R8-20 (3283)				TIBPAL22V10A (3283, 3304)		• SN54LS645	Motorola TI	SN54LS377 SN54LS645		MMI	MB7238RA PLE11RA8		
PAL20R8A	AMD Lattice	AMPAL20R8A GAL20V8-25L (4260)			AMD	AM27S45 AM27S45A AM27S47		SN54S240 SN54S241 SN54S244	Motorola TI	SN54LS645 (2940) SN54LS240			PLE11RS8 53RA1681AS		
	MMI National Samsung	PAL20R8B-2 PAL20R8A CPL20R8-25 (3031)			Cypress Fujitsu	CY7C245 MB7238 MB7238RA		SN54S244	SGS-Thomson	54S244 SN54S244			53RS1681 53RS1681S		
	TI	TIBPAL20R8-25 (3303)			MMI	MB7238 MB7238RA PLE11RS8		• SN54S57	AMD	AM25S557 LMU557			63RA1681 63RA1681AS		
PAL20R8A-2	Lattice	TIBPAL20R8A GAL20V8-25L (4260)				53RA1681AS 53RS1681 53RS1681S 63RA1681		• SN54S58	AMD	AM25S557 AM25S558		Signetics	63RS1681 63RS1681AS		
	Samsung	CPL20R8-35 (3031)				63RS1681AS 63RS1681AS 63RS1681S		• SN74LS240	LogicDev MMI	SN74S557 LMU558			63RS1681S 63RS1681S		
PAL20R8B	TI AMD Lattice	TIBPAL20R8A-2 AMPAL20R8B GAL20V8-15L (4260)			Signetics	N82HS187 N82HS197 N82HS199	(3232)	• SN54S58	LogicDev MMI	AM25S557 SN74S558			N82HS187 N82HS199		
PAL20R8B-2	AMD Lattice	AMPAL20R8A GAL20V8-25L (4260)				S82HS187 WS7C45 AM27S45		• SN74LS241	Hitachi Motorola	74S558 HD74LS240 SN74LS240 (2939)		Waferscale AMD	WS7C45 AM27S45		
	MMI National Samsung	PAL20R8A PAL20R8A CPL20R8-25 (3031)			Waferscale AMD	AM27S45A AM27S47 CY7C245 MB7238	(2585)	• SN74LS241	National	74LS241 DN74LS241		Cypress Fujitsu	AM27S45A AM27S47	(2585)	
	TI	TIBPAL20R8-25 (3303)				MB7238RA PLE11RA8 53RA1681		• SN74LS241	SGS-Thomson	T74LS241 74LS241		MMI	CY7C245 MB7238		
PAL20X10	AMD	TIBPAL20R8A AMPAL22V10 AMPAL22V10A				53RA1681AS 53RS1681		• SN74LS244	Hitachi Motorola	74LS240 (3057) SN74LS240		Signetics	WS7C45 AM27S45		
	Cypress	CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35				63RA1681 53RS1681S 63RA1681AS 63RS1681		• SN74LS273	National	74LS241 74LS244			63RS1681AS 63RS1681S		
	MMI	PALC22V10H-25 PALC22V10H-35 PAL20X10 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL20X10-25 (3283)			Signetics	N82HS187 N82HS197 N82HS199 S82HS187 WS7C45 AM21L49 AM27S25 AM27S25A CY21L49	(3232)	• SN74LS273	SGS-Thomson	T74LS244 74LS244 SN74LS244		Waferscale AMD	WS7C45 AM21L49 AM27S25 AM27S25A		
	National Samsung					63RS1681AS 63RS1681S 63RS1681S		• SN74LS273	Motorola National	SN74LS273 (2942) 74LS273		Cypress	AM27S255A CY21L49	(2585)	
	TI	TIBPAL22V10 (3304)				N82HS197 N82HS199 S82HS187 WS7C45 AM21L49 AM27S25 AM27S25A CY21L49		• SN74LS373	SGS-Thomson	T74LS273 74LS273 SN74LS273		MMI	PLE9R8 53RA481AS 53RA481S		
PAL20X4	AMD	AMPAL22V10 AMPAL22V10A CYPALC22V10			Waferscale AMD	DM77SR25 DM77SR25B DM77SR476B DM87SR25 DM87SR476		• SN74LS374	Motorola National	SN74LS373 (2941) 74LS373 DN74LS373		Motorola National	63RA481 63RA481AS 63RA481S MCM27S25 DM77SR25		
	Cypress	CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35			Cypress	DM77SR25 DM77SR25B DM77SR476 DM87SR25 DM87SR476	(2585)	• SN74LS374	SGS-Thomson	74LS373 74LS373 SN74LS373			DM77SR25B DM77SR476 DM77SR476B DM87SR25 DM87SR25B		
	MMI	PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL20X4 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35			Motorola National	DM87SR25 DM87SR25B DM87SR474 DM87SR476 DM87SR476B		• SN74LS377	SGS-Thomson	T74LS374 74LS374 SN74LS374		AMD	DM87SR476B AM21L49 AM27S25 AM27S25A AM27S255A		
	National Samsung					DM87SR25B DM87SR474 DM87SR476 DM87SR476B		• SN74S182	SGS-Thomson	T74LS377 74LS377 SN74LS377		Cypress	CY7C225 PLE9R8	(2585)	
												MMI	PLE9R8 53RA481 53RA481S		
						</									

◆ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Monolithic Memories (Cont'd)				53S081	Motorola	MCM27S19	(Cont'd)	5331-1	Fujitsu	MB7112		63RA1681	Cypress	CY7C245	(Cont'd)
53RA481AS	MMI		(Cont'd)		National	DM74S288		5331-1	Motorola	53S081			Fujitsu	MB7238	(2585)
		63RA481			Signetics	DM8578			National	MCM27S19			MMI	MB7238RA	
	Motorola	63RA481AS				N82S123				DM74S288				PLE11RA8	
	National	63RA481S				N82US123				DM8578				PLE11RS8	
		MCM27S25				S82S123				N82S123				53RA1681	
		DM77SR25		53S140	AMD	82S123				N82US123				53RA1681AS	
		DM77SR25B			MMI	AM27S20				S82S123				53RS1681	
		DM77SR476			National	63S140				82S123				53RS1681S	
		DM77SR476B			Signetics	DM54S387				DM54S475				63RA1681AS	
		DM87SR25				N82S126				DM77S295				63RS1681	
		DM87SR25B				S82S126				DM87S295				63RS1681AS	
		DM87SR474				DM54S287				DM54S474				63RS1681S	
		DM87SR476		53S141	National	AM27S41				MB7123				N82HS187	(3232)
		DM87SR476B		53S1641	AMD	AM27S41A				DM54S473				N82HS197	
						27S41				27S29				N82HS199	
		AM21L49			Fujitsu	MB7152				MP157				S82HS187	
		AM27S25			MMI	63S1641				LF157A				WS57C45	
		AM27S25A				63S1641A				LF351				AM27S45	
		AM27S255A				DM77S195				LF353				AM27S45A	
	Cypress	CY21L49			National	DM87S195				PC157				AM27S47	
		CY7C225	(2585)			N82HS195				OP15				CY7C245	(2585)
	MMI	PLE9R8				N82HS195A				PM157				MB7238	
		53RA481				82HS195				PM157A				MB7238RA	
		53RA481AS				TBP34S162				29621				PLE11RA8	
		63RA481				AM27S191				PLS157	(3209, 3213)			PLE11RS8	
		63RA481AS				AM27S191SA								53RA1681	
		63RA481S				27S191								53RA1681AS	
	Motorola	MCM27S25		53S1681		CY7C291	(2585)			TI	LF351			53RS1681	
	National	DM77SR25			Cypress	CY7C292	(2585)				LF353			53RS1681S	
		DM77SR25B				CY7C292A	(2585)				AM27S32			63RA1681	
		DM77SR476				CY7C292AL	(2585)				DM54S572			63RS1681	
		DM77SR476B				HN25169					93452			63RS1681AS	
		DM87SR25				82S191					AM27S33			63RS1681S	
		DM87SR25B				MCM76101					MB7122			N82HS187	(3232)
		DM87SR474				MCM76160					63S441			N82HS197	
		DM87SR476				DM77S191					DM74S573			N82HS199	
		DM87SR476B				DM87S191					AM27S181			S82HS187	
53RS1681	AMD	AM27S45				DM87S291					CY7C282M	(2585)			
		AM27S45A				DM87S291A					Gould/AMI			WS57C45	
		AM27S47				DM87S291B					S25089			AM21L49	
	Cypress	CY7C245	(2585)			93Z510					HN25089			AM27S25	
	Fujitsu	MB7238				93Z511					63S881			AM27S25A	
		MB7238RA				93Z512					DM77LS181			AM27S255A	
		PLE11RA8				93Z511					DM77S181			CY21L49	
		PLE11RS8				93Z512					DM77S281			CY7C225	(2585)
		53RA1681				93Z511					DM87S181			MMI	
		53RA1681AS				N82S191					DM87S281			PLE9R8	
		53RS1681S				N82S191A					93Z451			53RA481	
		63RA1681				82S191					93Z451			53RA481AS	
		63RA1681AS				TBP38L166					29631			63RA481S	
		63RS1681				TMS27C291					29631AM			63RA481AS	
		63RS1681AS				W557C191	(3390)				29632			63RA481S	
		63RS1681S				W557C291	(3390)				N82S181			MCM27S25	
	Signetics	N82HS187	(3232)			DM54S571					S82S181			DM77SR25	
		N82HS197				DM54S571					28586-60			DM77SR25B	
		N82HS199				AM27PS43					DM77S185			DM77SR476	
		S82HS187				AM27S43					29651AM			DM77SR476B	
		WS57C45				AM27S43A					29651AM			DM87SR25	
	WaferScale	WS57C45				27S43					CY7C401	(2587)		DM87SR25B	
	AMD	AM27S45				MB7142					IDT			DM87SR474	
		AM27S45A				27C321	(2875)				MMI			DM87SR476	
		AM27S47				63S3281					C57L401			DM87SR476B	
	Cypress	CY7C245	(2585)			DM77S321					C67401				
	Fujitsu	MB7238				DM87S321					67C401				
		MB7238RA				R29671D					DM77S401				
		PLE11RA8				29671					74F413				
		PLE11RS8				29671A					SN74ALS236	(3300)			
		53RA1681				N82H321									
		53RA1681AS				W557C43	(3390)								
		53RS1681				W557C43B	(3390)								
		63RA1681				W557C43D	(3390)								
		63RA1681AS				3632-1									
		63RS1681				82HS321									
		63RS1681AS				MCM7643M									
		63RS1681S				DM54S573									
	Signetics	N82HS187	(3232)			DM54S573A									
		N82HS197				AM27S20									
		N82HS199				63S140									
		S82HS187				DM54S387									
		WS57C45				N82S126									
	WaferScale	AM27S35				S82S126									
	AMD	AM27S37				53S141									
		CY7C235	(2585)			DM54S287									
	Cypress	63RS881				DM54S570									
	MMI	MCM27S35				53S241									
		DM87SR181				DM54S571									
	Motorola	N82HS189	(3233)			DM54S470									
	National	S82HS189				AM27LS18									
	Signetics	AM27LS19				DM54S188									
53S081	AMD	AM27S19				DM7577									
		AM27S19				AM27LS19									
		27S19				AM27S19									
	Fujitsu	MB7112				27S19									
	MMI	63S081													
			(Continued)				(Continued)				(Continued)				(Continued)

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Monolithic Memories (Cont'd)				63RS881		(Cont'd)		63S1681A		(Cont'd)		6305-1	Fujitsu	MB7115	
63RA481S	MMI	(Cont'd)		National	DM87SR181			Raytheon	29683A			MMI	63S240		
		53RA481S		Signetics	N82HS189 (3233)			TI	TBP38A166			National	DM74S570		
		63RA481			S82HS189				TBP38S166			Signetics	N82S130		
	Motorola	63RA481AS		63S080	Signetics	N82S23		Waferscale	WS57C191 (3390)				S82S130		
	National	MCM27S25			N82US123				WS57C291 (3390)			63081	AMD	AM27LS19	
		DM77SR25			S82S23			63S240	Fujitsu	MB7115				AM27S19	
		DM77SR25B			TBPSA030			National	DM74S570			63081	Fujitsu	27S19	
		DM77SR476		63S081	AMD	AM27LS19		Signetics	N82S130				MMI	MB7112	
		DM77SR476B			AM27S19				S82S130					53S081	
		DM87SR25			27S19			63S241	AMD	AM27S13				63S081	
		DM87SR25B			MB7112				GE/Intersil	ICL7621 (2673, 2675)		63081	Motorola	MCM27S19	
		DM87SR474			53S081				Maxim	ICL7621			National	DM74S288	
		DM87SR476			MCM27S19				MicroPwr	MP7621				DM8578	
		DM87SR476B			DM74S288				National	DM74S571A			Signetics	N82US123	
63RA881	AMD	AM27S35			DM8578				Signetics	N82S131				S82S123	
		AM27S37			N82S123					S82S131			6330	IMI	IMI6330
63RA881	Cypress	CY7C235 (2585)			N82US123			63S281	MMI	63S281A				SLA6330	
	MMI				82S123				Signetics	N82S135			6331-1	AMD	AM27LS19
		53RS881		63S140	AMD	AM27S20		63S281A	MMI	63S281				27S19	
	Motorola	MCM27S35			National	DM54S387			Signetics	N82S135			6331-1	Fujitsu	MB7112
	National	DM87SR181			Signetics	N82S126		63S3281	AMD	AM27PS43				53S081	
	Signetics	N82HS189 (3233)				S82S126				AM27S43				63S081	
		S82HS189		63S141	AMD	AM27S21				AM27S43A			6331-1	Motorola	MCM27S19
63RS1681	AMD	AM27S45			27S21					27S43				National	DM74S288
		AM27S45A			MB7114				Fujitsu	MB7142			6331-1		DM8578
		AM27S47			63S141A				ICT	27C321 (2875)				Signetics	N82S123
	Cypress	CY7C245 (2585)			DM74S287				MMI	53S3281			6331-1		N82US123
	Fujitsu	MB7238			N82S129				National	DM77S321					S82S123
		MB7238A			S82S129					DM87S321					82S123
	MMI	PLE11RA8		63S141A	AMD	AM27S21			Raytheon	R29671D			6340-1	AMD	AM27S30
		PLE11RS8			27S21					29671				National	DM74S475
		53RA1681			MB7114				Signetics	29671A					DM77S475
		53RA1681AS			63S141					N82H321			6349-1	AMD	DM87S475
		53RS1681			DM74S287				Waferscale	WS57C43 (3390)					27S29
		63RA1681			N82S129A					WS57C43B (3390)			6349-1	MicroPwr	MP157
		63RA1681AS			S82S129					WS57C43D (3390)				National	LF157A
		63RS1681AS			S82S129			63S441	AMD	AM27S33					LF351
		63RS1681S			AM27S41				Fujitsu	MB7122			6349-1		LF353
	Signetics	N82HS187 (3232)			AM27S41A				National	DM74S573				NEC	μPC157
		N82HS197			27S41				AMD	AM27S29				PMI	OP15
		N82HS199			MB7152				Fujitsu	MB7124					PM157
		S82HS187			53S1641				National	DM74S472			6349-1	Raytheon	PM157A
	Waferscale	WS57C45			63S1641A				Raytheon	29623				Signetics	PLS157 (3209, 3213)
63RS1681AS	AMD	AM27S45			DM77S195				Signetics	N82S147					
		AM27S45A			DM87S195					N82S147A					
		AM27S47			N82HS195					S82S147					
	Cypress	CY7C245 (2585)			N82HS195A			63S485	AMD	AM27S31			6349-2	TI	LF351
	Fujitsu	MB7238			82HS195				GE/Intersil	ICL7641 (2673, 2675)					LF353
		MB7238A			TBP34S162					HM6642 (2752)			6349-2	AMD	AM27S29
	MMI	PLE11RA8		63S1641A	AMD	AM27S41				ICL7641				Fujitsu	MB7124
		PLE11RS8			AM27S41A				Maxim	DM74S474				MMI	63S481
		53RA1681			27S41				National	N82S141				National	DM74S472
		53RA1681AS			MB7152				Signetics	S82S141				Raytheon	29623
		53RS1681			53S1641					N82S147				Signetics	N82S147
		53RS1681S			63S1641			63S841	AMD	AM27S185					N82S147A
		63RA1681			DM77S195					27S185			6352	AMD	AM27S32
		63RA1681AS			DM87S195				Fujitsu	MB7128				National	DM54S572
		63RS1681			N82HS195				Hitachi	HN25085					93452
		63RS1681S			N82HS195A				National	DM87S185			635481	AMD	AM27S29
	Signetics	N82HS187 (3232)			82HS195					29651				Fujitsu	MB7124
		N82HS197			TBP34S162				Signetics	29651A				MMI	63S481
		N82HS199		63S1681	AMD	AM27S191				N82S185				National	DM74S472
		S82HS187			AM27S291					S82S185				Raytheon	29623
	Waferscale	WS57C45			AM27S291A				TI	24S81-55					N82S147
63RS1681S	AMD	AM27S45			AM27S291SA				AMD	AM27S181					N82S147A
		AM27S45A			CY7C291 (2585)				Cypress	CY7C282M (2585)			6380-1	AMD	S82S147
		AM27S47			MB7138					S25089				National	DM87S180
	Cypress	CY7C245 (2585)			MB7138E				Gould/AMI	HN25089					DM87S180
	Fujitsu	MB7238			63S1681A				National	DM77LS181					DM87S229
		MB7238A			MCM76					DM77S181			6381	AMD	AM27S181
	MMI	PLE11RA8			DM878291					DM77S281				Cypress	CY7C282M (2585)
		PLE11RS8			932511					DM87S181					S25089
		53RA1681			29683A					DM87S281				Hitachi	HN25089
		53RA1681AS			TBP38A166					932451				MMI	63S881
		53RS1681			TBP38S166				Raytheon	29631				National	DM77LS181
		53RS1681S			Waferscale	WS57C191 (3390)				29631AM					DM77S181
		63RA1681			WS57C291 (3390)					29632					DM77S281
		63RA1681AS			AM27S191					N82S181					DM87S181
		63RS1681			AM27S291				Signetics	S82S181					DM87S281
		63RS1681AS			AM27S291A					28S86-60					932451
	Signetics	N82HS187 (3232)			AM27S291SA			6301-1	TI	AM27S21					932451
		N82HS197			CY7C291 (2585)				AMD	27S21			6381	Raytheon	29631
		N82HS199			MB7138					MB7114					29631AM
		S82HS187			MB7138E			6301-1	Fujitsu	63S141					29632
	Waferscale	WS57C45			MB7138H				MMI	63S141A			6381	Signetics	N82S181
63RS881	AMD	AM27S35			63S1681					DM74S287					S82S181
		AM27S37			MCM76				National	N82S129A					28S86-60
	Cypress	CY7C235 (2585)			DM878291				Signetics	S82S129			6381-1	TI	AM27S181
	MMI	53RS881			932511					S82S129				AMD	CY7C282M (2585)
	Motorola	MCM27S35			(Continued)					(Continued)				Cypress	(Continued)

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Monolithic Memories (Cont'd)				67L4501 IDT (Cont'd)				Mosaid				MS62256 (Cont'd)			
• 6381-1	Gould/AMI Hitachi MMI National	S25089 HN25089 63S881 DM77LS181 DM77S181 DM77S281 DM87S181 DM87S281 93Z451 93Z451	(Cont'd)	67L4502	Mosel Samsung Saratoga SGS-Thomson	IDT7201LA IDT7201SA MS7201 KM75C01A SSL7201 MK4501 SG4501 UC4501 UM4501 67C4502 CY7C414 CY7C424 DS2010 IDT7202 IDT7202A IDT7202LA IDT7202SA MV61901 SSL7202 74ACT7202 CY7C402 (2587) DM87S402 IDT72413 MMI 57413 67C4033 WTL1065 WTL1265	(Cont'd)	MS1256CS	Dense-Pac IDT	DPS8256 (2606) IDT7MC156		MS62256	Sony	CXK58255 CXK58256 TC55257 TC55257A TC55328 V62C256	(Cont'd)
• 6381-1	Raytheon	29631 29631AM 29632 N82S181 S82S181 28586-60 AM27S185 27S185		67402	Cypress	67C4033 WTL1065 WTL1265		MS6130	Cypress IDT	CY7C130 (2580) IDT7130 (2840)		MS6264	Vitellic Cypress	CY7C185 (2580) CY7C186 (2580)	
• 6381-1	Signetics	DM87S181 S82S181 28586-60 AM27S185 27S185		67413	National	DM87S402 IDT72413 MMI 57413 67C4033 WTL1065 WTL1265		MS6168	AMD	AM2169 AM99CL68 AM99C58 CY7C168 (2580) CY7C169 (2580)			Dense-Pac Exar Fujitsu	DPS88H08 XR8464 (2620) MB8B464 MB81C78A MB8464 MB8464A CDM6264 (2644, 2653)	
• 6381-1	TI	28586-60 AM27S185 27S185		679502	Plessey Saratoga TI	74ACT7202 CY7C402 (2587) DM87S402 IDT72413 MMI 57413 67C4033 WTL1065 WTL1265			Cypress	MB81C68 MB81C68A HM6168HP HM6268 HM6268L HY61C68 IMS1421C IDT6120 IDT6168 (2836) IDT6168A (2836) IDT6168L (2836) IDT6168LA (2836) IDT6168S (2836) IDT6168SA (2836) IDT6169			GE/RCA	GM76C88 (2696, 2703)	
• 6389	AMD	AM27S185 27S185		• 74LS645-1	Motorola	SN74LS645 (2940)			Hyundai Immos IDT	HY61C68 IMS1421C IDT6120 IDT6168 (2836) IDT6168A (2836) IDT6168L (2836) IDT6168LA (2836) IDT6168S (2836) IDT6168SA (2836) IDT6169			GoldStar	GM76C88 (2696, 2703)	
• 6389	Fujitsu Hitachi MMI National Raytheon	MB7128 HN25085 63S841 DM87S185 29651 29651A N82S185 S82S185 24S81-55 AM27S185 27S185		• 74LS645-1	SGS-Thomson	T74LS645 SN74LS645-1 74LS645 (3057)			Matra-Harris	HM65682 HM65768 MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			Harris Hitachi	HM65642 (2747) HM6264 HM6464 MB6264 HY6264 (2778) IMS1630 (2796) IDT7165 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877)	
• 6389-1	AMD	27S185		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			MicronTech	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	Fujitsu Hitachi MMI National Raytheon	MB7128 HN25085 63S841 DM87S185 29651 29651A N82S185 S82S185 24S81-55 AM27S185 27S185		• 74LS645-1	SGS-Thomson	T74LS645 SN74LS645-1 74LS645 (3057)			Mitsubishi Motorola	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	Signetics	DM87S185 29651 29651A N82S185 S82S185 24S81-55 AM27S185 27S185		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			NEC	• PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	TI	24S81-55 AM27S185 27S185		• 74LS645-1	SGS-Thomson	T74LS645 SN74LS645-1 74LS645 (3057)			Performance	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	Cypress	CY7C401 (2587)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			Ricoh Saratoga SGS-Thomson	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	IDT	IDT72401 C57L401 C57401 C67401 57401 DM77S401 74F413 SN74ALS236 (3300)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			Sony TI	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	MMI	C57L401 C57401 C67401 57401 DM77S401 74F413 SN74ALS236 (3300)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			Toshiba	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	Cypress	CY7C403 (2587)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			UMC Vitellic VLSI Tech	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	IDT	IDT72403 67L4013D CY7C402 (2587)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			UMC Vitellic VLSI Tech	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	MMI	IDT72402 IDT72402 C57L402 C57402 C57402A C67402 C67402A 57402 DM77S402 DM77S402A DM87S402A		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			UMC Vitellic VLSI Tech	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	Cypress	CY7C404 (2587)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			UMC Vitellic VLSI Tech	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	IDT	IDT72404 IDT72413 57413 67413 WTL1065 WTL1265 IDT721264 WTL1064 WTL1264 IDT7216 L64015 29516/7 29516A/7 ADSP1016/7A (2436)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			UMC Vitellic VLSI Tech	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	MMI	IDT72404 IDT72413 57413 67413 WTL1065 WTL1265 IDT721264 WTL1064 WTL1264 IDT7216 L64015 29516/7 29516A/7 ADSP1016/7A (2436)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			UMC Vitellic VLSI Tech	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	Cypress	CY7C403 (2587)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082 MSM82C82 KS82C52 CP82C83H 82C83 8283 • PD71083 MSM82C83 DP8304 MBL8286 (2635) CP82C86H 82C86 8286 DP8304 • PB8286 • PD71086 MSM82C86 8287 CP82C87H 82C87 8287 • PD8287 • PS71087 MSM82C87 AMPAL16L8A GAL16V8-25L (4259) PAL16L8A PAL16L8A 16P8B2 TIBPAL16L8-30 TIBPAL16L8A			UMC Vitellic VLSI Tech	MT5C1604 MT5C1605 MT5C1608 M5M21C68P MCM6168 MCM6269 • PD4314 • PD4314C P4C168 P4C169 PS6168 SSM6168			GoldStar	GM76C88 (2696, 2703)	
• 6389-1	IDT	IDT72404 IDT72413 57413 67413 WTL1065 WTL1265 IDT721264 WTL1064 WTL1264 IDT7216 L64015 29516/7 29516A/7 ADSP1016/7A (2436)		• 74LS645-1	TI	SN74LS645 SN74LS645-1 SN74S225 HMMU17 LMU18 SN74S557 AM25S557 AM25S558 LMU558 SN74S558 MC75401 • A75461 DS75461 SG75461 SN75461 CA82C52 MBL8282 (2635) 82C52 (2739) 82C82 8282 • PB8282 • PD71082									

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Mosel (Cont'd)				HCA6306	National	SCX6306		LM108A		(Cont'd)		LM140-15	IPS	IP140-15	
				HCA6312	National	SCX6312			PMI	PM108A			National	LM140-15	
				HCA6324	National	SCX6324		LM109	TI	LM108A			SiliconG	SG140-15	
						SCX6325			IPS	IP140-5			Unitrode	UC140-15	
				HCA6348	National	SCX6348			National	μA109		LM140-18	National	LM140-18	
				LF255	MicroPwr	MP255				LM109		LM140-18	SiliconG	SG140-18	
					National	LF255			SGS-Thomson	SFC2109		LM140-24	National	LM140-24	
					PMI	PM155				LM109			SiliconG	SG140-24	
						PM255				SG109			Toshiba	TA79005	
				LF255	SGS-Thomson	LM255		LM11	SiliconG	SG109		LM148	Exar	XR4741	(2619)
				LF256	National	LF256			LinearTech	LM11			Harris	HA4741	
					SGS-Thomson	LM256		LM111	National	LM11	(2470)		LinearTech	LT1014	
						μA2556			AD	AD111			MicroPwr	MPOP11	
				LF355	Solitron	LF355			LinearTech	LM111			Motorola	LM248	(2956)
					LinearTech	LF355			National	LM111				MC33174	(2957, 2990)
					National	OP15			PMI	PM111	(3025)			MC4741	(2956, 2990)
					PMI	OP43			Raytheon	LM111			National	μA148	
						PM355			SGS-Thomson	LM111				μA248	
					SGS-Thomson	LF355				LM111				LM148	
				LF355A	LinearTech	LF355A		LM117	SiliconG	SG111			NEC	μPC4741	
					National	LF355A			TI	TL111			PMI	OP11	
					PMI	PM355A			IPS	IP117				OP400	
				LF356	LinearTech	LF356			Lambda	LM117				OP421	
					National	LF356			LinearTech	LM117				OP470	
					NEC	μPC356			MCE	MCELM117				PM148	
					PMI	OP16			National	μA117				PM248	
					SGS-Thomson	PM356			SGS-Thomson	LM117			Raytheon	HA14741	
						LF356				SG117				HA34741	
				LF356A	Burr-Brown	OPA356A	(2540, 2542)	LM117A	SiliconG	SG117		LM150	TI	LM148	(3025)
					LinearTech	LF356A			TI	TL117			IPS	IP150	
					National	LF356A			Unitrode	UC117			Lambda	LM150	
					PMI	OP16		LM123	LinearTech	LT117A			LinearTech	LM150	
				LF357	National	LF357			SiliconG	SG117A				LT150	
					NEC	μPC357			IPS	IP123			National	LM150	
					PMI	OP17			Lambda	LAS1405			SiliconG	SG150	
				LM101	AD	AD101	(2470)		LinearTech	LM123		LM158	Unitrode	UC150	
					GE/Intersil	AD101			Motorola	MC78T05	(2959)		Adv Analog	A158	
					LinearTech	LM101			National	μA123			GE/RCA	CA158A	(2647)
					National	μA101				μA138			LinearTech	LT1013	
					PMI	OP77			SiliconG	SG123			Maxim	MAX158	
					Raytheon	LM101	(3024)	LM124		SG123A			National	LM158A	
					SGS-Thomson	LM101			Plessey	ZN518			PMI	OP200	
						LS101			SiliconG	SG124A			Raytheon	RM4139	
				LM104	SiliconG	SG101		LM124A	SiliconSys	SSI6276	(2647)		Signetics	LM158	
					National	LM104			LinearTech	LT1014		LM185	TI	LT1013	
					SGS-Thomson	LM104			National	μA124			LinearTech	LM185	
						LM104				LM124A			Maxim	ICL8069	
				LM105	SiliconG	SG104			PMI	OP400			MicroPwr	MP5010	
					GE/Intersil	LM105				OP421			National	LM185	
					National	μA105				SG124			TeledyneS	TSC04	
				LM105	SGS-Thomson	LM105		LM137	TI	LM124		LM193		TSC05	
						LM105			IPS	IP137			National	LM193A	
						LM105			LinearTech	LM137			Signetics	LM193	
				LM107	SiliconG	LM105				LT137		LM201	TI	LM193	
						SG105			MCE	MCELM137			GE/RCA	CA748	(2647)
					AD	AD741S	(2427, 2462)		National	LM137			Motorola	MC1748	(2952)
					Burr-Brown	3500			SGS-Thomson	LM137			National	μA201	
					LinearTech	LM107				SG137			PMI	OP06	
					National	LH741A			SiliconG	SG137A				OP77	
						LM107				SG137A				PM1008	
				LM107	PMI	OP02			Unitrode	UC137			SGS-Thomson	LM201	
						OP77			LinearTech	LT138				LM748	
						PM741			Plessey	ZN454				LS148	
				LM107	Raytheon	RC741	(3024)		SiliconG	SG138				SG201	
					SGS-Thomson	LM107			SiliconSys	SSI6280	(2648)			μA748	
						SG107			National	μA139			TI	LM201	
				LM108	SiliconG	SG107				LM139				LM748	
					TI	SN74154			PMI	CMP04				SN72748P	
					AD	AD108	(2470)			PMI39		LM204	National	LM204	
					GE/Intersil	LM108			Raytheon	LM139	(3025)		SGS-Thomson	LM204	
					LinearTech	LM108			Signetics	LM139				LS204	
					MicroPwr	MP108			TI	LM139				SG204	
					National	μA108		LM139A	GE/RCA	CA139A	(2648)			LM205	
						μA208			Motorola	LM3302			National	LM205	
					PMI	OP97			National	LM139A			Plessey	ZN515	
						PM1008			PMI	CMP04			SiliconG	SG205	
						PM108				PM139A			SiliconSys	SSI6284	
					SiliconSys	SSI108			Signetics	LM339				μA209	
					TI	LM208			TI	LM139A				LM209	
				LM108A	AD	AD108A		LM140-12	IPS	IP140-12			Plessey	ZN437	
					LinearTech	LM108A			National	LM140-12			PMI	PM108	
					National	μA108A			SiliconG	SG140-12			SiliconG	SG209	
									Unitrode	UC140-12			SiliconSys	SSI6410	(Continued)

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
LM208A	AD National	AD208A μA208A LM208A OP97 PM208A	(2470)	LM258	PMI SGS-Thomson	OP221 LM258	(Cont'd)	LM301	LinearTech National	LM301 LM301A μA301 μA301A LM301 LM301A μPC301 μPC301A OP77 LM301	(3024)	LM323	IPS Lambda LinearTech	IP123-5 IP323 LAS1405 LM323 LT323 M78H05 μA323 μA78H05 LM323 SH0323 SH323	
LM211	AD National PMI SGS-Thomson	AD211 LM211 PM211	(2470)	LM285	Maxim MicroPwr National Samsung SGS-Thomson	ICL8069 MP5010 LM285 LS285A		LM304	NEC PMI Raytheon SGS-Thomson	LM301 LM301A SG301 μA301 LM301 LM301A TA7506 LM304		LM324	SGS-Thomson SiliconG Exar	LM323 SG323 XR3403 XR3503 MB3614 CA224 CA324	(2619)
LM217	Signetics SiliconG TI IPS MCE National SGS-Thomson	LM211 SG211 LM211 IP217 MCELM217 LM217		LM2900	Hitachi Motorola National Raytheon	HA17301 MC3301 LM2900 LM3301 LM2900 RC3301	(2957)	LM305	SiliconG TI	LM304 LM304 SG304 μA305 LM305		LM3302	Fujitsu GE/RCA	LM324 SG324 XR3403 XR3503 MB3614 CA224 CA324	(2647)
LM223	Unitrode VTC IPS National	UC217 VM217 IP223 μA223 LM223 SH223	(3385)	LM2901	TI Cypress IDT Motorola National	LM2900 CY7C901 IDT39C01 MC3302 μA2901 μA3302 LM2901 LM3302	(2590)	LM306	Plessey SiliconG SiliconSys	ZNREF025 SG305 SSI6505		LM337	Hitachi Motorola	LM324 HA17324 MC33174	(2647)
LM224	SGS-Thomson SiliconG National Plessey PMI	LM223 SG223 μA224 ZN448 OP400 OP421		LM2902	PMI Raytheon	CMF04 PM139 PM339 LM2901 RC3302	(2958)	LM308	GE/RCA GoldStar Hitachi Motorola National NEC TI	CA3065 GL3201 HA1125 LSC1008 LM3064 μPC1382 SN76666	(2658)	LM339	NEC PMI Raytheon	μA324 μA3403 LM224 LM324 μPC3403 OP400 OP421 HA14741 LM248 LM348	(2653, 2658)
LM224A	SiliconG National Plessey PMI	LM223 SG223 μA224 ZN448 OP400 OP421		LM2902	Signetics SiliconG TI	LM2901 MC3302 LM2901 MC3302 SG324A LM2901 LM3302	(2714)	LM309	Burr-Brown GE/Intersil	3500 3501 AD308 LM308 LM308 μA308 LM308 OP97	(2470)	LM340-5	Samsung SGS-Thomson	LM324 MC3403 SG324 CA139A LM139A LM139A CMP04 PM139A	(2648)
LM237	SiliconG SiliconSys TI Plessey SiliconG SiliconSys	SG224 SSI6051 LM224 ZN501 SG224A SSI6070M		LM2902	Toshiba GoldStar Hitachi Motorola	TA75339 GL324 HA17902 MC33174	(2957, 2990)	LM311	National Raytheon AD LinearTech National	PM1008 PM1012 PM308 LM308 AD308A LM308A μA308A LM308A PM308A μA309 LM309 LM309 ZN447 SG309 SSI6050		LM340-12	Signetics SiliconG GE/RCA Motorola	LM324 MC3403 SG324 CA139A LM139A LM139A CMP04 PM139A LM337 LM339 IP337 LM337 LT337 MCELM337 LM337	(2648)
LM239	Unitrode GE/RCA National	UC237 CA239 μA239 μA250 LM239 CMP04 PM139 PM239 LM239	(2648)	LM2902	National NEC PMI Raytheon SGS-Thomson	μA2902 μA324 LM2902 LM324 μPC324 μPC451 OP400 OP421 LM2902		LM317	Plessey SiliconG SiliconSys	LM2903 LM2903 SG309 SSI6050		LM340-12	Signetics TI Unitrode Fujitsu GE/RCA	LM337 SG337 LM337 UC337 MB4204 CA339	(2648, 2653)
LM239A	PMI Raytheon SGS-Thomson	LM239 CA239A LM239A CMP04	(2648)	LM2903	Toshiba AD GE/RCA	TA75902 AD311 CA311	(2470)	LM317	LinearTech Motorola	LM311 LM311 LM311 LM2903	(2958, 2989)	LM340-12	NEC PMI Raytheon SGS-Thomson	μA311 LM2903 LM311 μPC311 PM211 LM311	(2648)
LM248	Exar Harris LinearTech MicroPwr Motorola	XR4741 HA4741 LT1014 MPOP11 LM148 MC33174	(2619)	LM2903	TI Toshiba AD GE/RCA	LM2902 LM2902 LM324 TA75902 AD311 CA311	(2648)	LM317	National NEC PMI Raytheon SGS-Thomson	μA311 LM2903 LM311 μPC311 PM211 LM311		LM340-12	NEC PMI Raytheon SGS-Thomson	μA311 LM2903 LM311 μPC311 PM211 LM311	(2648, 2653)
LM250	NEC PMI	μA148 μA248 LM148 μPC4741 OP11 OP400 OP421 OP470 PM148 PM248 HA14741 HA34741 HA4741 LM148 RM4158 LM148 IP250 LM250 SG250 UC250	(2957)	LM2904	TI Toshiba GE/RCA National SGS-Thomson	LM2903 LM311 LM2903 LM311 SG311 LM2903 LM311 TA75393 TA75393 CA2904 LM2904	(2647)	LM317	Signetics SiliconG TI	LM2903 LM2903 SG311 LM2903 LM311 TA75393 IP317 LLM317 LM317 MCELM317 μA317 LM317 μPC317	(2714)	LM340-12	NEC PMI Raytheon SGS-Thomson	μA311 LM2903 LM311 μPC311 PM211 LM311	(2648, 2653)
LM258	GE/RCA National	CA258A LM258A	(2647)	LM2904	TI Toshiba National Signetics	LM2904 LM2904 TA75358 LM293 LM293 LM293		LM317	NEC SGS-Thomson	LM2903 LM311 LM2903 SG311 LM2903 LM311 TA75393 IP317 LLM317 LM317 MCELM317 μA317 LM317 μPC317		LM340-12	NEC PMI Raytheon SGS-Thomson	μA311 LM2903 LM311 μPC311 PM211 LM311	(2648, 2653)
			(Continued)				(Continued)				(Continued)				(Continued)

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Motorola (Cont'd)				LM385-2.5 (Cont'd)				MCM1423 (Cont'd)				MCM2016 (Cont'd)				
LM340-12			(Cont'd)		National	LM336-2.5			MicronTech	MT5C1604			National	MMC2116		
	NEC	μPC7812			Plessey	LM385-2.5			Mitsubishi	M5M21C68			OKI	MSM2128		
	Samsung	MC7812			TeledyneS	REF25				M5M2168				MSM5126		
	SGS-Thomson				TI	TSC05			Motorola	MCM2168				MSM5128		
		μA7812		LM393	GoldStar	LM385-2.5	(2714)			MCM61L64				MSM5129		
		L7812			Hitachi	GL393			NEC	μPD4134			Performance	P4C116		
	SiliconG	SG340-12			National	HA17393				μPD4314			S-MOS	SMC6116		
		SG7812			NEC	LM393			Performance	P4C188			Saratoga	SSM6116		
		SG7812A				μPC393			S-MOS	SRM2268			SGS-Thomson			
		SG7812AT				μPC393C			SGS-Thomson					ET2128		
	TI	μA7812			Sanyo	LA6393				MK41H68				MK2817		
	Toshiba	TA78012			SGS-Thomson	LM393			STC	STC2168				MK6116		
	Unitrode	UC340-12				LM393			TI	SMJ64C16			Sharp	LH5115		
LM340-15	GoldStar	GL7815	(2714)		Signetics	LM393				SMJ64C64			Signetics	NE5517		
	IPS	IP140-15			Sprague	LM393			Toshiba	TMM2068			Sony	CKX5814P		
		IP340-15		LM3930	TI	LM393			VLSI Tech	CT64KS4			Sprague	UDN6116		
		IP7815			Toshiba	TA75393				VT20C19	(3349)		STC	STC2018		
		IP7815AC			Fujitsu	MB47393				VT20C68	(3343, 3345, 3350)			STC6116		
		IP7815A			Hitachi	HA17393				VT20C69	(3343, 3345, 3350)		TI	SMJ68CE16		
	Lambda	LA51515			NEC	μPC277							Toshiba	TC5517B		
	Motorola	MC7815	(2961)		Toshiba	TA75393				VT2068				TMM2015A		
	National	μA7815		LSC1008	GE/RCA	CA3065	(2658)		MCM145101	AMD	AM2101			TMM2018		
		SG340-15			GoldStar	GL3201	(2711)				AM91L01			TMM2018AP		
		LM7815			Hitachi	HA1125				Datel	ADC5101	(2595)	UMC	UM6116		
		μPC7815			National	LM3064				Harris	HA5101	(2767)	Vitelc	V61C16		
	NEC	MC7815			NEC	μPC1382				Intel	5101			V62C16		
	Samsung	MC7815			TI	SN76666				MicroNet	MN5101		VLSI Tech	VT20C18	(3343, 3345, 3349)	
	SGS-Thomson	μA7815			MCA500	National	MCA500			Mitsubishi	M5L5101					
		L7815			MCMS1L01	AMD	AM2101			Motorola	MCM51L01		MCM2016H	Cypress	CY6116	
	SiliconG	SG340-15					AM91L01			National	MM74C920			GE/Intersil	CY7C128	(2580)
		SG7815				Datel	ADC5101	(2595)		Panasonic	MNS101			GE/RCA	CDM6116	(2644, 2653)
		SG7815A				Harris	HA5101	(2767)		Sharp	LH5101				CDM6116A	(2644, 2653)
	TI	μA7815				Intel	5101		LM34518	Fujitsu	MB8401			GoldStar	GM76C28	(2696, 2700)
		LM340-15				MicroNet	MN5101			GE/Intersil	IM6508-1			Harris	HM6516	(2747)
	Toshiba	TA78015				Mitsubishi	M5L5101				6508				HM65162	(2747)
	Unitrode	UC340-15				Motorola	MCM145101		LM34518	National	MM74C929		Hitachi	HM6116		
LM340-18	National	LM340-18				National	MM74C920				MM2102			HM6716		
	SiliconG	SG340-18				Panasonic	MNS101				CY6116			HM6719		
	TI	LM340-18				Sharp	LH5101				GE/Intersil	CY7C128	(2580)	Hyundai	HY61C16A	
LM340-20	National	LM340-20				Fujitsu	MBM100422				GE/RCA	CDM6116	(2644, 2653)		HY6116A	(2778)
	SiliconG	SG340-20					MBM100422A					CDM6116A	(2644, 2653)	Inmos	IMS1433	
LM340-24	National	LM340-24					MB8118	(2877)			GoldStar	GM76C28	(2696, 2700)	IDT	IDT6116	(2835)
	SiliconG	SG340-24					DM100422	(2877)			Harris	HM6516	(2747)		IDT6116A	(2835)
LM348	Exar	XR4751					F100422				Hitachi	HM65162	(2747)		IDT6116L	(2835)
	GE/Intersil	LM348					NMC5295					Intel	81C28		IDT6116S	(2835)
	GoldStar	GL348					μPB100422					Intel	81C28			
	National	μA348				NEC	MC10141	(2944)				Krueger	2128-100	(2877)		
		LM348				Motorola	10141	(3075)					2128-120	(2877)		
	PMI	OP11				National	F10144						2128-150	(2877)		
		PM248				TI	SN10144						2128-200	(2877)		
	TI	LM348				Signetics	10145						6116-120	(2877)		
LM350	IPS	IP350				Fujitsu	MBM10415						6116-150	(2877)		
	Lambda	LLM350				National	DM10415						6116-200	(2877)		
	LinearTech	LM350				Siemens	GXB10415						6116LP-120	(2877)		
		LT350				TI	SN10147							(2877)		
	National	μA350				TI	SN10148							(2877)		
		μA78HGA				Signetics	10149	(3075, 3239)						(2877)		
	SiliconG	LM350												(2877)		
	TI	SG350												(2877)		
		LM350												(2877)		
	Unitrode	UC350												(2877)		
LM350-08	National	LM340-08												(2877)		
	SiliconG	SG340-08												(2877)		
LM358	Fujitsu	MB47358												(2877)		
	GE/RCA	CA358A	(2647, 2653)											(2877)		
		LM358	(2647)											(2877)		
	GoldStar	GL358	(2714)											(2877)		
	Hitachi	HA17358												(2877)		
	National	LM358												(2877)		
		LM358A												(2877)		
	NEC	μPC1251												(2877)		
		μPC358												(2877)		
	PMI	OP221												(2877)		
	Sanyo	LA6358												(2877)		
	SGS-Thomson													(2877)		
		LM358												(2877)		
		LM358												(2877)		
	Signetics	NE532												(2877)		
	TI	LM348												(2877)		
		LM358												(2877)		
	Toshiba	TA75358												(2877)		
LM385	LinearTech	LM385												(2877)		
	Maxim	ICL8069												(2877)		
	MicroPwr	MP5010												(2877)		
	National	LM385												(2877)		
	TeledyneS	TSC04												(2877)		
		TSC05												(2877)		
LM385-2.5	LinearTech	LM336-2.5												(2877)		
		LM385-2.5												(2877)		

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MCM2018P (Cont'd)				MCM2168 (Cont'd)				MCM4016 (Cont'd)			
MCM2016H	(Cont'd)	Sharp	LH5115	(3343, 3345, 3349)	MCM2114	Sharp	LH5115	(2877)	MCM27S19	TI	SMJ64C16	(2585)	MCM4164	Toshiba	TC4016B
		Signetics	NE5517			Signetics	TC5517B			Toshiba	SMJ64C64			Unitrode	TC4066B
		Sony	CXK5814P			Sony	UDN6116			VLSI Tech	TMM2015A			National	PIC7516
		Sprague	UDN6116			Sprague	STC2018			UMC	TMM2018			STC	M4027
		STC	STC2018			Vitelc	STC6116			VT20C68	TMM2018AP			Toshiba	STC4027
			STC6116			VLSI Tech	VT20C18			VT20C68	VT20C18			ITT	TC4013B
		TI	SMJ68CE16				VT20C18			VT20C69	VT20C18			Krueger	ITT4116
		Toshiba	TC5517B				VT20C18			VT20C69	VT20C18				4116-120
			SMJ68CE16				VT20C18			VT20C69	VT20C18				4116-150
			TC5517B				VT20C18			VT20C69	VT20C18				4116-200
			TMM2015A				VT20C18			VT20C69	VT20C18				
			TMM2018				VT20C18			VT20C69	VT20C18				
		MCM2018	(3343, 3345, 3349)			UMC	UM6116			(2644, 2653)	MCM2114			AMD	AM9114
Vitelc	V61C16			Intel	AM9124	AMD	AM27LS19	Signetics	2690						
	V62C16			Krueger	2114A	AMD	AM27S19	STC	STC4116						
	V62C16				2114-150	Fujitsu	27S19	Toshiba	TMM416						
	V62C16				2114-200	MMI	MB7112	Harris	HA5104						
	V62C16				2114-450		53S081	Inmos	IMS2600						
	V62C16				2114-450	National	63S081	IDT	M2164A						
	V62C16				2114-450		DM74S288	Krueger	4164-120						
	V62C16				2114-450		DM8578		4164-150						
	V62C16				2114-450		N82S123		4164-200						
MCM2018P	(3343, 3345, 3349)			Cypress	CY6116	(2696, 2700)	MCM2114	National	F2114			(2877)	MCM27S35	Signetics	DM77SR25
		GE/Intersil	HM6516	OKI	MSM2114			AMD	AM27S25	Motorola	MCM4164C				
		GE/RCA	CDM6116	Rockwell	R6514			Cypress	AM27S25A	National	F4164				
			CDM6116A	Sharp	LH2114			MMI	CY21L49		F64K				
			CDM6116A	Toshiba	TMM2114A				CY7C225	OKI	NMC4164				
			CDM6116A	UMC	UM6114				PLE9R8	Panasonic	MSM3764				
			CDM6116A	AMD	AM9114				53RA481		MM4164				
			CDM6116A	Intel	AM9124				53RA481AS	Samsung	MM4864				
			CDM6116A	Krueger	2114-150				53RA481S		MM4864				
			CDM6116A		2114-200				63RA481	Saratoga	SSM7164				
MCM2018P	(3343, 3345, 3349)	Harris	HM6516	(2696, 2700)	MCM2114	Mitsubishi	M5L2114	(2877)	MCM27S35	National	DM77SR25B	(2585)	MCM4164C	SGS-Thomson	MKB4564
		Hitachi	HM6716			Motorola	MCM2114				DM77SR476B				MK45H64
			HM6719			National	F2114				DM77SR476B			Siemens	TS4164
		Hyundai	HY61C16A			OKI	MSM2114				DM77SR476B			TI	HYB4164
			HY6116A			Rockwell	R6514				DM77SR476B				SMJ4164
			HY6116A			Sharp	LH2114				DM77SR476B			Toshiba	SM4164
			HY6116A			Toshiba	TMM2114A				DM77SR476B				TMS4164
			HY6116A			UMC	UM6114				DM77SR476B			Vitelc	TMM4164A
			HY6116A			AMD	AM2167				DM77SR476B			Harris	V51C64
			HY6116A			Cypress	CY7C167				DM77SR476B			Inmos	HA5104
MCM2018P	(3343, 3345, 3349)	Intel	81C28	(2877)	MCM2114	Fujitsu	MB8164A	(2877)	MCM27S35	Cypress	CY7C235	(2585)	MCM4164C	IDT	IDT7164
		Krueger	2128-100			GE/RCA	CDM5167			MMI	53RS881			Intel	M2164A
			2128-120			Inmos	IMS1400				63RS881			Krueger	4164-120
			2128-150			Intel	51C66				DM87SR181				4164-150
			2128-200			Matra-Harris	HM65263				N82HS189				4164-200
			6116-120			MicronTech	MT5C1601				S82HS189				
			6116-150			NEC	μPD4311				HM6617				
			6116-200			SGS-Thomson					2716-350				
			6116-200								2716-450				
			6116-200								2716T-350				
MCM2018P	(3343, 3345, 3349)	Matra-Harris	HM6166	(2696, 2700)	MCM2114	Sharp	LH5167	(2580)	MCM2716	Harris	HM6617	(2752)	MCM4164C	OKI	NMC4164
			HM65161			STC	STC2167			Krueger	2716-350				MSM3764
			HM65162			TI	SMJ61CD16				2716-450				MM4164
			HM65163			Vitelc	V61C67				2716T-350				MM4864
			HM65728			VLSI Tech	VT20C68				2716T-450			Samsung	MM4164A
			HM65728								2716T-450				MM4864
			HM65728								2716T-450				MM4864
			HM65728								2716T-450				MM4864
			HM65728								2716T-450				MM4864
			HM65728								2716T-450				MM4864
MCM2018P	(3343, 3345, 3349)	MicronTech	MT5C1608	(2696, 2700)	MCM2114	AMD	AM99CL68	(2580)	MCM2716	National	MM2716	(2752)	MCM4164C	Saratoga	SSM7164
		Mitsubishi	MS8725			Cypress	CY7C168			SGS-Thomson	MSM2716				SSM7164
			M5M116			Fujitsu	MB8168				MSM2716				SSM7164
			M5M5117			Inmos	IMS1420				MSM2716				SSM7164
			M5M5118				IMS1421				MSM2716				SSM7164
			M5M5118				IMS1423				MSM2716				SSM7164
			M5M5118				IMS1424				MSM2716				SSM7164
			M5M5118				IMS1424				MSM2716				SSM7164
			M5M5118				IMS1424				MSM2716				SSM7164
			M5M5118				IMS1424				MSM2716				SSM7164
MCM2018P	(3343, 3345, 3349)	Motorola	MCM2016H	(2696, 2700)	MCM2114	IDT	IDT6120	(2580)	MCM2716	National	MM2716	(2752)	MCM4164C	SGS-Thomson	SSM7164
			MCM2016H			Matra-Harris	HM65681				MM2716				SSM7164
			MCM2016H				HM65682				MM2716				SSM7164
			MCM2016H				HM65682				MM2716				SSM7164
			MCM2016H				HM65682				MM2716				SSM7164
			MCM2016H				HM65682				MM2716				SSM7164
			MCM2016H				HM65682				MM2716				SSM7164
			MCM2016H				HM65682				MM2716				SSM7164
			MCM2016H				HM65682				MM2716				SSM7164
			MCM2016H				HM65682				MM2716				SSM7164
MCM2018P	(3343, 3345, 3349)	National	MMC2116	(2696, 2700)	MCM2114	MicronTech	MT5C1604	(2580)	MCM2716	National	MM2716	(2752)	MCM4164C	Vitelc	V51C64
		OKI	MSM2128			Mitsubishi	M5M21C68				MM2716				CD4517
			MSM5126				M5M21C68				MM2716				CD4517
			MSM5128				M5M21C68				MM2716				CD4517
			MSM5129				M5M21C68				MM2716				CD4517
			MSM5129				M5M21C68				MM2716				CD4517
			MSM5129				M5M21C68				MM2716				CD4517
			MSM5129				M5M21C68				MM2716				CD4517
			MSM5129				M5M21C68				MM2716				CD4517
			MSM5129				M5M21C68				MM2716				CD4517
MCM2018P	(3343, 3345, 3349)	Performance	P4C116	(2696, 2700)	MCM2114	NEC	μPD4134	(2580)	MCM2716	National	MM2716	(2752)	MCM4164C	SGS-Thomson	SSM7164
		S-MOS	SMC6116				μPD4314				MM2716				SSM7164
		Saratoga	SSM6116				μPD4314				MM2716				SSM7164
			SSM6116				μPD4314				MM2716				SSM7164
			SSM6116				μPD4314				MM2716				SSM7164
			SSM6116				μPD4314				MM2716				SSM7164
			SSM6116				μPD4314				MM2716				SSM7164
			SSM6116				μPD4314				MM2716				SSM7164
			SSM6116				μPD4314				MM2716				SSM7164
			SSM6116				μPD4314				MM2716				SSM7164
MCM2018P	(3343, 3345, 3349)	SGS-Thomson	ET2128	(2696, 2700)	MCM2114	Performance	P4C188	(2580)	MCM2716	National	MM2716	(2752)	MCM4164C	SGS-Thomson	SSM7164
			MK2817			SGS-Thomson	SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
MCM2018P	(3343, 3345, 3349)	SGS-Thomson	ET2128	(2696, 2700)	MCM2114	Performance	P4C188	(2580)	MCM2716	National	MM2716	(2752)	MCM4164C	SGS-Thomson	SSM7164
			MK2817				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
MCM2018P	(3343, 3345, 3349)	SGS-Thomson	ET2128	(2696, 2700)	MCM2114	Performance	P4C188	(2580)	MCM2716	National	MM2716	(2752)	MCM4164C	SGS-Thomson	SSM7164
			MK2817				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
MCM2018P	(3343, 3345, 3349)	SGS-Thomson	ET2128	(2696, 2700)	MCM2114	Performance	P4C188	(2580)	MCM2716	National	MM2716	(2752)	MCM4164C	SGS-Thomson	SSM7164
			MK2817				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
MCM2018P	(3343, 3345, 3349)	SGS-Thomson	ET2128	(2696, 2700)	MCM2114	Performance	P4C188	(2580)	MCM2716	National	MM2716	(2752)	MCM4164C	SGS-Thomson	SSM7164
			MK2817				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268				MM2716				SSM7164
			MK6116				SRM2268								

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◆ Discontinued

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MCM76101 (Cont'd)				MCM7681 Raytheon				MC10130 Signetics			
• MCM68364	Sharp	LH2364A	(Cont'd)	Signetics	N82S191	(Cont'd)		29631		29631AM		MC10131	Signetics	10130	(3075)
	Signetics	2364		TI	N82S191A			29632		29632		MC10132	Signetics	10131	(3075)
	TI	TMS2364			82S191			29632		29632		MC10133	Signetics	10132	(3075)
	VLSI Tech	VT2364			TBP38L166			29632		29632		MC10133	Signetics	10133	(3075)
	Weitek	SC8164			TMS27C291			29632		29632		MC10134	Signetics	10134	(3075)
• MCM68365	Signetics	2364			WS57C191 (3390)			29632		29632		MC10135	Signetics	10135	(3075)
		2664			WS57C291 (3390)			29632		29632		MC10136	Signetics	10136	(3075)
• MCM68366	Microchip	R09464			AM27S191			29632		29632		MC10137	Signetics	10137	(3075)
	Mitsubishi	M58334			AM27S191SA			29632		29632		MC10141	Signetics	10141	(3075)
	National	MM52164			27S191			29632		29632		MC10158	Signetics	10158	(3075)
	Signetics	26564			CY7C291 (2585)			29632		29632		MC10159	Signetics	10159	(3075)
		2664			CY7C292 (2585)			29632		29632		MC10160	Signetics	10160	(3075)
					CY7C292A (2585)			29632		29632		MC10161	Signetics	10161	(3075)
					CY7C292AL (2585)			29632		29632		MC10162	Signetics	10162	(3075)
• MCM68369	Gould/AMI	S2364			Hitachi	HN25169			29632		29632	MC10164	Signetics	10164	(3075)
	Microchip	R039365			Intel	82S191			29632		29632	TI	SN10164		
		R09864			MMI	53S1681			29632		29632	MC10165	Signetics	10165	(3075)
• MCM68369	Mitsubishi	M5M23C64			Motorola	MCM76101			29632		29632	MC10171	Signetics	10171	(3075)
		M5M2364			National	DM77S191			29632		29632	MC10172	Signetics	10172	(3075)
		M5M2365				DM87S191			29632		29632	MC10173	Signetics	10173	(3075)
• MCM68369	National	F3568				DM87S291			29632		29632	MC10174	Signetics	10174	(3075)
		F3569				DM87S291A			29632		29632	TI	SN10174		
		F3570				DM87S291B			29632		29632	MC10175	Signetics	10175	(3075)
		MM52264				932510			29632		29632	MC10178	National	F10178	
		MM52264				932511			29632		29632	MC10179	Signetics	10179	(3075)
• MCM68369	OKI	MSM3864				932512			29632		29632	MC10180	Signetics	10180	(3075)
	Panasonic	MN2364				932511			29632		29632	MC10181	Signetics	10181	(3075)
	SGS-Thomson	MK37000				932511			29632		29632	MC10188	Signetics	10188	(3075)
		CM6400				N82S191			29632		29632	MC10189	Signetics	10189	(3075)
		23SC64				82S191			29632		29632	MC10192	Signetics	10192	(3075)
		23SC64A				TBP38L166			29632		29632	MC10210	Signetics	10210	(3075)
		TMS2364				TMS27C291			29632		29632	MC10211	Signetics	10211	(3075)
• MCM68369	TI	UM2366				WS57C191 (3390)			29632		29632	MC10216	National	F10216	
	UMC	UM2366				WS57C291 (3390)			29632		29632	MC10231	Signetics	10231	(3075)
• MCM68370	Gould/AMI	S2364				CY7C291 (2585)			29632		29632	MC10319	GE/RCA	CA3318	
	Microchip	R039365				EXEL			29632		29632	Hitachi	HA19209		
		R09864				GE/Intersil	IM6716		29632		29632	NEC	μPD6950		
• MCM68370	Mitsubishi	M5M23C64				Harris	HM6617 (2752)		29632		29632	MC12015	National	DS8615	
		M5M2364				National	DM77S291		29632		29632	MC12016	National	DS8616	
		M5M2365					DM77S291A		29632		29632	Plessey	SP8793		
• MCM68370	National	F3568					932511M		29632		29632	MC12017	National	DS8617	
		F3569					29681		29632		29632	MC12020	AD	AD7628 (2413)	
		F3570					29683		29632		29632	Dionics	DI604A		
		MM52264					29683A		29632		29632	Maxim	AD7628		
		MM52264					WS57C191 (3390)		29632		29632	MicroPwr	MP7628		
• MCM68370	OKI	MSM3864					WS57C291 (3390)		29632		29632	SGS-Thomson	L604		
	Panasonic	MN2364					WS57C291 (3390)		29632		29632	Siemens	SOA1P		
	SGS-Thomson	MK37000					AM2864B		29632		29632	Sprague	ULN3820		
		CM6400					AM2864B		29632		29632	National	DS8621		
		23SC64					AM27S13		29632		29632	MC12071	GoldStar	GL3130 (2711)	
		23SC64A					ICL7621 (2673, 2675)		29632		29632	MC1309	GoldStar	GL3130	
• MCM68370	TI	TMS2364					ICL7621 (2673, 2675)		29632		29632	National	LA705		
	UMC	UM2366							29632		29632	MC1309	Sanyo	LA758	
MCM76	AMD	AM27S191							29632		29632	MC1309	Signetics	μA758	
		AM27S291							29632		29632	MC1309	Signetics	ULN3809	
		AM27S291A							29632		29632	MC1309	TI	ULN3812	
		AM27S291SA							29632		29632	MC1310	Exar	XR1310	
		CY7C291 (2585)							29632		29632	MC1311	National	LM1310	
	Fujitsu	MB7138							29632		29632	MC1311	GoldStar	GL3130 (2711)	
		MB7138E							29632		29632	National	μA705		
		MB7138H							29632		29632	MC1311	National	LM1800	
		63S1681							29632		29632	MC1311	LA705		
		63S1681A							29632		29632	MC1311	LA758		
		DM878291							29632		29632	MC1311	Signetics	μA758	
		932511							29632		29632	MC1311	Sprague	ULN3809	
		29683A							29632		29632	MC1311	TI	ULN3812	
		TBP38A166							29632		29632	MC1311	Sanyo	LA705	
		TBP38S166							29632		29632	MC1311	LA758		
		WS57C191 (3390)							29632		29632	MC1311	Signetics	μA758	
		WS57C291 (3390)							29632		29632	MC1311	Sprague	ULN3809	
		WS57C291 (3390)							29632		29632	MC1311	TI	ULN3812	
		WS57C291 (3390)							29632		29632	MC1311	Sanyo	LA705	
		WS57C291 (3390)							29632		29632	MC1311	LA758		
		WS57C291 (3390)							29632		29632	MC1311	Signetics	μA758	
		WS57C291 (3390)							29632		29632	MC1311	Sprague	ULN3809	
		WS57C291 (3390)							29632		29632	MC1311	TI	ULN3812	
		WS57C291 (3390)							29632		29632	MC1311	Sanyo	LA705	
		WS57C291 (3390)							29632		29632	MC1311	LA758		
		WS57C291 (3390)							29632		29632	MC1311	Signetics	μA758	
		WS57C291 (3390)							29632		29632	MC1311	Sprague	ULN3809	
		WS57C291 (3390)							29632		29632	MC1311	TI	ULN3812	
		WS57C291 (3390)							29632		29632	MC1311	Sanyo	LA705	
		WS57C291 (3390)							29632		29632	MC1311	LA758		
		WS57C291 (3390)							29632		29632	MC1311	Signetics	μA758	
		WS57C291 (3390)							29632		29632	MC1311	Sprague	ULN3809	
		WS57C291 (3390)							29632		29632	MC1311	TI	ULN3812	
		WS57C291 (3390)							29632		29632	MC1311	Sanyo	LA705	
		WS57C291 (3390)							29632		29632	MC1311	LA758		
		WS57C291 (3390)							29632		29632	MC1311	Signetics	μA758	
		WS57C291 (3390)							29632		29632	MC1311	Sprague	ULN3809	
		WS57C291 (3390)							29632		29632	MC1311	TI	ULN3812	
		WS57C291 (3390)							29632		29632	MC1311	Sanyo	LA705	
		WS57C291 (3390)							29632		29632	MC1311	LA758		
		WS57C291 (3390)							29632		29632	MC1311	Signetics	μA758	
		WS57C291 (3390)							29632		29632	MC1311	Sprague	ULN3809	
		WS57C291 (3390)							29632		29632	MC1311	TI	ULN3812	
		WS57C291 (3390)							29632		29632	MC1311	Sanyo	LA705	
		WS57C291 (3390)							29632		29632	MC1311	LA758		
		WS57C291 (3390)							29632		29632	MC1311	Signetics	μA758	
		WS57C291 (3390)							29632		29632	MC1311	Sprague	ULN3809	
		WS57C291 (3390)							29632		29632	MC1311	TI	ULN3812	
		WS57C291 (3390)							29632		29632	MC1311	Sanyo	LA705	
		WS57C291 (3390)							29632		29632	MC1311	LA758		
		WS57C291 (3390)							29632		29632	MC1311	Signetics	μA758	
		WS57C291 (3390)							29632		29632	MC1311	Sprague	ULN3809	
		WS57C291 (3390)							29632		29632				

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Motorola (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)					
MC14024	National	CD4024 F4024	(Cont'd)	MC14034	SGS-Thomson	HCC/HCF4034		MC14050	SGS-Thomson	HCC/HCF4050		MC14071	SGS-Thomson	HCC/HCF4071			
	SGS-Thomson	HCC/HCF4024		MC14035	Solitron	CM4034			Signetics	HEF4050			Signetics	HCC/HCF4071B			
					Toshiba	TC4034B	(3341)		Solitron	CM4050			Solitron	CM4071			
					GE/RCA	CD4035	(2638)	MC14051	Toshiba	TC4050B	(3341)		Toshiba	TC4071B			
					National	CD4035B			GE/RCA	CD4051	(2639, 2655, 2658)	MC14071B	GE/RCA	CD4071	(2637)		
						F4035			National	CD4051	F4051			CD4071B	(2637)		
MC14025	SGS-Thomson	HCC/HCF4025			SGS-Thomson	HCC/HCF4035			SGS-Thomson	HCC/HCF4051			Motorola	MC14071	(2937)		
	Signetics	HEF4025			Signetics	HEF4035				HEF4051			National	CD4071			
	Solitron	CM4024			Solitron	CM4035				CM4051				CD4071B			
	Toshiba	TC4024B	(3341)	MC14038	GE/RCA	CD4038	(2639)	MC14052	Toshiba	TC4051B	(3341)			F4071			
	GE/RCA	CD4025	(2637)		SGS-Thomson	HCC/HCF4038			Harris	HI1828A				MM74C32			
	National	CD4025			Signetics	HEF4038			Toshiba	TC4052B	(3341)			MSM4071			
		F4025			GE/RCA	CD4038	(2639)	MC14053	GE/RCA	CD4053	(2639, 2655, 2658)			LC4071			
	SGS-Thomson	HCC/HCF4027			Solitron	CM4038			National	CD4053	F4053						
	Signetics	HEF4027		MC1404	Toshiba	TC4038B	(3341)		SGS-Thomson	HCC/HCF4053		MC14072					
	Solitron	CM4027			AD	ADREF01	(2426, 2462)			HEF4053			Signetics	HEF4071			
	Toshiba	TC4027B	(3341)			AD581	(2426, 2462)			CM4053			Solitron	CM4071			
	GE/RCA	CD4027	(2638)		LinearTech	LTREF01				TC4053B	(3341)		GE/RCA	CD4072	(2637)		
	National	MC14027B			Maxim	AD581			MC14060	GE/RCA	CD4060	(2638)		National	CD4072B	(2637)	
		CD4027			REF01					National	CD4060				CD4072		
		CD4027B			MicroPwr	MPREF01				SGS-Thomson	HCC/HCF4060			NEC	μPC4072		
		F4027			MP5531						HEF4060			SGS-Thomson	HCC/HCF4072		
	OKI	MM74C76			Motorola	MC1400AG10			MC14066	Signetics	HEF4060			Signetics	HEF4072		
	Sanyo	MSM4027			MC1400AU10					GE/RCA	CD4016	(2639, 2653, 2655)		Toshiba	TC4072B		
	SGS-Thomson	LC4027			MC1504						CD4066	(2639, 2655, 2658)	MC14073	GE/RCA	CD4073	(2637)	
					REF01					Motorola	MC14016	(2945)		National	CD4073		
					REF01AZ					National	CD4016			SGS-Thomson	HCC/HCF4073		
					REF02						CD4066			Signetics	HEF4073		
					REF43	(3012)					F4016			Solitron	CM4073		
					REF01	(3025)					F4066			Toshiba	TC4073B		
	OKI	MM74C76		MC14040	GE/RCA	CD4040	(2638)		Sanyo	LC4016			MC14075	GE/RCA	CD4075	(2637)	
	Sanyo	MSM4027			National	CD4040			SGS-Thomson	LC4066			National	CD4075			
	SGS-Thomson	LC4027			F4040					HCC/HCF4016				F4075			
										HCC/HCF4066				HCC/HCF4075			
										HEF4016				HEF4075			
										HEF4066				CM4075			
										CM4016				TC4075B			
										CM4066				CD4076	(2638)		
										HCF4016				CD4076			
										TC4016B	(3341)			F4076			
										TC4066B	(3341)			MM54C173			
										PIC7516				MM74C173			
										F4067							
										SGS-Thomson	HCC/HCF4067			HCC/HCF4076			
										HEF4067				HEF4076			
										CD4068	(2637)			CM4076			
										National	F4068			TC4076B	(3341)		
										SGS-Thomson	HCC/HCF4068		MC14077	GE/RCA	CD4077	(2637, 2639)	
											HEF4068				CD4077B	(2637, 2639)	
											CM4068			Motorola	MC14077B	(2938)	
											TC4068B	(3341)		National	CD4077		
											CD4069	(2637)			F4077		
											CD4069			Raytheon	RC4077	(3024)	
											F4069			SGS-Thomson	HCC/HCF4077		
											MM54C04				HCC/HCF4077B		
											MM74C04				HEF4077		
											MSM4069				CM4077		
											LC4069				TC4077B	(3341)	
											SGS-Thomson	HCC/HCF4069		MC14077B	GE/RCA	CD4077	(2637, 2639)
											HEF4069				CD4077B	(2637, 2639)	
											CM4069				Motorola	MC14077	(2938)
											TC4069UB	(3341)		National	CD4077		
											CD4070	(2637, 2639)			F4077		
											National	CD4070			Raytheon	RC4077	(3024)
											F4070			SGS-Thomson	HCC/HCF4077		
											MM74C86				HCC/HCF4077B		
											SGS-Thomson	HCC/HCF4070			HEF4077		
											HEF4070				CM4077		
											CM4070				TC4077B	(3341)	
											GE/RCA	CD4071	(2637)		GE/RCA	CD4078	(2637)
											CD4071B	(2637)			TC4077B	(3341)	
											MC14071B	(2937)			National	F4078	
											National	CD4071			SGS-Thomson	HCC/HCF4078	
											CD4071B				HEF4078		
											F4071				Solitron	CM4078	
											MM74C32				Toshiba	TC4078B	(3341)
											MSM4071						
											LC4071						
											OKI						
											Sanyo						

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MC14094B	Signetics	HEF4094	(Cont'd)	MC1413T	Sprague	ULQ2003	(Cont'd)	MC14194	SGS-Thomson	HCC/HCF40194	(Cont'd)
MC1408	AD	ADDAC-08			Toshiba	TC4094B	(3341)	MC1413T	TI	ULS2023				HCC/HCF40194B	
	Datel	DAC1C8B	(2471)	MC14097	National	F4097		MC1414	National	SN75468			Signetics	HEF40194	
		DAC1C8BC	(2596)		SGS-Thomson	HCC/HCF4097		MC1416	Exar	LM1414		MC1436	Toshiba	TC40194B	
		DAC18BC		MC14099	GE/RCA	CD4099B	(2638)		Mitsubishi	M54526	(2619)		Harris	HA2645	
		DAC08B	(2596)		Motorola	MC14099B	(2941)		Motorola	ULN2004			National	LM1436	
	Hitachi	HA17008			National	CD4099B			Sanyo	LB1234				LM343	
		HA17408			SGS-Thomson	HCC/HCF4099			SGS-Thomson	L204			SiliconG	SG1436	
	Motorola	DAC08	(2971, 2989)			HCC/HCF4099B				ULN2004				SG343	
				MC14099B	Toshiba	TC4099B	(3341)		SiliconG	SG2004		MC14412	TeledyneP	TP1332	
	National	μA0801			GE/RCA	CD4099B	(2638)		Sprague	ULN2004	(3258)	MC14433	Exar	XR14412	(2618)
		μA0802			Motorola	MC14099	(2941)			ULS2004			TeledyneS	TSC14433	
		DAC08			National	CD4099B			TI	ULN2004				TSC14433A	
		DAC0801			SGS-Thomson	HCC/HCF4099			Toshiba	ULN2004A		MC14442	National	ADC0829	
		DAC0802				HCC/HCF4099B				TD62004			TI	TLC532	
		DAC0806			Toshiba	TC4099B	(3341)	MC1416T	Exar	TD62104	(2619)	MC14443	Motorola	MC14447	(2970, 2991)
		DAC0807		MC14106	GE/RCA	CD40106	(2637, 2653)		Sprague	ULQ2004				μA9708	
		DAC0808				CD4584B		MC14160	GE/RCA	CD40160	(2638)	MC14444	National	ADC0830	
	NEC	MA0802M			Motorola	MC14584	(2940)			CD40160B	(2638)		National	TLC530	
	PMI	μPC624	(3017)			MC14584B	(2940)		Motorola	CD40160			TI	TLC531	
		DAC1408			National	CD40106			National	CD40160B		MC14447	Motorola	MC14443	(2970, 2991)
		DAC1508				CD4584			SGS-Thomson	F40160				μA9708	
	Raytheon	DAC08	(3025)			F400014				HCC/HCF40160		MC1445	TI	MC1445	
	Samsung	KDA0800				F40014			Signetics	HCC/HCF40160B		MC14502	GE/RCA	CD4502	(2637)
		KDA0801				MM54C14			Toshiba	TC40160	(3341)			CD4502B	(2637)
		KDA0802				MM74C14				TC40160B	(3341)		Motorola	MC14502B	(2939)
		KDA0806			SGS-Thomson	HCC/HCF40106		MC14161	GE/RCA	CD40161	(2638)		SGS-Thomson	HCC/HCF4502	
		KDA0807			Signetics	HEF40106				CD40161B	(2638)			HCC/HCF4502B	
		KDA0808			Toshiba	TC4584B	(3341)		Motorola	CD40161B	(2638)		Signetics	HEF4502	
	Signetics	DAC08		MC1411	Exar	XR2001	(2619)		National	F40161		MC14502B	Toshiba	TC4502B	(3341)
MC14081	GE/RCA	CD4081	(2637)			XR2001C	(2619)			MN40161			Unicorn	UC4502	
	National	F4081				XR2201	(2619)		Panasonic				GE/RCA	CD4502	(2637)
		MM74C08			Mitsubishi	M54524			SGS-Thomson	HCC/HCF40161			Motorola	MC14502	(2939)
	NEC	μPC4081			Motorola	ULN2001				HCC/HCF40161B			SGS-Thomson	HCC/HCF4502	
	OKI	MSM4081			National	μA9665			Signetics	HEF40161				HCC/HCF4502B	
	Sanyo	LC4081			Sanyo	LB1231			Toshiba	TC40161	(3341)		Signetics	HEF4502	
	SGS-Thomson	HCC/HCF4081			SGS-Thomson	L201				TC40161B	(3341)		Toshiba	TC4502B	(3341)
		HEF4081				ULN2001		MC14162	GE/RCA	CD40162	(2638)		Unicorn	UC4502	
	Signetics	CM4081				ULN2001				CD40162B	(2638)	MC145026	SGS-Thomson	M145026	
MC14082	GE/RCA	CD4082	(2637)		SiliconG	SG2001	(3258)		Motorola	MC140162B				M145027	
	National	CD4082			Sprague	ULN2001			National	CD40162		MC14507	SGS-Thomson	M145027	
		F4082				ULN2001A				CD40162B				CD4503	
	NEC	μPC4082			TI	ULN2001			SGS-Thomson	F40162		MC14503	GE/RCA	CD4503	(2637)
	SGS-Thomson	HCC/HCF4082			Toshiba	TD62001				HCC/HCF40162			National	F40097B	
		HEF4082		MC1412	Exar	XR2002C	(2619)		Signetics	HCC/HCF40162B			SGS-Thomson	HCF4503	
MC14093	GE/RCA	CD4093B	(2637)			XR2202	(2619)		Toshiba	TC40162	(3341)			TC4503B	
	Motorola	MC14093B	(2937, 2940)		Mitsubishi	M54525				TC40162B	(3341)	MC14504	GE/RCA	CD4504B	(2637)
					Motorola	ULN2002		MC14163	GE/RCA	CD40163	(2638)		Motorola	MC14504B	(2939)
	National	CD4093B			National	μA9666				CD40163B	(2638)	MC14504B	GE/RCA	CD4504B	(2637)
		F4093B				MC1412			Motorola	MC140163B			Motorola	MC14504	(2939)
	SGS-Thomson	HCC/HCF4093			NEC	μPA2002			National	CD40163		MC145040	National	ADC0811	
		HCC/HCF4093B			Sanyo	LB1232				CD40163B			TI	TLC540	(3325)
	Signetics	HEF4093			SGS-Thomson	L202			SGS-Thomson	HCC/HCF40163B				TLC541	(3325)
MC14093B	Toshiba	TC4093	(3341)			ULN2002			Signetics	HEF40163		MC14505	Signetics	HEF4505	
		TC4093B	(3341)		SiliconG	SG2002			Toshiba	TC40163	(3341)	MC14506	GE/RCA	CD4086B	(2637)
	GE/RCA	CD4093B	(2637)		Sprague	ULN2002	(3258)			TC40163B	(3341)		SGS-Thomson	HCC/HCF4086	
	Motorola	MC14093	(2937, 2940)		TI	ULN2002		MC14174	GE/RCA	CD40174B	(2638)			HCC/HCF4086B	
						ULN2002A			Motorola	MC140174B			Signetics	HEF4086B	(3341)
	National	CD4093B		MC1412T	Toshiba	TD62002	(2619)		National	CD40174B		MC14508	Toshiba	TC4086B	(2638)
		F4093B			Exar	XR2002	(2619)			F40174B				TC4086B	
	SGS-Thomson	HCC/HCF4093		MC1413	Exar	XR2003C	(2619)		SGS-Thomson				SGS-Thomson	HCC/HCF4508	
		HCC/HCF4093B				XR2203				HCC/HCF40174				HEF4508	
	Signetics	HEF4093				M52523			Signetics	HCC/HCF40174B			Signetics	HEF4508	
MC14094	Toshiba	TC4093	(3341)		Mitsubishi	M54523				HEF40174		MC14510	Toshiba	TC4508B	(3341)
		TC4093B	(3341)			M54523			Toshiba	TC40174	(3341)		GE/RCA	CD4510	(2638)
	GE/RCA	CD4094B	(2638, 2656, 2658)		Motorola	ULN2003				TC40174B	(3341)		National	CD4510	
		MC14094B	(2944)		National	μA9667		MC14175	GE/RCA	CD40175	(2638)			F4510	
	Motorola	MC14094B	(2944)			MC1413			Motorola	MC40175			SGS-Thomson	HCC/HCF4510	
	National	CD4094B			Sanyo	LB1233			National	CD40175				HEF4510	
	SGS-Thomson	HCC/HCF4094			SGS-Thomson	L203				MM54C175		MC14511	Signetics	CM4510	
		HCC/HCF4094B				ULN2003				MM74C175				TC4510B	(3341)
	Signetics	HEF4094			SiliconG	SG2003	(3258)		Signetics	HEF40175			GE/RCA	CD4511	(2656, 2658)
MC14094B	Toshiba	TC4094B	(3341)		Sprague	ULN2003			Toshiba	TC40175B	(3341)			CD4511	
		CD4094B	(2638, 2656, 2658)			ULN2003		MC14188	SGS-Thomson	HCF40188			National	F4511	
	Motorola	MC14094	(2944)		TI	ULN2003				CD40194		MC14194	NEC	μPD4511	
	National	CD4094B			Toshiba	TD62103			Motorola	MC140194B			SGS-Thomson	HCC/HCF4511	
	SGS-Thomson	HCC/HCF4094		MC1413T	Exar	XR2003	(2619)		National	F40194			Signetics	HEF4511	(Continued)
		HCC/HCF4094B			SiliconG	SG2023									
			(Continued)		Sprague	ULN2023	(3258)								

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

◆ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Motorola (Cont'd)				MC1500			(Cont'd)	MC1558			(Cont'd)	MC1733	TI	NE592-8 SE592 AD741	(Cont'd)	
MC1488	National	(Cont'd)		Raytheon SiliconG TeledyneS	REF03 SG3503 TSC05			Samsung SGS-Thomson	MC4558	LS4558 MC4558 MC1458 MC1558 NE4558 SA4558 SE4558 MC1458 MC1558 MC4558C RC4558 RM4558 RV4558 TL4558		MC1741	AD	Fujitsu Hitachi MicroPwr National NEC PMI Raytheon Samsung SGS-Thomson	MB3609 HA17741 MPOPO2 μA741M LM741 μPC151 μPC741 OP02 OP77 PM741 RM741 LM741	(2427, 2462)
		DS1488 DS1489 DS1489A MC1488 MC1489		AD	ADREF01	(2426, 2462)		Signetics								
	SGS-Thomson	MC1488 MC1489		MC1500AU10	LinearTech	LTREF01 LT1019-10 REF01A AD581		TI								
	Signetics	MC1488 MC1489 MC1489A		MC1500AU10	Maxim	REF01										
	SiliconG	SG1489 SG1489A SG75188 SG75788		MC1500AU10	MicroPwr	MPREF01 MP5531										
	TI	MC1488 MC1489 SN75188		MC1500AU10	Motorola	MC1400AG10 MC1400AU10 MC1404 MC1504		Toshiba								
MC1489	Exar	XR1488 XR1489A GD75188 MC1488	(2619) (2619) (2708) (2983, 2989)	MC1500AU10	Raytheon TeledyneS	REF01 TSC9495 TSC9496	(3012) (3025)	MC1568	Exar SiliconG	XR1568 SG1501A SG1568						
	GoldStar	MC1489A		MC1500AU5	LinearTech	REF02A REF02AZ		MC1590	GE/RCA	CA3011	(2657)					
	Motorola	μA1489 μA1489A μA212A μA750 DS1488 DS1489 DS1489A MC1488 MC1489		AD	ADREF01	(2426, 2462)		MC1595	National	LM3011 SG1595						
	National	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489		LinearTech	LTREF01 LT1019-10 REF01A AD581	(2426, 2462)		MC1596	SiliconG	LM1596 SG1596 SP1648 SP1650 SP1651 SP1658 SP1660 SP1662 SP1664 SP1666 SP1668 11C70 SP1670 SP1672 SP1674 11C01 11C06 SP1692 11C05 SP8610 SP8616 μA709 LM1709		MC1747	GE/RCA Hitachi MicroPwr National NEC PMI Raytheon Signetics TeledyneS TI	TA7504 PIC7504 HA17747 MPOPO4 μA747 LM747 μPC1418 OP04 PM747 RC747 RM747 TSC747 μA747M	(2647)	
	SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		Maxim	AD581 REF01 MPREF01 MP5531				Plessey	SP1648 SP1650 SP1651 SP1658 SP1660 SP1662 SP1664 SP1666 SP1668 11C70 SP1670 SP1672 SP1674 11C01 11C06 SP1692 11C05 SP8610 SP8616 μA709 LM1709						
	Signetics	MC1488 MC1489 MC1489A		Motorola	MC1400AG10 MC1400AU10 MC1404 REF01 REF01AZ REF02			MC1672	Plessey	SP1672 SP1674 11C01 11C06 SP1692 11C05 SP8610 SP8616 μA709 LM1709		MC1748	GE/RCA Motorola	CA748 LM201	(2647) (2952, 2989)	
	SiliconG	SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		PMI	REF01 REF01AZ REF02			MC1688	National	11C01 11C06 SP1692 11C05 SP8610 SP8616 μA709 LM1709						
	TI	MC1488 MC1489 SN75188		Raytheon TeledyneS	TSC9495 TSC9496	(3012) (3025)		MC1690	National	11C06 SP1692 11C05 SP8610 SP8616 μA709 LM1709						
MC1489A	Exar	XR1488 XR1489A GD75188 MC1488	(2619) (2619) (2708) (2983, 2989)	MC1508	AD	AD1508	(2471)	MC1709	National	LM1709 LM709 μPC55 OP06 μA709 μ709 MB3752 MB723 LM723 CA723		MC1776	GE/Intersil	ICL7611	(2673, 2675)	
	GoldStar	MC1489		Datel	DAC1C8BM				NEC	μPC55 OP06 μA709 μ709 MB3752 MB723 LM723 CA723						
	Motorola	μA1489 μA1489A μA212A μA750 DS1488 DS1489 DS1489A MC1488 MC1489		National	MC1508 DAC1508				TI	μA709 μ709 MB3752 MB723 LM723 CA723						
	National	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		Signetics	MC1508 LM1514 TL514M			MC1723	Fujitsu	MB3752 MB723 LM723 CA723	(2651, 2657, 2659)					
	SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		TI	LM1514 TL514M				GE/Intersil	LM723 CA723						
	Signetics	MC1488 MC1489 MC1489A		Harris	HA2640 LM143				GE/RCA	LM723 CA723						
	SiliconG	SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		National	LM143 LM1536 SG143 SG1536 RM1537 EHA2600 HA2600 HA17741 LM1556 SE556 TP1326 MC1556 SE556M				Hitachi	LM723 HA17723 μA723 μA723M LM723 RC723 RM723 LM723		MC1776	GE/Intersil	ICL8021 LM4250 HA2720 HA2725 ICL7611 MC3476 μA776 LF441 LM4250 μPC4250 μPC812 OP20 OP22 OP43	(2673, 2675)	
	TI	MC1488 MC1489 SN75188		Raytheon	RM1537 EHA2600 HA2600 HA17741 LM1556 SE556 TP1326 MC1556 SE556M				National	μA723 μA723M LM723 RC723 RM723 LM723						
	SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		Elantec	HA2600 HA17741 LM1556 SE556 TP1326 MC1556 SE556M				Raytheon	LM723 RC723 RM723 LM723	(3039)					
	Signetics	MC1488 MC1489 MC1489A		Harris	HA2600 HA17741 LM1556 SE556 TP1326 MC1556 SE556M				Samsung SGS-Thomson	μA723 LM723 L123 SFC2723 μA723 SG723 μA723 μA723M A733 μA733 NE592-8 SE592 HA17733 NE592						
	SiliconG	SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		Hitachi	HA17741 LM1556 SE556 TP1326 MC1556 SE556M					μA723 LM723 L123 SFC2723 μA723 SG723 μA723 μA723M A733 μA733 NE592-8 SE592 HA17733 NE592						
	TI	MC1488 MC1489 SN75188		Motorola	MC4558	(2955, 2990)		MC1733	Adv Analog GE/Intersil	A733 μA733 NE592-8 SE592 HA17733 NE592	(2991)					
MC1495	SiliconG	SG1495		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)			Hitachi	HA17733 NE592						
MC1496	National	LM1496		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)			Motorola	NE592						
	Plessey	SL1496		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	Signetics	MC1496		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SiliconG	SG1496		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	TI	MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	Signetics	MC1488 MC1489 MC1489A		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SiliconG	SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	TI	MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	Signetics	MC1488 MC1489 MC1489A		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SiliconG	SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	TI	MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	Signetics	MC1488 MC1489 MC1489A		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SiliconG	SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	TI	MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	Signetics	MC1488 MC1489 MC1489A		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SiliconG	SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	TI	MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	Signetics	MC1488 MC1489 MC1489A		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SiliconG	SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	TI	MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)				NE592						
	Signetics	MC1488 MC1489 MC1489A		NEC	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558	(2619) (2647) (2714)	</									

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				• MC3012	Lansdale	ML3012	(2880)	MC33074	Motorola	MC34004A	(2956, 2990)	MC34002	Toshiba	TA75072	(Cont'd)
• MC2023	Lansdale	ML2023		• MC3015	Lansdale	ML3015	(2880)			MC34004A	(2956, 2990)	MC34002A	TI	TA75074	
• MC2024	Lansdale	ML2024		• MC3016	Lansdale	ML3016	(2880)			MC34074	(2956, 2991)	MC34002B	TI	TL082BC	
• MC2025	Lansdale	ML2025		• MC3020	Lansdale	ML3020	(2880)					MC34004	AnalogSys	MA374	
• MC2026	Lansdale	ML2026		• MC3021	Lansdale	ML3021	(2880)		National	μA774			Motorola	MC33074	(2957)
• MC2028	Lansdale	ML2028		• MC3022	Lansdale	ML3022	(2880)		NEC	μPC4084				MC34004A	(2956, 2990)
• MC2050	Lansdale	ML2050		• MC3023	Lansdale	ML3023	(2880)		TI	TL074				MC34074	(2956, 2991)
• MC2051	Lansdale	ML2051		• MC3024	Lansdale	ML3024	(2880)			TL084BC					
• MC2052	Lansdale	ML2052		• MC3025	Lansdale	ML3025	(2880)			XR3403	(2619)				
• MC2053	Lansdale	ML2053		• MC3026	Lansdale	ML3026	(2880)			XR3503					
• MC2054	Lansdale	ML2054		• MC3028	Lansdale	ML3028	(2880)			MB3614					
• MC2055	Lansdale	ML2055		• MC3029	Lansdale	ML3029	(2880)		Fujitsu	CA224	(2647)				
• MC2056	Lansdale	ML2056		• MC3031	Lansdale	ML3031	(2880)		GE/RCA	CA324	(2647, 2653, 2658)				
• MC2057	Lansdale	ML2057		• MC3032	Lansdale	ML3032	(2880)			LM324	(2647)				
• MC2061	Lansdale	ML2061		• MC3051	Lansdale	ML3051	(2880)			HA17324	(2956, 2989)				
• MC2062	Lansdale	ML2062		• MC3052	Lansdale	ML3052	(2880)		Hitachi	LM324					
• MC2063	Lansdale	ML2063		• MC3060	Lansdale	ML3060	(2880)		Motorola	LM324					
• MC2065	Lansdale	ML2065		• MC3061	Lansdale	ML3061	(2880)			μA324					
• MC2066	Lansdale	ML2066		• MC3062	Lansdale	ML3062	(2880)			μA3403					
• MC2073	Lansdale	ML2073		• MC3100	Lansdale	ML3100	(2880)			LM224					
• MC2074	Lansdale	ML2074		• MC3101	Lansdale	ML3101	(2880)			LM324					
• MC2075	Lansdale	ML2075		• MC3102	Lansdale	ML3102	(2880)			μPC3403					
• MC2076	Lansdale	ML2076		• MC3103	Lansdale	ML3103	(2880)			OP400					
• MC2078	Lansdale	ML2078		• MC3104	Lansdale	ML3104	(2880)			OP421					
• MC2100	Lansdale	ML2100		• MC3105	Lansdale	ML3105	(2880)			HA14741					
• MC2101	Lansdale	ML2101		• MC3107	Lansdale	ML3107	(2880)			LM248					
• MC2102	Lansdale	ML2102		• MC3108	Lansdale	ML3108	(2880)			LM348	(3025)				
• MC2103	Lansdale	ML2103		• MC3109	Lansdale	ML3109	(2880)			LM324	(3039)				
• MC2104	Lansdale	ML2104		• MC3110	Lansdale	ML3110	(2880)			LM324					
• MC2105	Lansdale	ML2105		• MC3111	Lansdale	ML3111	(2880)			LM324					
• MC2106	Lansdale	ML2106		• MC3112	Lansdale	ML3112	(2880)			SGS-Thomson					
• MC2107	Lansdale	ML2107		• MC3115	Lansdale	ML3115	(2880)			Signetics	MC3403				
• MC2111	Lansdale	ML2111		• MC3116	Lansdale	ML3116	(2880)			SiliconG	SG324				
• MC2112	Lansdale	ML2112		• MC3120	Lansdale	ML3120	(2880)			GE/RCA	CA3046	(2650)			
• MC2113	Lansdale	ML2113		• MC3121	Lansdale	ML3121	(2880)			GE/RCA	CA3146	(2650)			
• MC2116	Lansdale	ML2116		• MC3122	Lansdale	ML3122	(2880)			National	μA3046				
• MC2123	Lansdale	ML2123		• MC3123	Lansdale	ML3123	(2880)				μA3086				
• MC2124	Lansdale	ML2124		• MC3124	Lansdale	ML3124	(2880)				LM3046				
• MC2125	Lansdale	ML2125		• MC3125	Lansdale	ML3125	(2880)				SL3046				
• MC2126	Lansdale	ML2126		• MC3126	Lansdale	ML3126	(2880)				SL3086				
• MC2128	Lansdale	ML2128		• MC3128	Lansdale	ML3128	(2880)				SL3146				
• MC2150	Lansdale	ML2150		• MC3129	Lansdale	ML3129	(2880)				LA3046				
• MC2151	Lansdale	ML2151		• MC3131	Lansdale	ML3131	(2880)				CA3046				
• MC2152	Lansdale	ML2152		• MC3132	Lansdale	ML3132	(2880)				LM3046				
• MC2153	Lansdale	ML2153		• MC3151	Lansdale	ML3151	(2880)				SFC2046				
• MC2154	Lansdale	ML2154		• MC3152	Lansdale	ML3152	(2880)				TBA331				
• MC2155	Lansdale	ML2155		• MC3160	Lansdale	ML3160	(2880)				SG3046				
• MC2156	Lansdale	ML2156		• MC3161	Lansdale	ML3161	(2880)				SG3146				
• MC2157	Lansdale	ML2157		• MC3162	Lansdale	ML3162	(2880)				SG3821				
• MC2161	Lansdale	ML2161		MC3301	Hitachi	HA17301					ULN2046				
• MC2162	Lansdale	ML2162			Motorola	LM2900	(2957)				CA290				
• MC2163	Lansdale	ML2163			National	LM2900					OP220				
• MC2165	Lansdale	ML2165				LM3301					OP221				
• MC2166	Lansdale	ML2166				LM2900					NE532				
• MC2173	Lansdale	ML2173				RC3301					TL252				
• MC2174	Lansdale	ML2174				LM2900					TL272				
• MC2175	Lansdale	ML2175				CY7C901	(2590)				ULN3859				
• MC2176	Lansdale	ML2176				IDT39C01					MC3361	(3040)			
• MC2178	Lansdale	ML2178				LM2901	(2958, 2989)				MC3361				
• MC2257	Micrel	MIC2257				μA2901					Signetics	ULN3862			
• MC2259	Micrel	MIC2259				μA3302					MC3373				
• MC2260	Micrel	MIC2260				LM2901					NCR	NCR6500-12			
• MC26S10	AMD	AM26S10				LM3302					Rockwell	R650012			
	National	DS26S10				CMPO4						R650013			
	TI	AM26S10				PM139						R650015			
• MC2652	Signetics	SCN2652				PM339						CA3086	(2650)		
• MC2653	Signetics	SCN2653				LM2901						LM3086			
• MC2661	Microchip	AY2661				RC3302						LA3086			
	Motorola	MC68661	(2926)									SGS-Thomson			
	Signetics	SCN2661										SFC2086			
	SMC	AY2661										SG3086			
		COM2661										SG3886			
• MC2681	Exar	XR88C681	(2618)									ULN2086			
	Signetics	SCN2681	(3106)									MA333			
• MC2682	Signetics	SCN2682										μA771			
• MC2910	National	29F10										μPC4071			
	SGS-Thomson											OP15			
		TS2910										TL071			
		WS5910A										TL081C			
		WS5910B										TA75071			
• MC3000	Lansdale	ML3000	(2880)									LL081BC			
• MC3001	Lansdale	ML3001	(2880)									TL081AC			
• MC3002	Lansdale	ML3002	(2880)									MA336			
• MC3003	Lansdale	ML3003	(2880)									CA3240	(2647)		
• MC3004	Lansdale	ML3004	(2880)									OP215			
• MC3005	Lansdale	ML3005	(2880)									μA772			
• MC3006	Lansdale	ML3006	(2880)									OP215			
• MC3007	Lansdale	ML3007	(2880)									SGS-Thomson			
• MC3008	Lansdale	ML3008	(2880)									TL072			
• MC3009	Lansdale	ML3009	(2880)									TL072			
• MC3010	Lansdale	ML3010	(2880)									TL082C			
• MC3011	Lansdale	ML3011	(2880)												
(Continued)				(Continued)				(Continued)				(Continued)			

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				Motorola (Cont'd)				Motorola (Cont'd)				Motorola (Cont'd)			
MC3470	Cherry Semi	CS3470A		MC40160B	Signetics	HEF40160		MC4558	Samsung	MC4558	(3039)	MC5173	Lansdale	ML5173	
	Exar	XR3470			Toshiba	TC40160	(3341)		SGS-Thomson	LS4558		MC5181	Lansdale	ML5181	
MC3471	Cherry Semi	CS3471			GE/RCA	CD40175	(2638)			MC4558		MC5183	Lansdale	ML5183	
	TI	MC3471			Motorola	MC14175	(2942)		Signetics	MC1458		MC519	Lansdale	ML519	
MC3476	GE/Intersil	ICL7611	(2673, 2675)		National	CD40175				MC1558		MC5191	Lansdale	ML5191	
		ICL8021	(2675)			F40175				NE4558		MC5193	Lansdale	ML5193	
		LM4250				MM54C175				SA4558		MC520	Lansdale	ML520	
	Harris	HA2720				MM74C175			TI	SE4558		MC522	Lansdale	ML522	
		HA2725			Signetics	HEF40175				MC1458		MC523	Lansdale	ML523	
	Maxim	ICL7611			Toshiba	TC40175B	(3341)			MC1558		MC524	Lansdale	ML524	
	Motorola	MC1776	(2953, 2989)		Lansdale	ML402				MC4558C		MC526	Lansdale	ML526	
	National	μA776		MC402	GE/RCA	CD4024	(2638)			RC4558		MC528	Lansdale	ML528	
		LF441		MC4024	Motorola	MC14024	(2943)			RM4558		MC529	Lansdale	ML529	
		LM4250			National	CD4024				RV4558		MC54F00	National	54F00	
	NEC	μPC4250				F4024				TL4558			Signetics	54F00	
		μPC812			SGS-Thomson	HCC/HCF4024				TA75458		MC54F02	National	54F02	
	PMI	OP20			Signetics	HEF4024		MC456	Lansdale	TA7558			Signetics	54F02	
		OP22			Solitron	CM4024		MC457	Lansdale	ML456		MC54F04	National	54F04	
		OP43			Toshiba	TC4024B	(3341)	MC458	Lansdale	ML457			Signetics	54F04	
	SGS-Thomson	μA776		MC403	Lansdale	ML403		MC459	Lansdale	ML459		MC54F08	National	54F08	
		MC1776		MC404	Lansdale	ML404		MC460	Lansdale	ML460			Signetics	54F08	
	Solitron	UC4250		MC4044	GE/RCA	CD4044	(2638)	MC464	Lansdale	ML464		MC54F10	National	54F10	
	TI	TLC251			Motorola	MC14044	(2941)	MC465	Lansdale	ML465			Signetics	54F10	
		TLC271			National	CD4044		MC466	Lansdale	ML466		MC54F109	National	54F109	
		TL061				F4044		MC469	Lansdale	ML469			Signetics	54F109	
MC3481	TI	MC3481			SGS-Thomson	HCC/HCF4044		MC470	Lansdale	ML470			Signetics	54F109	
MC3485	TI	SN75130				HEF4044		MC471	Lansdale	ML471		MC54F11	National	54F11	
MC3486	National	DS3486			Signetics	HEF4044		MC472	Lansdale	ML472			Signetics	54F11	
	TI	MC3486			Solitron	CM4044		MC473	Lansdale	ML473		MC54F112	National	54F112	
		SN75ALS195			Toshiba	TC4044B	(3341)	MC474	Lansdale	ML474			Signetics	54F112	
MC3487	National	DS3487		MC405	Lansdale	ML405		MC4741	Exar	XR4741	(2619)	MC54F138	National	54F138	
	TI	MC3487		MC4056	GE/RCA	CD4056	(2639, 2653, 2656)		Harris	HA4741			Signetics	54F138	
MC3488	TI	9636				CD4056B	(2639, 2653, 2656)		LinearTech	LT1014		MC54F139	National	54F139	
		9636A			SGS-Thomson	HCC/HCF4056			MicroPwr	MP0P11			Signetics	54F139	
MC3490	Cherry Semi	CS594				HCC/HCF4056B				MP0P11		MC54F153	National	54F153	
	Dionics	CS594C			Toshiba	TC4056	(3341)		National	μA148			Signetics	54F153	
		DI513B				TC4056B	(3341)			μA248		MC54F157	National	54F157	
		DI514B				ML406			NEC	μPC4741			Signetics	54F157	
		DI514BR			Lansdale	ML407			PMI	OP11		MC54F158	National	54F158	
	Exar	XR6118	(2619)	MC406	Lansdale	ML408				OP400			Signetics	54F158	
	National	DM8887		MC407	Lansdale	ML409				OP421		MC54F20	National	54F20	
		DS8887		MC408	Lansdale	ML410				OP470			Signetics	54F20	
	OKI	MSL912		MC409	Lansdale	ML411				PM148		MC54F240	National	54F240	
	Sanyo	LB1290		MC410	Lansdale	ML412			Raytheon	HA14741			Signetics	54F240	
	Signetics	NE594		MC411	Lansdale	ML412				HA34741			Signetics	54F240	
		SA594		MC412	Lansdale	ML413				HA4741		MC54F241	National	54F241	
	Sprague	UDN6118	(3258)	MC413	Lansdale	ML414				RM4158			Signetics	54F241	
		UDN6118A	(3258)	MC414	Lansdale	ML415				LM148	(3025)	MC54F242	National	54F242	
		UDN6118A-1	(3258)	MC415	Lansdale	ML416				LM148			Signetics	54F242	
		UDQ6118		MC416	Lansdale	ML419				LM476		MC54F243	National	54F243	
	TI	TL594C		MC419	Lansdale	ML420			TI	ML477			Signetics	54F243	
		TL594M		MC420	Lansdale	ML421				ML478		MC54F244	National	54F244	
		TL62781		MC421	Lansdale	ML422				ML479			Signetics	54F244	
MC3492	Toshiba	ITT505		MC422	Lansdale	ML423				ML500		MC54F245	National	54F245	
	ITT	505		MC423	Lansdale	ML424				ML501			Signetics	54F245	
MC3492	National	DM8885		MC424	Lansdale	ML426				ML502		MC54F258	National	54F258	
		DS8885		MC426	Lansdale	ML427				ML503			Signetics	54F258	
MC3494	Dionics	DI805A		MC427	Lansdale	ML428				ML504		MC54F280	National	54F280	
	ITT	504		MC428	Lansdale	ML429				ML505			Signetics	54F280	
MC35001B	TI	TL081M		MC429	Lansdale	ML450				ML507		MC54F283	National	54F283	
MC35002B	TI	TL082M		MC450	Lansdale	ML451				ML508			Signetics	54F283	
MC35004	TI	TL084M		MC451	Lansdale	ML452				ML509		MC54F32	National	54F32	
MC35060	IPS	IP35060		MC452	Lansdale	ML453				ML509			Signetics	54F32	
MC35063	IPS	IP35063		MC453	Lansdale	ML454				ML5092		MC54F333	National	54F333	
MC3510	Signetics	MC3410		MC454	Lansdale	ML455				ML510			Signetics	54F333	
		MC3510		MC455	Lansdale	XR1458				ML511		MC54F350	National	54F350	
		NE5410		MC4558	Exar	XR4558	(2619)			ML5111			Signetics	54F350	
MC3520	Motorola	MC3420			GE/RCA	CA1558	(2647)			ML5113		MC54F352	National	54F352	
MC3523	SiliconG	SG3523			GoldStar	GL4558	(2714)			ML512			Signetics	54F352	
	TI	MC3523			Hitachi	HA17458				ML5121			Signetics	54F352	
MC3558	Motorola	MC3458	(2954, 2990)			HA17558				ML5123			Signetics	54F352	
		μA798			Motorola	MC1558	(2955)			ML513			Signetics	54F352	
	National	OP200				SE4558				ML5131		MC54F352	National	54F352	
	PMI	OP221			National	μA1458				ML5133			Signetics	54F352	
MC400	Lansdale	ML400				μA4558				ML514		MC54F352	National	54F352	
MC401	Lansdale	ML401				LM1458				ML5141			Signetics	54F352	
MC40160B	GE/RCA	CD40160	(2638)			LM1558				ML5143			Signetics	54F352	
		CD40160B	(2638)		NEC	μPC1458				ML515			Signetics	54F352	
	Motorola	MC14160	(2942)			μPC4558				ML5151		MC54F352	National	54F352	
	National	CD40160			PMI	OP14				ML5153			Signetics	54F352	
		CD40160B				OP270				ML516			Signetics	54F352	
	SGS-Thomson	F40160			Raytheon	RC1458	(3024)			ML5161			Signetics	54F352	
		HCC/HCF40160				RM1558				ML5163			Signetics	54F352	
		HCC/HCF40160B				RM4558	(3024)			ML5171			Signetics	54F352	
		(Continued)				(Continued)				(Continued)				(Continued)	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MC54HCT245	CTI GE/RCA	54HCT245 CD54HCT245 (2640, 2653)		MC54HC109	GE/RCA	CD54HC109 (2640)		MC54HC163	GE/RCA	CD54HC163 (2640)	
MC54F353	National TI	54F353 SN54F353			National Signetics Supertex TI	MM54HCT245 54HCT245 54HCT245 SN54HCT245			National TI	MM54HC109 SN54HC109			National TI	MM54HC163 SH54HC163	
MC54F373	National Signetics	54F373 54F373						MC54HC111	GE/RCA	CD54HC111 (2640)		MC54HC164	GE/RCA	CD54HC164 (2640)	
MC54F374	National Signetics	54F374 54F374		MC54HCT257	GE/RCA	CD54HCT257 (2640, 2653)		MC54HC112	GE/RCA	CD54HC112 (2640)		MC54HC165	GE/RCA	CD54HC165 (2640)	
MC54F381	National TI	54F381 SN54F381			National Signetics	MM54HCT257 54HCT257			National TI	MM54HC112 SN54HC112			National TI	MM54HC165 SN54HC165	
MC54F382	National TI	54F382 SN54F382		MC54HCT258	GE/RCA	CD54HCT258 (2640)		MC54HC113	National TI	MM54HC113 SN54HC113		MC54HC166	GE/RCA	CD54HC166 (2640)	
MC54F521	National Signetics	54F521 54F521		MC54HCT373	CTI GE/RCA	54HCT373 CD54HCT373 (2641, 2653)		MC54HC123	GE/RCA	CD54HC123 (2640)			National TI	MM54HC166 SN54HC166	
MC54F533	National TI	54F533 SN54F533			Micrel National Signetics Supertex TI	MIC54HCT373 MM54HCT373 54HCT373 54HCT373		MC54HC125	GE/RCA	CD54HC125 (2640)		MC54HC173	GE/RCA	CD54HC173 (2640)	
MC54F534	National Signetics	54F534 54F534							National TI	MM54HC125 54HC125			National TI	MM54HC173 SN54HC173	
MC54F620	National Signetics	54F620 54F620		MC54HCT374	CTI GE/RCA	54HCT374 CD54HCT374 (2641, 2653)		MC54HC126	GE/RCA	CD54HC126 (2640)		MC54HC174	GE/RCA	CD54HC174 (2640)	
MC54F623	National TI	54F623 SN54F623			Micrel	MIC54HCT374 MM54HCT374			Signetics TI	74HC125 (3057) SN54HC125			National Signetics TI	MM54HC174 54HC174 SN54HC174	
MC54F74	National TI	54F74 SN54F74		MC54HCT533	CTI GE/RCA	54HCT533 CD54HCT533 (2641)		MC54HC132	GE/RCA	CD54HC132 (2640)		MC54HC175	GE/RCA	CD54HC175 (2640)	
MC54HCT00	GE/RCA	CD54HCT00 (2639, 2653)			National Supertex TI	MM54HCT533 54HCT533			National TI	MM54HC132 54HC132		MC54HC181	GE/RCA	CD54HC181 (2640)	
	National Signetics	MM54HCT00 54HCT00		MC54HCT534	CTI GE/RCA	54HCT534 CD54HCT534 (2641)		MC54HC133	National TI	MM54HC133 SN54HC133		MC54HC182	GE/RCA	CD54HC182 (2640)	
MC54HCT03	GE/RCA	CD54HCT03 (2639)						MC54HC137	GE/RCA	CD54HC137 (2640)		MC54HC190	GE/RCA	CD54HC190 (2640)	
MC54HCT04	GE/RCA	CD54HCT04 (2639)			National TI	MM54HCT534 SN54HCT534			National TI	MM54HC137 SN54HC137		MC54HC191	GE/RCA	CD54HC191 (2640)	
	National Signetics	MM54HCT04 54HCT04		MC54HCT540	GE/RCA	CD54HCT540 (2641)		MC54HC138	GE/RCA	CD54HC138 (2640)		MC54HC192	GE/RCA	CD54HC192 (2640)	
MC54HCT125	GE/RCA	CD54HCT125 (2640)			National Supertex TI	MM54HCT540 54HCT540		MC54HC139	GE/RCA	CD54HC139 (2640)		MC54HC193	GE/RCA	CD54HC193 (2640)	
MC54HCT126	GE/RCA	CD54HCT126 (2640)		MC54HCT541	CTI GE/RCA	54HCT541 CD54HCT541 (2641)			National Signetics TI	MM54HC139 54HC139		MC54HC194	GE/RCA	CD54HC194 (2640)	
MC54HCT138	CTI GE/RCA	54HCT138 CD54HCT138 (2640)			National Supertex TI	MM54HCT541 54HCT541		MC54HC14	GE/RCA	CD54HC14 (2640)		MC54HC195	GE/RCA	CD54HC195 (2640)	
	National Signetics Supertex TI	MM54HCT138 54HCT138 54HCT138 SN54HCT138		MC54HCT640	GE/RCA	CD54HCT640 (2641)			National Signetics TI	MM54HC14 54HC14			National TI	MM54HC195 SN54HC195	
MC54HCT157	GE/RCA	CD54HCT157 (2640, 2653)						MC54HC147	GE/RCA	CD54HC147 (2640)		MC54HC20	GE/RCA	CD54HC20 (2640)	
MC54HCT158	GE/RCA	CD54HCT158 (2640)		MC54HCT643	GE/RCA	CD54HCT643 (2641)			National TI	MM54HC147 SN54HC147		MC54HC21	GE/RCA	CD54HC21 (2640)	
	National Signetics	MM54HCT158 54HCT158			National TI	MM54HCT643 SN54HCT643		MC54HC151	GE/RCA	CD54HC151 (2640)		MC54HC221	GE/RCA	CD54HC221 (2640)	
MC54HCT240	CTI GE/RCA	54HCT240 CD54HCT240 (2640)		MC54HCU04	GE/RCA	CD54HCU04 (2642, 2649)			National TI	MM54HC151 SN54HC151			National TI	MM54HC221 SN54HC221	
	Micrel	MC54HCT240 MIC54HCT240			National TI	MM54HCU04 SN54HCU04		MC54HC153	GE/RCA	CD54HC153 (2640)		MC54HC237	GE/RCA	CD54HC237 (2640)	
	National Signetics Supertex TI	MM54HCT240 54HCT240 54HCT240 SN54HCT240		MC54HC00	GE/RCA	CD54HC00 (2639, 2653)			National TI	MM54HC153 SN54HC153		MC54HC240	GE/RCA	CD54HC240 (2640)	
MC54HCT241	CTI GE/RCA	54HCT241 CD54HCT241 (2640)			National Signetics TI	MM54HC00 54HC00 SN54HC00		MC54HC157	GE/RCA	CD54HC157 (2640, 2653)			National TI	MM54HC240 54HC240	
	Krueger	41256-100 (2877) 41256-120 (2877) 41256-150 (2877)		MC54HC02	GE/RCA	CD54HC02 (2639)			National TI	MM54HC157 54HC157		MC54HC241	GE/RCA	CD54HC241 (2640)	
	Micrel	MC54HCT241 MIC54HCT241			National Signetics	MM54HC02 54HC02 SN54HC02		MC54HC158	GE/RCA	CD54HC158 (2640)			National Signetics Supertex TI	MM54HC241 54HC241 SN54HC241	
	Mitsubishi Motorola National OKI	M5M4256A MCM6256B MM54HCT241 MSM37256A		MC54HC03	GE/RCA	CD54HC03 (2639)			National Signetics TI	MM54HC158 54HC158 SN54HC158		MC54HC242	GE/RCA	CD54HC242 (2640)	
	Panasonic	MN41256			National Signetics	MM54HC04 54HC04 74HC04 (3057)		MC54HC160	GE/RCA	CD54HC160 (2640)			National Supertex TI	MM54HC242 SN54HC242	
	Samsung	KM41256A (3036)		MC54HC04	GE/RCA	CD54HC04 (2639)			National TI	MM54HC160 SN54HC160		MC54HC243	GE/RCA	CD54HC243 (2640)	
	Siemens	HYB41256			National Signetics	MM54HC04 54HC04 74HC04 (3057)		MC54HC162	GE/RCA	CD54HC162 (2640)			National TI	MM54HC243 54HC243 SN54HC243	
	Supertex	54HCT241		MC54HC08	GE/RCA	CD54HC08 (2639)			National TI	MM54HC162 SN54HC162					
	TI	SN54HCT241			National Signetics	MM54HC08 54HC08 SN54HC08		MC54HC161	GE/RCA	CD54HC161 (2640)					
	Vitellic	V51C256 V51C257		MC54HC10	GE/RCA	CD54HC10 (2640)			National Signetics TI	MM54HC161 54HC161 SN54HC161					
MC54HCT244	CTI GE/RCA	54HCT244 CD54HCT244 (2640, 2653)			National TI	MM54HC10 SN54HC10			National TI	MM54HC162 SN54HC162					
	Micrel	MIC54HCT244		MC54HC107	GE/RCA	CD54HC107 (2640)									
	National Signetics Supertex TI	MM54HCT244 54HCT244 54HCT244 SN54HCT244			National TI	MM54HC107 SN54HC107									

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MC54HC368	GE/RCA	CD54HC368 (2641)		MC54HC4351	GE/RCA	CD54HC4351 MM54HC4351		MC54HC648	GE/RCA	CD54HC648 (2641)	
MC54HC244	GE/RCA	CD54HC244 (2640, 2653)			National	MM54HC368 SN54HC368		MC54HC4352	GE/RCA	CD54HC4352 MM54HC4352		MC54HC688	GE/RCA	CD54HC688 (2641, 2649)	
	National	MM54HC244 54HC244		MC54HC373	GE/RCA	CD54HC373 (2641, 2653)		MC54HC4353	GE/RCA	CD54HC4353 MM54HC4353			National	MM54HC688 54HC688	
MC54HC245	GE/RCA	CD54HC245 (2640, 2653)			National	MM54HC373 54HC373		MC54HC4511	GE/RCA	CD54HC4511 (2641)		MC54HC73	GE/RCA	CD54HC73 (2640)	
	Supertex	SN54HC244			Supertex	54HC373			National	MM54HC4511 SN54HC4511			National	MM54HC73 SN54HC73	
MC54HC251	GE/RCA	CD54HC251 (2640)		MC54HC374	GE/RCA	CD54HC374 (2641, 2653)		MC54HC4514	GE/RCA	CD54HC4514 (2641)		MC54HC74	GE/RCA	CD54HC74 (2640)	
	National	MM54HC245 54HC245			National	MM54HC374 54HC374			National	MM54HC4514 SN54HC4514			National	MM54HC74 54HC74	
MC54HC253	GE/RCA	CD54HC253 (2640)			Supertex	SN54HC374		MC54HC4518	GE/RCA	CD54HC4518 (2641)		MC54HC75	GE/RCA	CD54HC75 (2640)	
	Supertex	SN54HC251		MC54HC377	GE/RCA	CD54HC377 (2641)		MC54HC4520	GE/RCA	CD54HC4520 (2641)			National	MM54HC75 SN54HC75	
MC54HC257	GE/RCA	CD54HC257 (2640, 2653)			TI	SN54HC377		MC54HC4538	GE/RCA	CD54HC4538 (2641)		MC54HC76	GE/RCA	CD54HC76 (2640)	
	National	MM54HC253 SN54HC253		MC54HC386	GE/RCA	CD54HC386 (2641)			National	MM54HC4538 SN54HC4538		MC54HC85	GE/RCA	CD54HC85 (2640)	
MC54HC259	GE/RCA	CD54HC259 (2640)		MC54HC390	GE/RCA	CD54HC390 (2641)		MC54HC4543	GE/RCA	CD54HC4543 (2641, 2653)			National	MM54HC85 SN54HC85	
	National	MM54HC257 54HC257			National	MM54HC390 SN54HC390		MC54HC4543	GE/RCA	CD54HC4543 (2641, 2653)		MC54HC86	GE/RCA	CD54HC86 (2640)	
MC54HC266	GE/RCA	CD54HC266 (2640)		MC54HC393	GE/RCA	CD54HC393 (2641)		MC54HC51	GE/RCA	CD54HC51 (2641)			National	MM54HC86 54HC86	
	Supertex	SN54HC259			Supertex	SN54HC393		MC54HC533	GE/RCA	CD54HC533 (2641)		• MC54H108	National	MM54HC86 54HC86	
MC54HC27	GE/RCA	CD54HC27 (2640)		MC54HC4002	GE/RCA	CD54HC4002 (2641)			National	MM54HC533 SN54HC533		• MC54LS183	TI	SN54LS183	
	National	MM54HC266 SN54HC266			National	MM54HC4002 SN54HC4002		MC54HC534	GE/RCA	CD54HC534 (2641)		• MC5400	National	MM54HC86 54HC86	
MC54HC273	GE/RCA	CD54HC273 (2640)		MC54HC4016	GE/RCA	CD54HC4016 (2641)		MC54HC540	GE/RCA	CD54HC540 (2641)		• MC5400	Signetics	5400	
	CTI	54HC273			National	MM54HC4016 SN54HC4016			National	MM54HC540 SN54HC540		• MC5401	TI	SN5400	
MC54HC280	GE/RCA	CD54HC280 (2640)		MC54HC4017	GE/RCA	CD54HC4017 (2641)		MC54HC541	GE/RCA	CD54HC541 (2641)		• MC5401	Lansdale	ML5401	
	National	MM54HC273 54HC273			National	MM54HC4017 SN54HC4017			National	MM54HC541 SN54HC541		• MC5401	National	SL5401	
MC54HC283	GE/RCA	CD54HC283 (2640)		MC54HC4024	GE/RCA	CD54HC4024 (2641)		MC54HC563	GE/RCA	CD54HC563 (2641)		• MC5402	TI	SN5401	
	National	MM54HC280 SN54HC280			National	MM54HC4024 CD54HC4024			National	MM54HC563 SN54HC563		• MC5402	Lansdale	ML5402	
MC54HC292	GE/RCA	CD74HC4015 (2641)		MC54HC4040	GE/RCA	CD54HC4040 (2641)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5402	National	DM5402	
	National	MM54HC283 CD74HC4015			National	MM54HC4040 CD54HC4040			National	MM54HC564 SN54HC564		• MC5403	TI	SN5402	
MC54HC294	GE/RCA	CD74HC4059 (2641)		MC54HC4046	GE/RCA	CD54HC4046 (2641)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5403	TI	SN5402	
	National	MM54HC292 74HC4015 (3057)			National	MM54HC4046 CD54HC4046		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5404	National	DM5404	
MC54HC298	GE/RCA	CD74HC4059 (2641)		MC54HC4049	GE/RCA	CD54HC4049 (2641)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5404	AMD	AM9016	
	National	MM54HC294 74HC4059 (3057)			National	MM54HC4049 CD54HC4049		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5404	Lansdale	ML5404	
MC54HC299	GE/RCA	CD54HC299 (2640)		MC54HC4051	GE/RCA	CD54HC4051 (2641, 2655)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5405	National	DM5405	
	Supertex	SN54HC298			National	MM54HC4051 CD54HC4051		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5405	TI	SN5405	
MC54HC30	GE/RCA	CD54HC30 (2640)		MC54HC4052	GE/RCA	CD54HC4052 (2641, 2655)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5406	TI	SN5405	
	National	MM54HC299 SN54HC299			National	MM54HC4052 CD54HC4052		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5406	Lansdale	ML5406	
MC54HC32	GE/RCA	CD54HC32 (2640)		MC54HC4053	GE/RCA	CD54HC4053 (2641, 2655)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5407	National	DM5407	
	National	MM54HC30 SN54HC30			National	MM54HC4053 CD54HC4053		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5407	TI	SN5407	
MC54HC354	GE/RCA	CD54HC354 (2640)		MC54HC4060	GE/RCA	CD54HC4060 (2641)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5408	Lansdale	ML5408	
	National	MM54HC32 54HC32			National	MM54HC4060 CD54HC4060		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5409	Lansdale	ML5409	
MC54HC356	GE/RCA	CD54HC356 (2640)		MC54HC4066	GE/RCA	CD54HC4066 (2641)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	National	DM5410	
	National	MM54HC354 SN54HC354			National	MM54HC4066 CD54HC4066		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
MC54HC365	GE/RCA	CD54HC365 (2641)		MC54HC4075	GE/RCA	CD54HC4075 (2641)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
	National	MM54HC356 SN54HC356			National	MM54HC4075 CD54HC4075		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
MC54HC366	GE/RCA	CD54HC366 (2641)		MC54HC4078	GE/RCA	CD54HC4078 (2640)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
	National	MM54HC365 74HC365 (3057)			National	MM54HC4078 SN54HC4078		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
MC54HC367	GE/RCA	CD54HC367 (2641)		MC54HC42	GE/RCA	CD54HC42 (2640)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
	National	MM54HC366 SN54HC366			National	MM54HC42 SN54HC42		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
	Supertex	SN54HC365		MC54HC423	GE/RCA	CD54HC423 (2641)		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
	National	MM54HC367 54HC367			National	MM54HC423 CD74HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
	Supertex	SN54HC367			National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	Lansdale	ML5410	
					Supertex	SN54HC423		MC54HC564	GE/RCA	CD54HC564 (2641)		• MC5410	TI	SN5410	
					National	MM54HC423A 74HC423A		MC54HC564	GE/RCA						

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MC54177	Signetics	S7281 SN54177		MC5445	National SGS-Thomson	DM5445 L602 S042 NE602 SA602	(3155)	MC55107	National	DS55107 LM55107A SN55107A SN55107B DS55108 LM55108A 55108 SN55108A SN55108B	
MC54132	Lansdale National Signetics TI	ML54132 DM54132 54132 SN54132		MC54180	Lansdale National Signetics TI	ML54180 DM54180 54180 SN54180		MC5445	SiliconG TI	SM602 SN5445		MC55108	National	LM5522 LM5522 LM5522 LM5522 LM5524 LM5524 RM5524 SNJ5524 LM5525 LM5525 LM5528 LM5528 LM5529 LM5529	
MC54136	Lansdale	ML54136		MC54181	National	ML54181		MC5450	Unitrode	ML5450		MC552	Lansdale	LM5522	
MC5414	Lansdale National	ML5414 DM5414		MC54182	Lansdale	ML54182 SL54182 DM54182 RM9342		MC5451	Lansdale National	ML5451 DM5451 MM5451		MC5522	Motorola	LM5522	
MC5414	Signetics TI	5414 SN5414		MC54182	National	DM54182		MC5451	SGS-Thomson	M5450 SN5450		MC5523	Motorola	LM5522	
MC54141	National Signetics	DM54141 54141		MC54190	Lansdale National	ML54190 DM54190		MC5451	Lansdale National	ML5451 DM5451		MC5524	National	LM5524	
MC54146	Lansdale	ML54146		MC54191	Lansdale	ML54191		MC5451	SGS-Thomson	M5451 SN5451		MC5525	Raytheon TI	RM5524 SNJ5524	
MC54150	Lansdale National	ML54150 DM54150 54150		MC54191	National	DM54191 54191		MC5453	TI	SN5453		MC5525	National	LM5525	
MC54150	TI	SN54150		MC54191	Signetics	54191		MC5453	Lansdale	ML5453 SL5453		MC5528	National	LM5528	
MC54151	Lansdale National	ML54151 DM54151 54151A		MC54192	Lansdale	ML54192		MC5453	National	DM5453 MM5453		MC5529	GoldStar National	GL5529 LM5529 LM5529	(2712)
MC54151	Signetics TI	54151 SN54151A		MC54193	Lansdale	ML54193		MC5453	STC	TEL5453		MC553	Lansdale	ML553	
MC54152	Lansdale	ML54152		MC54193	National	DM54193		MC5454	Lansdale	ML5454		MC55325	National SiliconG	DS55325 JAN55325 SG55325	
MC54153	Lansdale National	ML54153 DM54153 54153		MC54193	TI	SN54193		MC5470	Lansdale	ML5470 SL5470		MC5533	TI	JANB55325 SNJ55325 SN55325	
MC54153	Signetics TI	54153 SN54153		MC54194	Lansdale National	ML54194 DM54194		MC5470	National	DM5470		MC5534	Exar National	XR5534 LM5534 LM5534	
MC54154	Lansdale	ML54154		MC54195	TI	SN54195		MC5472	Lansdale	ML5472 SL5472		MC5535	Raytheon National	RC5534 LM5535	(3024)
MC54155	Lansdale National	ML54155 DM54155 SN54155		MC54196	Lansdale National	ML54196 DM54196		MC5473	Lansdale National	ML5473 DM5473		MC5539	AD National	AD5539 LM5539	(2428, 2462)
MC54156	National	DM54156		MC54197	Signetics	54196 SN54196		MC5473	TI	SN5473		MC554	Signetics Lansdale	NE5539 ML554	(3141)
MC54157	TI	SN54157		MC54198	Lansdale National	SL54198 DM54198		MC5474	TI	SN5474		MC555	Lansdale	ML555	
MC54157	Signetics TI	54157 SN54157		MC54199	TI	SN54199		MC5474	Lansdale National	ML5474 DM5474		MC556	Lansdale	ML556	
MC5416	Lansdale National Sony	ML5416 DM5416 CK5416		MC5420	Lansdale LSI Logic National	ML5420 LL5420 DM5420		MC5474	Signetics	5474 SN5474		MC557	Lansdale	ML557	
MC54160	Lansdale National Raytheon Signetics TI	ML54160 DM54160 RM9310 54160 SN54160		MC5420	Signetics	5420 SN5420		MC5474	TI	SN5474		MC558	Lansdale	ML558	
MC54161	Lansdale National	ML54161 DM54161		MC5423	Lansdale National	ML5423 DM5423		MC5475	Signetics	5475 SN5475		MC559	Lansdale	ML559	
MC54161	Signetics TI	54161 SN54161		MC5425	Lansdale National	ML5425 DM5425		MC5475	TI	SN5475		MC560	Lansdale	ML560	
MC54162	Lansdale National	ML54162 DM54162		MC5425	TI	SN5425		MC5476	Lansdale National	ML5476 DM5476		MC561	Lansdale	ML561	
MC54162	TI	SN54162		MC5426	Lansdale National	ML5426 DM5426		MC5476	Signetics	5476 SN5476		MC562	Lansdale	ML562	
MC54163	Lansdale National	ML54163 DM54163		MC5427	Signetics	5426 SN5426		MC5477	Lansdale	ML5477		MC563	Lansdale	ML563	
MC54165	Signetics TI	54163 SN54163		MC5427	Lansdale National	ML5427 DM5427		MC5479	Lansdale	ML5479		MC564	Lansdale	ML564	
MC54165	Lansdale National	ML54165 DM54165		MC54279	TI	SN54279		MC5480	Lansdale	ML5480		MC565	Lansdale	ML565	
MC54165	Signetics TI	54165 SN54165		MC54290	Lansdale	ML54290		MC5480	Lansdale	ML5480		MC566	Lansdale	ML566	
MC54167	Lansdale	ML54167		MC54293	Lansdale	ML54293		MC5481	Signetics	5481 SN5481		MC567	Lansdale	ML567	
MC5417	Lansdale National	ML5417 DM5417		MC54298	Lansdale National	ML54298 DM54298		MC5482	TI	SN5482		MC568	Lansdale	ML568	
MC54170	TI	SN54170		MC5430	Signetics	54279 SN54279		MC5483	Lansdale	ML5483		MC569	Lansdale	ML569	
MC54174	Lansdale National	ML54174 DM54174 54174		MC5430	Lansdale National	ML5430 DM5430		MC5485	Lansdale National	ML5485 DM5485		MC570	Lansdale	ML570	
MC54174	Signetics TI	54174 SN54174		MC5437	TI	SN5437		MC5486	SGS-Thomson	5486 M5486		MC571	Lansdale	ML571	
MC54175	Lansdale National	ML54175 DM54175		MC5438	Lansdale National	ML5438 DM5438		MC5490A	Signetics	5486 SN5486		MC572	Lansdale	ML572	
MC54175	Signetics TI	54175 SN54175		MC5440	TI	SN5440		MC5491	TI	SN5491		MC573	Lansdale	ML573	
MC54176	Lansdale	ML54176		MC5442	Lansdale National	ML5442 DM5442		MC5492A	Lansdale	ML5492A		MC574	Lansdale	ML574	
MC54176	National Signetics TI	DM54176 54176 SN54176		MC5442	Signetics	5442A SN5442A		MC5493A	Lansdale	ML5493A		MC575	Lansdale	ML575	
MC54177	Lansdale	ML54177		MC5443	Lansdale	ML5443		MC5494	Lansdale	ML5494		MC576	Lansdale	ML576	
MC54177	National	DM54177 DM7281		MC5444	Lansdale	ML5444		MC5495A	Lansdale	ML5495A		MC577	Lansdale	ML577	
								MC5496	Lansdale	ML5496		MC578	Lansdale	ML578	
								MC5497	TI	SN5497		MC579	Lansdale	ML579	
								MC550	Lansdale	ML550		MC6108	Burr-Brown Data	MPC85 MUX808	
								MC551	Lansdale	ML551		MC641	GE/Intersil	ICL6108	(2600)
												MC642	Harris	HI508	
												MC643	Maxim	DG508A	
												MC68HC01	MicroPwr	MAX358	
												MC68HC03	National	MP7508DI	
												MC68HC68T1	PMI	LF11508	
												MC6800	GE/RCA	DMX88	
												MC68000	SiliconG	MUX08	
													TeledyneP	MUX88	
													Lansdale	DG508A	
													Lansdale	TP4554	
													Lansdale	ML461	
													Lansdale	ML462	
													Lansdale	ML463	
													Hitachi	HD6301	
													Hitachi	HD6301	
													GE/RCA	CDP68HC68T1	
														(2644, 2653)	
													National	F6800A	
													SGS-Thomson	EF6800	
													Hitachi	HD68000	
													Krueger	68000	(2877)

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MC74F02	National Signetics	74F02 74F02 (3077)		MC74F240	TI	SN74BCT240 (3317)	(Cont'd)	MC74F533	TI	SN74BCT533 (3317)	(Cont'd)
MC68000	Rockwell SGS-Thomson	R68000 TS68000	(Cont'd)	MC74F04	National Signetics	74F04 SN74F04 (3077)		MC74F241	National Signetics	SN74F240 74F241 (3077)		MC74F534	National Signetics	SN74F533 74F534 (3078)	
MC68008	Signetics Krueger SGS-Thomson	SCN68000 68008 TS68008		MC74F08	National Signetics	74F08 SN74F08 (3077)		MC74F242	Signetics TI	SN74BCT241 SN74F241 (3077)		MC74F620	National Signetics	SN74F534 74F620 (3078)	
MC68010	Krueger	68010	(2877)	MC74F10	National Signetics	74F10 SN74F10 (3077)		MC74F243	National Signetics	74F243 SN74F243 (3077)		MC74F623	National Signetics	SN74F620 74F623 (3078)	
MC6802	Hitachi National SGS-Thomson	HD6802 F6802 EF6802		MC74F109	National Signetics	74F109 SN74F109 (3077)		MC74F244	National Signetics	74F244 SN74BCT244 (3317)		MC74F653	GE/RCA	SN74F623 CD74ACT151 (2642)	
MC6804	SGS-Thomson	EF6804		MC74F11	National Signetics	74F11 SN74F11 (3077)		MC74F251	National Signetics	SN74F245 74F251 (3077)		MC74F74	TI	74ACT151 74F653 SN74F653 74F74 74F74	
MC6805	GE/RCA Hitachi SGS-Thomson	CDP6805 HD6805 EF6805		MC74F112	National Signetics	74F112 SN74F112 (3077)		MC74F253	National Signetics	74F253 SN74F253 (3077)		MC74HCT00	GE/RCA	MM74HCT00 74HCT00 (3057)	
MC6808	National	F6808		MC74F114	National TI	SN74F114 SN74F114 (3077)		MC74F257	National Signetics	74F257 SN74F257 (3077)		MC74HCT04	National Signetics	MM74HCT04 74HCT04 (3057)	
MC6809	Hitachi SGS-Thomson	HD6809 EF6809		MC74F138	National Signetics	74F138 SN74F138 (3077)		MC74F258	National Signetics	74F258 SN74F258 (3077)		MC74HCT05	Hitachi	MM74HCT05 74HCT05 (2640)	
MC6810	Hitachi Motorola	HD6810 MCM6810 (2932)		MC74F139	Signetics	74F139 SN74F139 (3077)		MC74F280	National Signetics	74F280 SN74F280 (3077)		MC74HCT240	GE/RCA	HD74HCT240 MIC74HCT240 MM74HCT240 74HCT240 CD74HCT240 (2640)	
MC6820	National	F6810		MC74F148	National Signetics	74F148 SN74F148 (3077)		MC74F283	National Signetics	74F283 SN74F283 (3077)		MC74HCT241	Hitachi	HD74HCT241 MIC74HCT241 MM74HCT241 74HCT241 CD74HCT241 (2640)	
MC6821	Hitachi National SGS-Thomson	HD6821 F6821 EF6821	(3028)	MC74F151	National Signetics	74F151 SN74F151 (3077)		MC74F2968	AMD	AM2968		MC74HCT244	Hitachi	HD74HCT244 MIC74HCT244 MM74HCT244 74HCT244 CD74HCT244 (2640)	
MC6840	GoldStar Hitachi National SGS-Thomson	GL6840 HD6840 F6840 EF6840	(2713)	MC74F153	National Signetics	74F153 SN74F153 (3077)		MC74F2970	AMD	AM2970		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6843	Hitachi	HD6843		MC74F157	National Signetics	74F157 SN74F157 (3077)		MC74F323	National Signetics	74F323 SN74F323 (3077)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6844	Hitachi	HD6844		MC74F158	National Signetics	74F158 SN74F158 (3077)		MC74F373	National Signetics	74F373 SN74BCT373 (3317)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6845	Hitachi National	HD6845 F6845		MC74F160	National Signetics	74F160 SN74F160 (3077)		MC74F374	National Signetics	74F374 SN74BCT374 (3317)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Samsung	KS68C45		MC74F161	National Signetics	74F161 SN74F161 (3077)		MC74F378	National Signetics	74F378 SN74F378 (3077)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Unicorn	UC6845		MC74F162	National Signetics	74F162 SN74F162 (3077)		MC74F379	National Signetics	74F379 SN74F379 (3077)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	UMC	UM6845		MC74F163	National Signetics	74F163 SN74F163 (3077)		MC74F381	National Signetics	74F381 SN74F381 (3078)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	VLSI Tech	VL6845		MC74F164	National Signetics	74F164 SN74F164 (3077)		MC74F382	National Signetics	74F382 SN74F382 (3078)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6845A	Hitachi	HD6845A		MC74F168	National Signetics	74F168 SN74F168 (3077)		MC74F398	National Signetics	74F398 SN74F398 (3078)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6850	Hitachi National SGS-Thomson	HD6850 F6850 EF6850		MC74F169	National Signetics	74F169 SN74F169 (3077)		MC74F399	National Signetics	74F399 SN74F399 (3078)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6852	National	F6852		MC74F174	National Signetics	74F174 SN74F174 (3077)		MC74F521	National Signetics	74F521 SN74F521 (3078)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6860	National	F6860		MC74F175	National Signetics	74F175 SN74F175 (3077)		MC74F533	National Signetics	74F533 SN74F533 (3078)		MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6862	National	F6862		MC74F181	National Signetics	74F181 SN74F181 (3077)						MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC68653	Motorola	MCN2653		MC74F182	National Signetics	74F182 SN74F182 (3077)						MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC68661	Signetics	SCN2653		MC74F189	Cypress	CV7C189 (2580)						MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Microchip	AY2661										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Motorola	MCN2661										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Signetics	SCN2661										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	SMC	AY2661										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC68681	Signetics	SCN68681 (3108)										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC68682	Signetics	68682										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6880A	Motorola	MC8T26 (2981)										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC6885	Signetics	N8T26										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Motorola	MC8T95 (2981)										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	National	DM8095										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Signetics	N8T95 (3076)										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC68901	SGS-Thomson	MK68901										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC719924	GoldStar	GL7924										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Hitachi	HD74LS195A										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Motorola	MC7924 (2961)										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
		SN74LS195A	(2944)									MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	National	μA7924										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
		DM74LS195										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
		LM7924										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
		74LS195A										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	NEC	μPC7924										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Panasonic	DN74LS195A										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	SGS-Thomson	L7924										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
		T74LS195A										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Signetics	74LS195A (3057)										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	TI	μA7924										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
		SN74LS195A										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
	Toshiba	TA79024										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	
MC74F00	National Signetics TI	74F00 74F00 (3077)										MC74HCT245	Hitachi	HD74HCT245 MIC74HCT245 MM74HCT245 74HCT245 CD74HCT245 (2640)	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MC74HCT640	GE/RCA	CD74HCT640 (2641)		MC74HC11	GE/RCA Hitachi National SGS-Thomson	CD74HC11 (2640) HD74HC11 MM74HC11 M74HC11		MC74HC139	(Cont'd) National SGS-Thomson	MM74HC139 M74HC139	
MC74HCT245	(Cont'd)	TI Toshiba	SN74HCT245 TC74HCT245 TC74HCT245A		Hitachi National SGS-Thomson	HD74HCT640 MM74HCT640 M74HCT640			Signetics TI Toshiba	74HC11 (3057) SN74HC11 TC74HC11A (3340)			Signetics TI Toshiba	74HC139 (3057) SN74HC139 TC74HC139A (3340)	
MC74HCT373	CTI CMD Micro GE/RCA	74HCT373 G74SC373 CD74HCT373 (2641, 2653)		MC74HCT643	GE/RCA	CD74HCT643 (2641)		MC74HC112	Hitachi National SGS-Thomson	HD74HC112 MM74HC112 M74HC112		MC74HC14	GE/RCA Hitachi National SGS-Thomson	CD74HC14 (2640) HD74HC14 MM74HC14 M74HC14	
	Hitachi Micrel National Plessey SGS-Thomson	HD74HCT373 MIC74HCT373 MM74HCT373 MV74HCT373 MV74SC373			SGS-Thomson	M74HCT643			Signetics TI Toshiba	74HC112 (3057) SN74HC112 TC74HC112 (3340)		MC74HC147	GE/RCA Hitachi National SGS-Thomson	CD74HC147 (2640) HD74HC147 MM74HC147 M74HC147	
	Signetics Supertex TI Toshiba	74HCT373 SN74HCT373 TC74HCT373 74HCT374		MC74HCU04	GE/RCA	CD74HCU04 (2642, 2649)		MC74HC113	Hitachi National SGS-Thomson	HD74HC113 MM74HC113 M74HC113			Hitachi National SGS-Thomson	HD74HC147 MM74HC147 M74HC147	
MC74HCT374	CTI CMD Micro GE/RCA	74HCT374 G74SC374 CD74HCT374 (2641, 2653)			SGS-Thomson	M74HCU04			Signetics TI Toshiba	74HC113 SN74HC113 TC74HC113 (3340)		MC74HC151	GE/RCA Hitachi National SGS-Thomson	CD74HC151 (2640) HD74HC151 MM74HC151 M74HC151	
	Hitachi Micrel National Plessey SGS-Thomson	HD74HCT374 MIC74HCT374 MM74HCT374 MV74HCT374 MV74SC374		MC74HC00	GE/RCA	CD74HC00 (2639, 2653)		MC74HC123A	Hitachi National SGS-Thomson	HD74HC123 MM74HC123 M74HC123			Hitachi National SGS-Thomson	HD74HC151 MM74HC151 M74HC151	
	Signetics Supertex TI Toshiba	74HCT374 74HCT374 SN74HCT374 TC74HCT374A		MC74HC02	GE/RCA	CD74HC02 (2639)			Signetics TI Toshiba	74HC123 (3057) SN74HC123 TC74HC123 (3340)		MC74HC153	GE/RCA Hitachi National SGS-Thomson	CD74HC153 (2640) HD74HC153 MM74HC153 M74HC153	
MC74HCT533	CTI GE/RCA	74HCT533 CD74HCT533 (2641)			Hitachi National SGS-Thomson	HD74HC02 MM74HC02 M74HC02		MC74HC125	Hitachi National SGS-Thomson	HD74HC125 MM74HC125 M74HC125			Hitachi National SGS-Thomson	HD74HC153 MM74HC153 M74HC153	
	Hitachi Micrel National Plessey Signetics TI	HD74HCT533 MIC74HCT533 MM74HCT533 MV74HCT533 74HCT533 (3057) SN74HCT533		MC74HC03	GE/RCA	CD74HC03 (2639)			Signetics TI Toshiba	74HC125 (3057) SN74HC125 TC74HC125A (3340)		MC74HC154	GE/RCA Hitachi National SGS-Thomson	CD74HC154 (2640) HD74HC154 MM74HC154 M74HC154	
MC74HCT534	CTI GE/RCA	74HCT534 CD74HCT534 (2641)			Hitachi National SGS-Thomson	HD74HC03 MM74HC03 M74HC03		MC74HC126	Hitachi National SGS-Thomson	HD74HC126 MM74HC126 M74HC126			Hitachi National SGS-Thomson	HD74HC154 MM74HC154 M74HC154	
	Hitachi Micrel National Plessey Signetics TI	HD74HCT534 MIC74HCT534 MM74HCT534 MV74HCT534 74HCT534 (3057) SN74HCT534		MC74HC04	GE/RCA	CD74HC04 (2639)			Signetics TI Toshiba	74HC126 (3057) SN74HC126 TC74HC126A (3340)		MC74HC155	GE/RCA Hitachi National SGS-Thomson	CD74HC155 (2640) HD74HC155 MM74HC155 M74HC155	
MC74HCT540	CTI GE/RCA	74HCT540 CD74HCT540 (2641)			Hitachi National SGS-Thomson	HD74HC04 MM74HC04 M74HC04		MC74HC131	SGS-Thomson				Signetics TI Toshiba	74HC154 (3057) SN74HC154 TC74HC154A (3340)	
	Hitachi Micrel National Plessey Signetics TI	HD74HCT540 MIC74HCT540 MM74HCT540 MV74HCT540 74HCT540 (3057) SN74HCT540		MC74HC05	GE/RCA	CD74HC05 (2639)		MC74HC132	Hitachi National SGS-Thomson	HD74HC132 MM74HC132 M74HC132			Signetics TI Toshiba	74HC155 (3057) SN74HC155 TC74HC155A (3340)	
MC74HCT541	CTI GE/RCA	74HCT541 CD74HCT541 (2641)		MC74HC08	GE/RCA	CD74HC08 (2639)			Signetics TI Toshiba	74HC132 (3057) SN74HC132 TC74HC132A (3340)		MC74HC157	GE/RCA Hitachi National SGS-Thomson	CD74HC157 (2640, 2653) HD74HC157 MM74HC157 M74HC157	
	Hitachi Micrel National Plessey Signetics TI	HD74HCT541 MIC74HCT541 MM74HCT541 MV74HCT541 74HCT541 (3057) SN74HCT541		MC74HC10	GE/RCA	CD74HC10 (2640)			Signetics TI Toshiba	74HC132A (3340) SN74HC132A TC74HC132A (3340)		MC74HC158	GE/RCA Hitachi National SGS-Thomson	CD74HC158 (2640) HD74HC158 MM74HC158 M74HC158	
MC74HCT564	CTI GE/RCA	74HCT564 CD74HCT564 (2641)			Hitachi National SGS-Thomson	HD74HC10 MM74HC10 M74HC10		MC74HC137	Hitachi National SGS-Thomson	HD74HC137 MM74HC137 M74HC137			Signetics TI Toshiba	74HC157 (3057) SN74HC157 TC74HC157A (3340)	
	Hitachi Micrel National Plessey Signetics TI	HD74HCT564 MIC74HCT564 MM74HCT564 MV74HCT564 74HCT564 (3057) SN74HCT564		MC74HC107	GE/RCA	CD74HC107 (2640)			Signetics TI Toshiba	74HC137 (3057) SN74HC137 TC74HC137A (3340)		MC74HC160	GE/RCA Hitachi National SGS-Thomson	CD74HC160 (2640) HD74HC160 MM74HC160 M74HC160	
MC74HCT620	SGS-Thomson	M74HCT564			Hitachi National SGS-Thomson	HD74HC107 MM74HC107 M74HC107		MC74HC138	Hitachi National SGS-Thomson	HD74HC138 MM74HC138 M74HC138			Signetics TI Toshiba	74HC158 (3057) SN74HC158 TC74HC158A (3340)	
MC74HCT623	TI	SN74HCT623		MC74HC109	GE/RCA	CD74HC109 (2640)			Signetics TI Toshiba	74HC138 (3057) SN74HC138 TC74HC138A (3340)		MC74HC161	GE/RCA Hitachi	CD74HC161 (2640) HD74HC161	
					Hitachi National SGS-Thomson	HD74HC109 MM74HC109 M74HC109		MC74HC139	Hitachi	HD74HC139					

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Motorola (Cont'd)																
MC74HC161	National SGS-Thomson	MM74HC161	(Cont'd)	MC74HC181	TI Toshiba GE/RCA	SN74HC181 TC74HC181 (3340) CD74HC182 (2640)	(Cont'd)	MC74HC237	GE/RCA	CD74HC237 (2640)		MC74HC253	Signetics TI Toshiba	74HC253 SN74HC253 TC74HC253A (3340)	(Cont'd) (3057)	
		M74HC161			National SGS-Thomson	MM74HC182	(2640)			MM74HC237		MC74HC257	GE/RCA	CD74HC257 (2640, 2653)		
		74HC161 (3057)				74HC182 (3057)				74HC237			Hitachi	HD74HC257		
		SN74HC161				SN74HC182		MC74HC238	GE/RCA	CD74HC238 (2640)			National SGS-Thomson	MM74HC257		
		TC74HC161A (3340)				TC74HC182 (3340)				MM74HC238				74HC257 (3057)		
MC74HC162	GE/RCA	CD74HC162 (2640)		MC74HC190	GE/RCA	CD74HC190 (2640)				M74HC238				SN74HC257		
	Hitachi	HD74HC162			Hitachi	HD74HC190				74HC238 (3057)				TC74HC257 (3340)		
	National	MM74HC162			National	MM74HC190				SN74HC238				TC74HC257A (3340)		
	SGS-Thomson				SGS-Thomson					TC74HC238A (3340)		MC74HC259	GE/RCA	CD74HC259 (2640)		
		M74HC162				M74HC190		MC74HC240	GE/RCA	CD74HC240 (2640)			Hitachi	HD74HC259		
		74HC162 (3057)				74HC190 (3057)							National	MM74HC259		
		SN74HC162				SN74HC190				Hitachi	HD74HC240			Signetics	SN74HC259	
		TC74HC162A (3340)				TC74HC190 (3340)				National	MM74HC240			TI	TC74HC259 (3340)	
MC74HC163	GE/RCA	CD74HC163 (2640)		MC74HC191	GE/RCA	CD74HC191 (2640)				SGS-Thomson				Toshiba	TC74HC259 (3340)	
	Hitachi	HD74HC163			Hitachi	HD74HC191				M74HC240		MC74HC266	GE/RCA	CD74HC266		
	National	MM74HC163			National	MM74HC191				74HC240 (3057)			Hitachi	HD74HC266		
	SGS-Thomson				SGS-Thomson					TI	SN74HC240			National	MM74HC266	
		M74HC163				M74HC191		MC74HC241	GE/RCA	CD74HC241 (2640)			SGS-Thomson	M74HC266		
		74HC163 (3057)				74HC191 (3057)				Hitachi	HD74HC241			74HC266		
		SN74HC163				SN74HC191				National	MM74HC241		MC74HC27	GE/RCA	CD74HC27 (2640)	
		TC74HC163A (3340)				TC74HC191 (3340)				SGS-Thomson				Hitachi	HD74HC27	
MC74HC164	GE/RCA	CD74HC164 (2640)		MC74HC192	GE/RCA	CD74HC192 (2640)				Supertex	74HC241			National	MM74HC27	
	Hitachi	HD74HC164			Hitachi	HD74HC192				TI	SN74HC241			SGS-Thomson	M74HC27	
	National	MM74HC164			National	MM74HC192				Toshiba	TC74HC241A (3340)		MC74HC273	GE/RCA	CD74HC273 (2640)	
	SGS-Thomson				SGS-Thomson					Hitachi	HD74HC242			Hitachi	HD74HC273	
		M74HC164				M74HC192				National	MM74HC242			National	MM74HC273	
		74HC164 (3057)				74HC192 (3057)		MC74HC242	GE/RCA	CD74HC242 (2640)				SGS-Thomson	M74HC273	
		SN74HC164				SN74HC192				Signetics	74HC242 (3057)				74HC273 (3057)	
		TC74HC164A (3340)				TC74HC192A (3340)				TI	SN74HC242			TI	SN74HC273	
MC74HC165	GE/RCA	CD74HC165 (2640)		MC74HC193	GE/RCA	CD74HC193 (2640)				Toshiba	TC74HC242A (3340)			Toshiba	TC74HC273A (3340)	
	Hitachi	HD74HC165			Hitachi	HD74HC193				Hitachi	HD74HC243			Universal	US74HC27	
	National	MM74HC165			National	MM74HC193				National	MM74HC243		MC74HC273	GE/RCA	CD74HC273 (2640)	
	SGS-Thomson				SGS-Thomson					SGS-Thomson				Hitachi	HD74HC273	
		M74HC165				M74HC193				Signetics	74HC243 (3057)			National	MM74HC273	
		74HC165 (3057)				74HC193 (3057)				TI	SN74HC243			SGS-Thomson	M74HC273	
		SN74HC165				SN74HC193		MC74HC243	GE/RCA	CD74HC243 (2640)				TI	SN74HC273	
		TC74HC165A (3340)				TC74HC193A (3340)				Hitachi	HD74HC243			Toshiba	TC74HC273A (3340)	
MC74HC166	GE/RCA	CD74HC166 (2640)		MC74HC194	GE/RCA	CD74HC194 (2640)				National	MM74HC243					
	National	MM74HC166			Hitachi	HD74HC194				SGS-Thomson			MC74HC280	GE/RCA	CD74HC280 (2640)	
	SGS-Thomson				National	MM74HC194				Signetics	74HC243 (3057)			Hitachi	HD74HC280	
		M74HC166			SGS-Thomson					TI	SN74HC243			National	MM74HC280	
		74HC166 (3057)				M74HC194		MC74HC244	GE/RCA	CD74HC244 (2640, 2653)				SGS-Thomson	M74HC280	
		SN74HC166				74HC194 (3057)				Hitachi	HD74HC244			Signetics	74HC280 (3057)	
		TC74HC166A (3340)				SN74HC194				National	MM74HC244			TI	SN74HC280	
MC74HC173	GE/RCA	CD74HC173 (2640)		MC74HC195	GE/RCA	CD74HC195 (2640)				SGS-Thomson				Toshiba	TC74HC280A (3340)	
	Hitachi	HD74HC173			Hitachi	HD74HC195				Signetics	74HC244 (3057)		MC74HC283	GE/RCA	CD74HC283 (2640)	
	National	MM74HC173			National	MM74HC195				TI	SN74HC244			National	MM74HC283	
	SGS-Thomson				SGS-Thomson					Toshiba	TC74HC244A (3340)			SGS-Thomson	M74HC283	
		M74HC173				M74HC195		MC74HC245	GE/RCA	CD74HC245 (2640, 2653)					74HC283 (3057)	
		74HC173 (3057)				74HC195 (3057)				Hitachi	HD74HC245			Signetics	SN74HC283	
		SN74HC173				SN74HC195				National	MM74HC245			TI	SN74HC283	
		TC74HC173 (3340)				TC74HC195 (3340)				SGS-Thomson				Toshiba	TC74HC283A (3340)	
MC74HC174	GE/RCA	CD74HC174 (2640)		MC74HC20	GE/RCA	CD74HC20 (2640)				Signetics	74HC245 (3057)		MC74HC292	National	MM74HC292	
	Hitachi	HD74HC174			Hitachi	HD74HC20				TI	SN74HC245				M74HC292	
	National	MM74HC174			National	MM74HC20				Toshiba	TC74HC245A (3340)			National	MM74HC294	
	SGS-Thomson				SGS-Thomson					Hitachi	HD74HC251			SGS-Thomson	M74HC294	
		M74HC174				M74HC20		MC74HC251	GE/RCA	CD74HC251 (2640)				Hitachi	HD74HC298	
		74HC174 (3057)				74HC20 (3057)				National	MM74HC251			National	MM74HC298	
		SN74HC174				SN74HC20				SGS-Thomson				Signetics	TC74HC298A	
		TC74HC174A (3340)				TC74HC20A (3340)				TI	SN74HC251			TI	SN74HC298	
MC74HC175	GE/RCA	CD74HC175 (2640)		MC74HC21	GE/RCA	CD74HC21 (2640)				Toshiba	TC74HC251A (3340)			Toshiba	TC74HC298 (3340)	
	Hitachi	HD74HC175			Hitachi	HD74HC21				Hitachi	HD74HC251				CD74HC299 (2640)	
	National	MM74HC175			National	MM74HC21				National	MM74HC251		MC74HC299	GE/RCA	CD74HC299	
	SGS-Thomson				SGS-Thomson					SGS-Thomson				Hitachi	HD74HC299	
		M74HC175				M74HC21				Signetics	74HC251 (3057)			National	MM74HC299	
		74HC175 (3057)				74HC21 (3057)				TI	SN74HC251				M74HC299	
		SN74HC175				SN74HC21				Toshiba	TC74HC251A (3340)			Signetics	74HC299 (3057)	
		TC74HC175A (3340)				TC74HC21A (3340)				Hitachi	HD74HC253			TI	SN74HC299	
MC74HC181	GE/RCA	CD74HC181 (2640)		MC74HC221A	GE/RCA	CD74HC221 (2640)				National	MM74HC253			Toshiba	TC74HC299A (3340)	
	Hitachi	HD74HC181			Hitachi	HD74HC221				SGS-Thomson						
	National	MM74HC181			National	MM74HC221				Signetics	74HC253 (3057)					
	SGS-Thomson				SGS-Thomson			MC74HC253	GE/RCA	CD74HC253 (2640)						
		M74HC181				M74HC221				Hitachi	HD74HC253					
		74HC181 (3057)				74HC221 (3057)				National	MM74HC253					
		(Continued)				SN74HC221				SGS-Thomson						
						TC74HC221 (3340)					M74HC253 (Continued)					

◆ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				Motorola (Cont'd)				Motorola (Cont'd)				Motorola (Cont'd)			
MC74HC4543	Cypress GE/RCA	CY7C172 CD74HC4543 (2580) (2641, 2653)		MC74HC573	TI Toshiba	SN74HC573 TC74HC573A (3340)		MC74HC646	SGS-Thomson Signetics TI Toshiba	M74HC646 74HC646 (3057) SN74HC646 TC74HC646A (3340)		MC74HC86	TI Toshiba	SN74HC86 TC74HC86 (3340)	
	IDT	IDT171682 IDT171782		MC74HC574	GE/RCA	CD74HC574 (2641)		MC74HC648	GE/RCA	CD74HC648 (2641)		MC74H01	National	DM74H01	
	MicronTech	MT5C1607			Hitachi	HD74HC574			Hitachi	HD74HC648		MC74H08	National	DM74H08	
	National	MM74HC4543			National	MM74HC574			National	MM74HC648		MC74H10	National	DM74H10	
	Performance	P4C1682			SGS-Thomson	M74HC574			Hitachi	HD74HC648		MC7400	Lansdale	ML7400	
	Saratoga	SSM6172			Signetics	74HC574 (3057)			National	MM74HC648		MC7401	Lansdale	ML7401	
	SGS-Thomson	M74HC4543			TI	SN74HC574			SGS-Thomson	M74HC648		MC7402	Lansdale	ML7402	
	Signetics	74HC4543 (3057)			Toshiba	TC74HC574A (3340)			Signetics	74HC648 (3057)		MC7403	Lansdale	ML7403	
	Toshiba	TC74HC4543A (3340)		MC74HC58	National	MM74HC58			TI	SN74HC648		MC7404	Lansdale	ML7404	
	VLSI Tech	VT20C72 3345, 3351		MC74HC589	National	MM74HC589			Toshiba	TC74HC648A (3340)		MC7405	Lansdale	ML7405	
MC74HC51	GE/RCA	CD74HC51			TI	SN74HC589						MC7406	Lansdale	ML7406	
	Hitachi	HD74HC51		MC74HC590	Hitachi	HD74HC590						MC7407	Lansdale	ML7407	
	National	MM74HC51			National	MM74HC590						MC7408	Lansdale	ML7408	
	SGS-Thomson	MC74HC51			SGS-Thomson	M74HC590						MC7409	Lansdale	ML7409	
	Signetics	74HC51			TI	SN74HC590						MC7410	Lansdale	ML7410	
	TI	SN74HC51			Toshiba	TC74HC590 (3340)						MC74100	Lansdale	ML74100	
MC74HC533	GE/RCA	CD74HC533 (2641)		MC74HC592	Hitachi	HD74HC592						MC74107	Lansdale	ML74107	
	Hitachi	HD74HC533			National	MM74HC592						MC74120	Lansdale	ML74120	
	National	MM74HC533			TI	SN74HC592						MC74121	Lansdale	ML74121	
	SGS-Thomson	M74HC533			Toshiba	TC74HC592 (3340)						MC74122	Lansdale	ML74122	
	Signetics	74HC533 (3057)		MC74HC593	Hitachi	HD74HC593						MC74123	Lansdale	ML74123	
	TI	SN74HC533			National	MM74HC593						MC7413	Lansdale	ML7413	
	Toshiba	TC74HC533A (3340)			TI	SN74HC593						MC74132	Lansdale	ML74132	
MC74HC534	GE/RCA	CD74HC534 (2641)			Toshiba	TC74HC593 (3340)						MC74136	Lansdale	ML74136	
	Hitachi	HD74HC534		MC74HC595	Cypress	CY7C164 (2580)						MC7414	Lansdale	ML7414	
	National	MM74HC534			Hitachi	HD74HC595						MC74146	Lansdale	ML74146	
	SGS-Thomson	M74HC534			Inmos	IMS1620 (2794)						MC74150	Lansdale	ML74150	
	Signetics	74HC534 (3057)			MicronTech	MT5C6404						MC74151	Lansdale	ML74151	
	TI	SN74HC534			National	MM74HC595						MC74152	Lansdale	ML74152	
	Toshiba	TC74HC534A (3340)			Performance	P4C188						MC74153	Lansdale	ML74153	
MC74HC540	GE/RCA	CD74HC540 (2641)			SGS-Thomson	M74HC595						MC74154	Lansdale	ML74154	
	Hitachi	HD74HC540			TI	SMJ64C64						MC74155	Lansdale	ML74155	
	National	MM74HC540			Toshiba	SN74HC595						MC7416	Aptek	AMS3201	
	SGS-Thomson	M74HC540				SN74HC595A (3340)						MC74161	Lansdale	ML74161	
	Signetics	74HC540 (3057)										MC74162	Lansdale	ML74162	
	TI	SN74HC540										MC74163	Lansdale	ML74163	
	Toshiba	TC74HC540A (3340)										MC74165	Lansdale	ML74165	
MC74HC541	GE/RCA	CD74HC541 (2641)										MC74167	Lansdale	ML74167	
	Hitachi	HD74HC541										MC7417	Lansdale	ML7417	
	National	MM74HC541										MC74172	Lansdale	ML74172	
	SGS-Thomson	M74HC541										MC74176	National	DM54176	
	Signetics	74HC541 (3057)										54176	Signetics	SN54176	
	TI	SN74HC541										ML54177	TI	ML54177	
	Toshiba	TC74HC541A (3340)										ML74177	Lansdale	ML74177	
MC74HC563	GE/RCA	CD74HC563 (2641)										DM54177	National	DM54177	
	Hitachi	HD74HC563										DM7281	Signetics	DM7281	
	National	MM74HC563										S7281	TI	S7281	
	SGS-Thomson	M74HC563										SN54177	Lansdale	SN54177	
	Signetics	74HC563 (3057)										RL8271	Lansdale	RL8271	
	TI	SN74HC563										RC8271	Raytheon	RC8271	
	Toshiba	TC74HC563A (3340)										Signetics	Signetics	N8271	
MC74HC564	GE/RCA	CD74HC564 (2641)										ML74180	Lansdale	ML74180	
	Hitachi	HD74HC564										ML74181	Lansdale	ML74181	
	National	MM74HC564										ML74182	Lansdale	ML74182	
	SGS-Thomson	M74HC564										ML74190	Lansdale	ML74190	
	Signetics	74HC564 (3057)										ML74191	Lansdale	ML74191	
	TI	SN74HC564										ML74192	Lansdale	ML74192	
	Toshiba	TC74HC564A (3340)										ML74193	Lansdale	ML74193	
MC74HC573	GE/RCA	CD74HC573 (2641)										ML74194	Lansdale	ML74194	
	Hitachi	HD74HC573										ML74195	Lansdale	ML74195	
	National	MM74HC573										ML74196	Lansdale	ML74196	
	SGS-Thomson	M74HC573										ML74197	Lansdale	ML74197	
	Signetics	74HC573 (3057)										ML7417	Lansdale	ML7417	
	(Continued)											ML7420	Lansdale	ML7420	
												ML7423	Lansdale	ML7423	
												ML7425	Lansdale	ML7425	
												ML7426	Lansdale	ML7426	
												ML7427	Lansdale	ML7427	
												ML74290	Lansdale	ML74290	
												ML74293	Lansdale	ML74293	
												ML74298	Lansdale	ML74298	
												ML7430	Lansdale	ML7430	
												ML7437	Lansdale	ML7437	
												ML7438	Lansdale	ML7438	
												ML7440	Lansdale	ML7440	
												ML7442	Lansdale	ML7442	
												ML7443	Lansdale	ML7443	
												ML7444	Lansdale	ML7444	
												ML7450	Lansdale	ML7450	
												ML7451	Lansdale	ML7451	
												(Continued)			

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MC7524	Signetics	7524 TLC7524	(3325)	MC75464	Motorola	MC75404 DS75464 SG75464		MC78M08	NEC	μPC78M08	(Cont'd)
• MC7453	Lansdale	ML7453		MC7525	National	LM7525		• MC75464	SiliconG	SG75464			Samsung	MC78M08	
• MC7454	Lansdale	ML7454				7525		• MC78L02	National	μA78L02			Sanyo	L78M08	
• MC7470	Lansdale	ML7470		MC7528	Unitrode	PIC7524	(2413, 2461)	• MC78L02	TI	μA78L02A			SGS-Thomson	L78M08	
• MC7472	Lansdale	ML7472				AD7528		MC78L05	National	μA78L02A			TI	L78M08CV	
• MC7473	Lansdale	ML7473								μA78L05		• MC78M09	Toshiba	μA78M08	
• MC7474	Lansdale	ML7474								μA78L05A			National	μA78M09	
• MC7475	Lansdale	ML7475				Maxim	AD7528			LM340LA-5		• MC78M09	SGS-Thomson	LM78M09	
• MC7476	Lansdale	ML7476				MicroPwr	MP7528			LM78L05				L78M09	
• MC7477	Lansdale	ML7477				Plessey	ZN7528			μPC78L05			TI	μA78M09	
• MC7479	Lansdale	ML7479				PMI	PM7528	(3019)		μA78L05A		• MC78M10	Toshiba	TA78M09	
• MC7480	Lansdale	ML7480				Raytheon	RC7528			TA78L005			National	μA78M10	
• MC7482	Lansdale	ML7482				TI	TLC7528	(3325)		LM78L06		• MC78M10	SGS-Thomson	LM78M10	
• MC7483	Lansdale	ML7483				Unitrode	PIC7528			μA78L06A				L78M10	
• MC7485	Lansdale	ML7485		MC7529	National	LM7529		• MC78L06	Toshiba	μA78L06A			TI	μA78M10	
• MC7486	Lansdale	ML7486				7529			National	LM78L06		• MC78M12	Toshiba	TA78M10	
• MC7490A	Lansdale	ML7490A				Raytheon	RC7529			μA78L06			National	μA78M12	
• MC7491A	Lansdale	ML7491A				Unitrode	PIC7529			μA87L06				LM341-12	
• MC7492A	Lansdale	ML7492A		MC75325	National	DS75325		• MC78L06	TI	TA78L012				LM342-12	
• MC7493A	Lansdale	ML7493A				SiliconG	SG75327			μA78L08			NEC	μPC78M12	
• MC7495A	Lansdale	ML7495A				TI	SN55327		• MC78L08	TA78L08			Samsung	MC78M12	
• MC7496	Lansdale	ML7496				National	LM7535		MC78L08	National	μA78L08A		Sanyo	L78M12	
• MC7497	Lansdale	ML7497		MC7535	National	LM7535			TI	μA78L08			SGS-Thomson	L78M12	
MC75S110	National	LM75110		MC7538	National	PIC7535				TA78L008			TI	L78M12CV	
	TI	SN75110A				7538				μA78L09			Toshiba	μA78M12	
MC7506	AD	AD7506	(2425, 2462)	MC7539	National	LM7539		• MC78L09	National	μA78L09A			National	μA78M15	
	Datel	MV1606	(2600)			7539				LM78L09				LM341-15	
		MX1606	(2600)	MC75401	National	μA75461		• MC78L09	TI	μA78L09A				LM342-15	
	Harris	HI506				DS75461				μA78L10			NEC	μPC78M15	
	MicroPwr	MP7506				SG75461		• MC78L10	National	μA78L10A			Samsung	MC78M15	
	PMI	MUX16		MC75402	National	SN75461				TA78L010			Sanyo	L78M15	
	Siliconix	DG506A				μA75462		• MC78L10	TI	μA78L10A			SGS-Thomson	L78M15	
MC75107	National	LM75107A				DS75462				μA78L12A			TI	L78M15CV	
		75107				SG75462		• MC78L12	National	LM78L12				μA78M15	
	TI	SN75107B		MC75403	National	DS75463				μA78L12A			Toshiba	TA78M15	
MC75108	National	DS75108				SG75463		• MC78L12	TI	μA78L12A			National	μA78M18	
		LM75108A				SN75463				μA78L15A			Samsung	MC78M18	
	TI	SN75108B		MC75404	National	DS75464		• MC78L12	Toshiba	μA78L15A			Sanyo	L78M18	
MC75125	National	DS75125				SG75464				LM340LA-12			SGS-Thomson	L78M18	
	TI	SN75ALS125		• MC75450	National	SG75464				μPC78L12				μA78M18	
		SN75125				μA75450				μA78L12				MC78M18	
MC75127	National	DS75127				DS75450				TA78L012				L78M18	
	TI	SN75ALS127		• MC75450	SiliconG	SG75450		MC78L15	National	μA78L15			SGS-Thomson	L78M18	
		SN75127				SG75450B				μA78L15A			TI	μA78M18	
MC75128	National	DS75128		• MC75450	TI	SN75450				LM340LA-15			Toshiba	TA78M18	
	TI	SN75128		• MC75451	National	DS75451				LM340T-15			National	μA78M20	
MC75129	National	DS75129				75451				LM78L15				LM78M20	
	TI	SN75129		• MC75451	SiliconG	SG75451				μPC78L15			SGS-Thomson	L78M20	
MC7520	AD	AD7520	(2462, 2470)			SG75451A				μA78L15			TI	μA78M20	
		AD7520	(2666)	• MC75451	TI	SN75451				TA78L015			Toshiba	TA78M20	
	GE/Intersil	AD7520		• MC75452	National	SN75451B		MC78L18	National	μA78L18				μA78M24	
	Maxim	AD7520				μA75452				LM78L18			Samsung	MC78M24	
	MicroPwr	AD7520		• MC75452	SiliconG	DS75452				μA78L18			Sanyo	L78M24	
	National	DAC1020				75452		• MC78L20	Toshiba	TA78L018			SGS-Thomson	L78M24	
		DAC1021		• MC75452	TI	SG75452A				LM78L20				L78M24CV	
		DAC1022				SG75452B		• MC78L20	TI	μA78L20			TI	μA78M24	
		7520		• MC75452	National	SN75452B				TA78L024			Toshiba	TA78M24	
	Sanyo	LA7520				DS75453				TA78L20			IPS	IP123	
	Unitrode	PIC7520		MC75453	National	LM75453		MC78M05	National	μA78M05			Lambda	LAS1405	
MC7521	AD	AD7521	(2462, 2470)			75453				LM342-05			LinearTech	LM123	
		AD7521	(2666)			SG75453				LM78M05				LT123	
	GE/Intersil	AD7521		• MC75454	National	SG75453A				μPC78M05			Motorola	LM123	(2960)
	HybridSys	DAC331-12				SG75453B				MC78M05			National	μA123	
	Maxim	AD7521		• MC75454	TI	SN75453B				L78M05				LM123	
	MicroPwr	MP7521				DS75454				L78M05CV			SiliconG	SG123	
	National	AD7521		MC75460	National	SN75454B				SG14005				SG123A	
		DAC1220				DS75460				SG14012				IP123-12	
		DAC1221		• MC75461	Motorola	SG75460				SG7805AT				IP323-12	
		DAC1222				MC75401				μA78M05				LAS1412	
		7521		• MC75461	National	μA75461				TA78M05				IP123-15	
	PMI	AD7521				DS75461		MC78M06	National	μA78M06				IP323-15	
	AD	AD7523	(2470)	• MC75462	SiliconG	SG75461				LM78M06		• MC7802	National	μA78L02A	
	Datel	DAC7523	(2596)			SN75461				MC78M06				μA78L02	
	GE/Intersil	AD7523	(2666)	• MC75462	Motorola	MC75402				L78M06		• MC7802	TI	μA78L02A	
	Maxim	AD7523				μA75462				μA78M06CV				μA78L02A	
	MicroPwr	MP7523		• MC75462	TI	SN75462				μA78M06				IP7805	
	National	LM7523		• MC75463	Motorola	MC75403				TA78M06				LM340-5	
	PMI	PM7523				DS75463		MC78M08	National	μA78M08				LM7805	
	Raytheon	RC7523				SG75463				LM78M08				μPC7805	
	Unitrode	PIC7523				TI								MC7805	
MC7524	AD	AD7524	(2411, 2460, 2462)	• MC75462	SiliconG	SG75462								MC7805	
		AD7524				SN75462									
	GE/Intersil	AD7524		• MC75463	Motorola	MC75403									
	Maxim	AD7524				DS75463									
	MicroPwr	MP7524				SG75463									
	National	DS75S24				TI									
	PMI	PM7524	(3019)			SG75463									
			(Continued)			SN75463									

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
MC7805	SGS-Thomson	(Cont'd)		MC7815	TI	μA7815 LM340-15		MC7909	NEC SGS-Thomson	μPC7909 L7909		MC8T26	Motorola Signetics	MC6880A N8T26	(2981)
					Toshiba Unitrode	TA78015 UC340-15			TI	μA7909		MC8T26A	National	μA8T26A DS8T26A	
	SiliconG	μA7805 L7805 SG7805 SG7805A		MC7818	National	μA7818 LM7818		• MC7910	Toshiba AMD	TA79009 AM7910		MC8T28	Signetics	N8T26A	(3076)
	TI	μA7805			NEC	μPC7818		• MC7910	National	μA7910 LM7910		MC8T95	Signetics	N8T28	(3076)
	Toshiba	TA78005 TA79005			Samsung SGS-Thomson	MC7818			SGS-Thomson	EF7910		• MC816	Motorola	MC6885	(2981)
MC7806	Unitrode	UC7805	(2714)			μA7818 L7818			TI	μA7910		• MC8234	Signetics	N8T95	(3076)
	GoldStar	GL7806			SiliconG	SG7818		MC7912	Toshiba GoldStar	TA78020 GL7912	(2714)	MC830	Signetics	ML506	
	National	μA7806 LM7806			TI	SG7818A			IPS	IP320-12 IP7912			Motorola	RL8234 RC8234	(3076)
	NEC	μPC7806		• MC7820	Toshiba	μA7818 TA78018			National	μA79M12 μA79M12M			National	N8234 MC930	
	Samsung	MC7806			AD	AD7820	(2414, 2416, 2462)			μA7912 LM320MP12		• MC83145	Signetics	DM930	
	SGS-Thomson	μA7806 L7806			Crystal	CS7820				LM79M12			Raytheon	9930	
		SG340-6			Maxim	AD7820				LM79M12		• MC83145	National	RM930	
		SG7806				MAX150				LM7912		• MC83145	Signetics	DM74145	
		SG7806A		• MC7820	National	μA7820 DS7820			NEC	μPC7912		• MC8315	TI	74145	(3057)
	TI	μA7806				LM7820			Samsung	MC7912		• MC8315	National	SN74145	
MC7808	Toshiba	TA78006	(2714)	• MC7820	PMI	PM0820			SGS-Thomson	μA7912 L7912		• MC83150	Signetics	DM54141	
	GoldStar	GL7808			Samsung	KAD0820				SG320P-12		• MC83150	TI	54141	
	Hitachi	HA17808			SGS-Thomson	L7820				SG7912		• MC83150	National	DM74150	(3057)
	Motorola	MC08				SG7820			SiliconG	SG7912A		• MC83153	Signetics	74150	
	National	μA7808 LM7808				SG7820A			TI	μA79M12M		• MC83153	TI	SN74150	(3057)
	NEC	μPC7808		• MC7820	Siliconix	SI7820				μA7912		• MC83165	National	DM74153	
	Samsung	MC7808			TI	SN55182			Toshiba	TA78024		• MC83153	Signetics	74153	(3057)
	SGS-Thomson	μA7808 L7808				TLC0820	(3325)			TA79012		• MC83165	TI	SN74153	
		SG340-8		MC7824	AD	AD7824	(2414, 2416, 2462)			IP320-15		• MC83165	Signetics	DM74165	
		SG7808				μA7824				IP7915		• MC83176	TI	74165	(3057)
		SG7808A			GoldStar	GL7824	(2714)		National	μA7915		• MC83176	National	SN74165	
	TI	μA7808			Maxim	AD7824				LM320-15		• MC83176	Raytheon	RL8280	
MC7809	Toshiba	TA78008	(2714)		National	μA7824				LM320T15		• MC83176	Signetics	DM74176	
	GoldStar	GL7809				LM7824			NEC	μPC7915		• MC83176	TI	96176	
	Hitachi	HA17809				μPC7824			Samsung	MC7915		• MC83176	Raytheon	RC8280	
	National	μA7809 LM7809			SGS-Thomson	MC7824			SGS-Thomson	MC7915		• MC83176	Signetics	RM8280	
	NEC	μPC7809				μA7824				μA7915		• MC83176	Signetics	S8280	
	TI	μA7809				L7824				L7915		• MC83176	TI	74176	
• MC7810	Toshiba	TA78009				SG7824			SiliconG	SG320-15		• MC83177	National	SN74176	
• MC7810	National	μA7810 LM7810				SG7824A				SG7915		• MC83177	Raytheon	DM8281	
					TI	μA7824			TI	μA7915		• MC83177	Signetics	RC8281	
						LM340-24			Toshiba	TA79015		• MC83177	TI	RM8281	
						TA78024			Unitrode	UC320-15		• MC83179	Signetics	74177	
				MC79L05	Toshiba	TA79L005				UC7915		• MC83179	TI	SN74177	
				MC79L12	Toshiba	TA79L012			National	μA7918		• MC83180	Raytheon	RL8271	
				MC79L15	Toshiba	TA79L015				LM7918		• MC83180	Signetics	RC8271	
				MC79L18	Toshiba	TA79L018			Samsung	MC7918		• MC83180	National	N8271	(3076)
				MC79L24	Toshiba	TA79L24			SGS-Thomson	L7918		• MC83180	Signetics	DM74180	
				• MC7902	National	μA7902				SG7918		• MC83180	TI	74180	(3057)
					Samsung	MC7902				SG7918A		MC835	Motorola	MC935	
				MC7905	IPS	IP7905			TI	TA79018		MC837	National	DM935	
					National	μA7905		• MC7920	National	μA7920			Motorola	9135	
						LM7905		• MC7920	SGS-Thomson	LM7920			Motorola	9935	
					NEC	μPC7905				L7920		• MC8396	Signetics	MC937	
					Samsung	MC7905			SiliconG	SG7920			National	DM937	
					SGS-Thomson	L7905				SG7920A		• MC8396	Signetics	9937	
						SG7905				SS1957			Signetics	DM7496	
						SG7905A		• MC7920	SiliconSys	μA7920			TI	7496	(3057)
					TI	UC7905			TI	TA79020			GE/RCA	SN7496	
				MC7906	National	μA7906			Toshiba	GL7924		MC84HC4050	Motorola	CD74HC4050	(2641)
						LM7906			GoldStar	HD74LS195A			Motorola	MC74HC4050	(2939)
					Samsung	MC7906			Hitachi	MC719924			National	MM74HC4050	
					SGS-Thomson	L7906			Motorola	SN74LS195A	(2944)		SGS-Thomson	M74HC4050	
MC7815	GoldStar	GL7815	(2714)		TI	μA7906				μA7924			Signetics	74HC4050	(3057)
	IPS	IP140-15			Toshiba	TA78006			National	DM74LS195			Toshiba	TC74HC4050	(3340)
		IP340-15		MC7908	National	μA79M08				LM7924					
		IP7815				μA7908				74LS195A					
		IP7815AC				LM7908			NEC	μPC7924		MC8500	SiliconSys	SSI8500	
		LAS1515				MC7908			Panasonic	DN74LS195A		MC8502	SiliconSys	SSI8502	
	Motorola	LM340-15	(2960)		Samsung	MC7908			SGS-Thomson	L7924		MC8503	National	F9401	
	National	μA7815				LM7908				T74LS195A			Signetics	9401	
		LM340-15				SG7908				74LS195A	(3057)	MC851	Motorola	MC852	
		LM7815				SG7908A			Signetics	μA7924			National	MC951	
	NEC	μPC7815				μA79M08			TI	SN74LS195A		MC852	Raytheon	RM951	
	Samsung	MC7815				μA7908				TA79024			Motorola	MC851	
	SGS-Thomson	μA7815				TA79008				IP120-5				MC951	
		L7815		• MC7909	Toshiba	GL7909	(2714)		MC7952	IPS				9951	
		SG340-15			GoldStar	μA7909				National	LM320-5			RM951	
		SG7815			National	LM7909				SGS-Thomson	L7952	MC8520	Raytheon	SSI8520	
		SG7815A								SiliconG	SG320-5		SiliconSys		(Continued)

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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				MC950	National	9950		MT1259	OKI		(Cont'd)	SE4558	Motorola	MC1558	(Cont'd)
MC853	Motorola	MC953		MC951	Motorola	MC851				MSM37257A				MC4558	(2955)
	National	DM9093				MC852				MSM41256					(2955, 2990)
		9093			National	9951			Panasonic	MM41256			National	μA1458	
MC855	Raytheon	RM993		MC952	Raytheon	RM951			Samsung	KM41256	(3036)			μA4558	
	Motorola	MC955			National	9099				TM4257				LM1458	
	National	DM9097			Raytheon	RM952			TI	MM41256A	(3036)			LM1558	
		9097		MC953	Motorola	MC853			Toshiba	TMM41256			NEC	μPC1458	
MC856	Raytheon	RM997			National	DM9093			Vitelco	V51C256			PMI	μPC4558	
	Motorola	MC956				9093			Western	WCM41256				OP14	
	National	DM9094		MC955	Raytheon	RM993			AMD	AM9114			Raytheon	OP270	
		9094			Motorola	MC855				AM9124				RC1458	
	Raytheon	RM994			National	DM9097			Intel	2114A				RC4558	(3024)
MC857	Motorola	MC957				9097			Krueger	2114-150	(2877)			RM1558	
	National	DM9567		MC956	Motorola	MC856				2114-200	(2877)			RM4558	(3024)
		DM957			National	DM9094				2114-450	(2877)		Samsung	MC4558	(3039)
		9157				9094			Mitsubishi	M5L2114			SGS-Thomson	LS4558	
MC858	Raytheon	RM957			Raytheon	RM9094			Motorola	MCM2114				MC4558	
	Motorola	MC958				RM994				MCM2114				MC1458	
	National	DM958		MC957	Motorola	MC857			National	F2114				MC1558	
		9158			National	DM9567				NMC2114A				NE4558	
MC8601	Raytheon	RM958				DM957			OKI	MSM2114				SA4558	
	National	DM8601				9157			Rockwell	R6514				SE4558	
		DM9601		MC958	Raytheon	RM957			Sharp	LH2114			TI	MC1458	
MC8601	Raytheon	RF8601			Motorola	MC858			Toshiba	TMM2114A				MC1558	
		RF9601			National	DM958				TMM314A				MC4558C	
MC8601	Signetics	N8T22				9158			UMC	UM6114				RC4558	
		S8T22		MC9602	Raytheon	RM958			GE/Intersil	IHS140	(2671)			RM4558	
MC8601	TI	SN74122			National	DM8602			GE/RCA	CD22212	(2646)			RV4558	
MC9001	National	74H105				DM9602			LSI Logic	LL5140				TL4558	
		9001		MC9602	Raytheon	RF8602			Maxim	IHS140				TA7558	
MC930	Motorola	MC830				RF9602			SiliconSys	SSIK212				AT733	
	National	DM930		MC9603	Lansdale	ML54121			Siliconix	DG5140			Adv Analog	NE592-8	
		930			National	DM54121			Adv Analog	A733			GE/Intersil	SE592	
		9930				54121			GE/Intersil	μA733				HA17733	
MC9300	Raytheon	RM930		MC9603	Signetics	54121			Hitachi	HA17733			Hitachi	MC1733	(2953, 2989)
	Lansdale	ML54195			TI	SN54121			Motorola	MC1733	(2953, 2989)				(2991)
	National	DM54195		MC961	National	DM961								NE592	
MC9300	TI	SN54195				9961							National	μA733	
MC9310	Lansdale	ML54160		MC962	National	DM962								LM733	
	National	DM54160				962							Signetics	μA733	
	Raytheon	RM9310		MC963	National	DM963								NE592	
	Signetics	54160				9963								SE592	
	TI	SN54160			OEI	9963							SiliconG	SG1401	
MC93178	Raytheon	RM8270		MLM139	Raytheon	RM963							TI	μA733	
	Signetics	S8270			GE/RCA	CA139	(2648)							μA733M	
	TI	SN54178			Motorola	LM139	(2958)							NE592	
MC93179	Raytheon	RM8271			National	μA139								NE592-8	
	Signetics	S8271		MLM139	PMI	CM904								SE592	
MC932	National	DM932				PM139								CS1525A	
		932		MLM139	Raytheon	LM139	(3025)		OP27	AD	ADOP27	(2429, 2462)	SG1525	Cherry Semi	XR1525A
		9932			Signetics	LM139								Exar	IP1525A
MC933	Raytheon	RM932			TI	LM139								LinearTech	LT1525
	National	DM933		ML1556	Elantec	EHA2600									LT1525A
		9933			Harris	HA2600									SG1525
MC934	Raytheon	RM934			Hitachi	HA17741									SG1525A
MC935	Motorola	MC835			Motorola	MC1556	(2954)			Burr-Brown	OPA27	(2540, 2544)	SG1525	Motorola	SG1525A
	National	DM935			Signetics	SE556								SiliconG	SG1525
		9935			TeledyneP	TP1326									SG1525A
MC936	National	DM936			TI	MC1556									TL1525
		936				SE556M								Unitrode	UC1525
		9936				74F113									UC1525A
MC937	Motorola	MC837		ML74F113	National	74F113									CS1525A
	National	DM937			TI	SN74F113									XR1525A
		937		MMH0026	GE/Intersil	ICL7667	(2676)								IP1525A
		9937			National	DS0026									LT1525
MC9396	Lansdale	ML5496				NMH0026									LT1525A
	National	DM5496			SGS-Thomson	SG1626									SG1525
	Signetics	5496				SG2626									SG1525
	TI	SN5496				SG3626									SG1525A
MC941	National	9941				SG1626									TL1525
	Raytheon	RM941				SG2626									UC1525
MC943	National	SH2001				SG3626									UC1525A
MC944	National	DM944				SG2626									CH1526
		944			TeledyneS	TSC426									IP1526
		9944			National	FQ3724									LT1526
MC945	National	DM945			Raytheon	SP3724									SG3526
		945			National	DH3725									SG1526B
		9945				FQ3725									SG3526
MC946	National	DM946			Raytheon	SP3725									SG3526
		946			Fujitsu	MB81256									UC1526
		9946			Hitachi	HM50256									UC1526A
MC948	National	DM948				HM50257									CS1527A
		948			Mitsubishi	MSM4257									IP1527A
		9948				MSM4256									LT1527
MC949	National	DM949				MSM4257									LT1527A
		949			Motorola	MC86256									SG1527
	Raytheon	RM949			NEC	μPD41256									(Continued)
					OKI	MSM37256									(Continued)
															(Continued)

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Motorola (Cont'd)				SG3525	Unitrode	UC3525		SN54ALS643	National	DM54ALS643		SN54LS125	Motorola	SN54LS125A	(2939)
SG1527	Motorola	SG1527A	(2964)	SG3525A	Cherry Semi	CS3525A		SN54ALS644	National	DM54ALS644			National	DM54LS125	
	SGS-Thomson	SG1527			Ericsson	RL3525A		SN54ALS646	National	DM54ALS646			SGS-Thomson	54LS125A	
SG1527	SiliconG	SG1527A			Exar	XR3525A		SN54ALS647	National	DM54ALS647				T54LS125	
SG1527	TI	SG1527A			IPS	IP3525A		SN54ALS648	National	DM54ALS648			Signetics	54LS125A	
	Unitrode	UC1527			LinearTech	LT3525A		SN54ALS649	National	DM54ALS649		SN54LS125A	TI	SN54LS125A	
SG1527A		UC1527A			SGS-Thomson	SG3525		SN54ALS691	National	DM54ALS691			Motorola	SN54LS125	(2939)
	Cherry Semi	CS1527A				SG3525A		SN54ALS692	National	DM54ALS692			National	DM54LS125	
	IPS	IP1527A			SiliconG	SG3525		SN54ALS693	National	DM54ALS693				54LS125A	
	LinearTech	LT1527				SG3525A		SN54ALS696	National	DM54ALS696			SGS-Thomson	T54LS125	
		LT1527A			TI	SG3525		SN54ALS697	National	DM54ALS697				54LS125A	
	SGS-Thomson	SG1527			Unitrode	UC3525		SN54ALS699	National	DM54ALS699		SN54LS126	National	DM54LS126	
		SG1527A				UC3525A		SN54ALS74	National	DM54ALS74				54LS126	
	SiliconG	SG1527		SG3526	Cherry Semi	CH1526		SN54ALS73	National	DM54ALS73			SGS-Thomson	T54LS126	
		SG1527A			IPS	IP1526		TI	SN54ALS73B					54LS126	
	TI	TL1527			LinearTech	LT1526		SN54ALS874	TI	SN54ALS874B			Signetics	54LS126A	
	Unitrode	UC1527			Motorola	SG1526	(2964)	SN54ALS876	National	DM54ALS876			TI	SN54LS125A	
		UC1527A			SiliconG	SG1526		SN54ALS880	National	DM54ALS880				DM54LS126	
SG2525	Cherry Semi	CS2525				SG3526		SN54LS00	National	DM54LS00		SN54LS13	National	DM54LS13	
SG2525	Elantec	EHA2525			Sprague	SG3526			SGS-Thomson				SGS-Thomson	54LS13	
	Exar	XR2525A			Unitrode	UC1526			Signetics	54LS00				T54LS13	
	Harris	HA2525		SG3527A	Cherry Semi	CS3527		SN54LS01	TI	SN54LS00		SN54LS132	TI	SN54LS13	
	IPS	IP2525A			Exar	XR3527A			National	DM54LS01			National	DM54LS132	
	LinearTech	LT2525A			IPS	IP3527		SN54LS02	TI	SN54LS01			SGS-Thomson	T54LS132	
	Motorola	SG2525A	(2964)		LinearTech	LT3527			National	DM54LS02			Signetics	54LS132	
	SGS-Thomson	SG2525A				LT3527A				54LS02		SN54LS133	TI	SN54LS132	
		SG2525A				SG3527			SGS-Thomson	T54LS02			National	54LS133	
	SiliconG	SG2525A			SGS-Thomson	SG3527A			Signetics	54LS02			SGS-Thomson	T54LS133	
	TI	SG2525A				SG3527		SN54LS03	TI	SN54LS02		SN54LS136	National	DM54LS136	
		TL2525				SG3527A			National	DM54LS03				54LS136	
SG2525	Unitrode	UC2525A			TI	SG3527				54LS03			SGS-Thomson	T54LS136	
SG2525A	Cherry Semi	CS2525				SG3527A		SN54LS04	TI	SN54LS03			Signetics	54LS136	
		CS2525A		SN54ALS00	Unitrode	UC3527A			National	DM54LS04		SN54LS137	TI	SN54LS137	
	Elantec	EHA2525			National	DM54ALS00				54LS04		SN54LS138	National	DM54LS138	
	Exar	XR2525A			TI	SN54ALS02			SGS-Thomson	T54LS04				54LS138	
	Harris	HA2525		SN54ALS02	National	DM54ALS08			Signetics	54LS04			SGS-Thomson	T54LS138	
	IPS	IP2525A			TI	SN54ALS08		SN54LS05	TI	SN54LS05			Signetics	54LS138	
	LinearTech	LT2525A			National	DM54ALS09			National	DM54LS05		SN54LS139	TI	SN54LS138	
	SGS-Thomson	SG2525A			TI	SN54ALS160				54LS05			National	DM54LS139	
		SG2525A				DM54ALS160B			SGS-Thomson	T54LS05			SGS-Thomson	54LS139	
	SiliconG	SG2525A			SN54ALS161	National	DM54ALS161		TI	SN54LS05				T54LS139	
	TI	TL2525			TI	SN54ALS162		SN54LS08	National	DM54LS08		SN54LS14	Signetics	54LS139	
SG2526	Unitrode	UC2525A				DM54ALS162B				54LS08			TI	SN54LS139A	
	Cherry Semi	CS2526			SN54ALS163	National	DM54ALS163		SGS-Thomson	T54LS08			National	DM54LS14	
	IPS	IP2526			TI	SN54ALS163B			Signetics	54LS08				54LS14	
	LinearTech	LT2526				DM54ALS240		SN54LS09	TI	SN54LS08			SGS-Thomson	T54LS14	
	SiliconG	SG2526			SN54ALS240	National	DM54ALS240		TI	SN54LS09				54LS14	
	Unitrode	UC2526			TI	SN54ALS241			National	DM54LS09		SN54LS145	Signetics	54LS14	
SG2527	Cherry Semi	CS2527				SN54ALS241A				54LS09			TI	SN54LS14	
		CS2527A			SN54ALS242	National	DM54ALS242		SGS-Thomson	T54LS09		SN54LS147	TI	SN54LS145	
	Exar	XR2527A			TI	SN54ALS242B			TI	SN54LS09		SN54LS148	TI	SN54LS147	
	IPS	IP2527A				DM54ALS243		SN54LS10	National	DM54LS10		SN54LS148	TI	SN54LS148	
	LinearTech	LT2527A			SN54ALS243	National	DM54ALS243			54LS10		SN54LS15	National	DM54LS15	
	Motorola	SG2527A	(2964)		TI	SN54ALS244			SGS-Thomson	T54LS10				54LS15	
	SiliconG	SG2527A				SN54ALS244A				54LS10			SGS-Thomson	T54LS15	
	TI	TL2527			SN54ALS245	National	DM54ALS245		Signetics	54LS10		SN54LS151	TI	SN54LS15	
		UC2527			TI	SN54ALS245A			TI	SN54LS10			National	DM54LS151	
SG2527	Unitrode	UC2527				SN54ALS273				SN54LS107				54LS151	
		UC2527A			SN54ALS273	National	DM54ALS273		SN54LS107	National	DM54LS107		SGS-Thomson	T54LS151	
SG2527A	Cherry Semi	CS2527			TI	SN54ALS32			Signetics	54LS107				54LS151	
		CS2527A				SN54ALS32		SN54LS109	TI	SN54LS107			Signetics	54LS151	
	Exar	XR2527A			SN54ALS373	National	DM54ALS373		National	DM54LS109		SN54LS153	TI	SN54LS151	
	IPS	IP2527A			TI	SN54ALS373				54LS109			National	DM54LS153	
	LinearTech	LT2527A				DM54ALS374			SGS-Thomson	T54LS109				54LS153	
	SiliconG	SG2527A			SN54ALS374	National	DM54ALS374			54LS109			SGS-Thomson	T54LS153	
	TI	TL2527			TI	SN54ALS374			Signetics	54LS109				54LS153	
		UC2527				SN54ALS377		SN54LS11	TI	SN54LS109		SN54LS155	TI	SN54LS153	
	Unitrode	UC2527A			SN54ALS377	National	DM54ALS377		National	DM54LS11			National	DM54LS155	
		UC2527A			TI	SN54ALS573B				54LS11				54LS155	
SG3525	Cherry Semi	CS3525A			SN54ALS574	National	DM54ALS574			54LS11			SGS-Thomson	T54LS155	
	Ericsson	RL3525A			TI	SN54ALS574A			TI	SN54LS11		SN54LS156	TI	SN54LS155A	
	Exar	XR3525A				DM54ALS576		SN54LS12	Landsale	SL8270			National	DM54LS156	
	IPS	IP3525A			SN54ALS576	National	DM54ALS576			SL8471				54LS156	
	LinearTech	LT3525			TI	SN54ALS576A			National	DM54LS12			SGS-Thomson	T54LS156	
		LT3525A				SN54ALS580			TI	SN54LS12				54LS156	
	SGS-Thomson	SG3525			SN54ALS580A	National	DM54ALS580A			SN54LS12			TI	SN54LS156	
		SG3525A			TI	DM54ALS620		SN54LS122	National	DM54LS122		SN54LS157	National	DM54LS157	
	SiliconG	SG3525			SN54ALS621	National	DM54ALS621			DM54LS123				54LS157	
		SG3525A				DM54ALS622			TI	SN54LS123				(Continued)	
	TI	SG3525			SN54ALS623	National	DM54ALS623								
		SG3525A			SN54ALS640	National	DM54ALS640								
		SG3525A			TI	SN54ALS640A									
		SG3525A			SN54ALS641	National	DM54ALS641								

• Discontinued

The manufacturers report their devices can be used as direct replacements.
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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				• SN54LS73	Motorola National	SN54LS73A DM54LS73 DM54LS73A		SN74ALS09	National TI	DM74ALS09 SN74ALS09A		SN74ALS623	National Signetics	DM74ALS623 74ALS623A-1 SN74ALS623A	(Cont'd)
SN54LS378	Signetics TI	54LS378 SN54LS378	(Cont'd)	• SN54LS73	Signetics TI	54LS73 SN54LS73A		SN74ALS160	National TI	DM74ALS160 SN74ALS160B					
SN54LS379	National SGS-Thomson	54LS379 T54LS379 SN54LS379		SN54LS73A	National	DM54LS73 DM54LS73A		SN74ALS161	National Signetics	DM74ALS161 74ALS161		SN74ALS640	National TI	DM74ALS640 SN74ALS640A	
SN54LS38	National SGS-Thomson	54LS38 T54LS38 SN54LS38		• SN54LS74	Motorola National	SN54LS74A (2941) DM54LS74 DM54LS74A		SN74ALS162	National TI	DM74ALS162 SN74ALS162A		SN74ALS641	National TI	DM74ALS641 SN74ALS641A	
SN54LS385	TI	T54LS385		• SN54LS74	SGS-Thomson	T54LS74		SN74ALS163	Mitsubishi National	M74ALS163 DM74ALS163		SN74ALS642	National TI	DM74ALS642 SN74ALS642A	
SN54LS386	Lansdale National	SL8241 DM54LS386		SN54LS74A	National	DM54LS74 DM54LS74A 54LS74		SN74ALS192	National TI	DM74ALS192 SN74ALS192		SN74ALS643	National TI	DM74ALS643 SN74ALS643A	
SN54LS390	SGS-Thomson	T54LS390 SN54LS390			SGS-Thomson	T54LS74		SN74ALS193	Mitsubishi National	M74ALS193 DM74ALS193		SN74ALS644	National TI	DM74ALS644 SN74ALS644A	
SN54LS393	SGS-Thomson	T54LS393 SN54LS393		SN54LS75	National	DM54LS75 54LS75		SN74ALS240	National Signetics	M74ALS240A-1 DM74ALS240		SN74ALS646	National	DM74ALS646	
SN54LS395	National SGS-Thomson	54LS395 T54LS395		SN54LS76A	National	DM54LS76 54LS76		SN74ALS241	Mitsubishi	M74ALS241 M74ALS241A-1		SN74ALS647	National	DM74ALS647	
SN54LS40	National	DM54LS40 54LS40		SN54LS77	National	DM54LS77		SN74ALS242	National	DM74ALS242		SN74ALS648	National	DM74ALS648	
SN54LS42	National	DM54LS42 54LS42		• SN54LS83	Motorola National	SN54LS83A (2947) DM54LS83A 54LS83A		SN74ALS243	National	DM74ALS243		SN74ALS649	National	DM74ALS649	
	SGS-Thomson	T54LS42		• SN54LS83	SGS-Thomson	T54LS83		SN74ALS244	Mitsubishi	M74ALS244 M74ALS244A-1		SN74ALS690	National	DM74ALS690	
SN54LS47	National	DM54LS47 54LS47		• SN54LS83	TI	SN54LS83A		SN74ALS245	National	DM74ALS245		SN74ALS691	National	DM74ALS691	
SN54LS48	National	DM54LS48 54LS48		SN54LS83A	National	DM54LS83A 54LS83A		SN74ALS246	National	DM74ALS246		SN74ALS692	National	DM74ALS692	
SN54LS49	National	DM54LS49 54LS49			SGS-Thomson	T54LS83		SN74ALS247	National	DM74ALS247		SN74ALS693	National	DM74ALS693	
SN54LS490	National	DM54LS490 54LS490		SN54LS85	National	DM54LS85 54LS85		SN74ALS248	National	DM74ALS248		SN74ALS694	National	DM74ALS694	
SN54LS51	National	DM54LS51 54LS51		SN54LS86	National	DM54LS86		SN74ALS249	National	DM74ALS249		SN74ALS695	National	DM74ALS695	
	SGS-Thomson	T54LS51			SGS-Thomson	T54LS86		SN74ALS250	National	DM74ALS250		SN74ALS696	National	DM74ALS696	
SN54LS54	National	DM54LS54 54LS54		SN54LS89	National	DM54LS89		SN74ALS251	National	DM74ALS251		SN74ALS697	National	DM74ALS697	
SN54LS540	TI	T54LS540		SN54LS91	TI	SN54LS91		SN74ALS252	National	DM74ALS252		SN74ALS698	National	DM74ALS698	
SN54LS541	National	DM54LS541 54LS541		SN54LS92	National	DM54LS92		SN74ALS253	National	DM74ALS253		SN74ALS699	National	DM74ALS699	
SN54LS55	National	DM54LS55 54LS55			SGS-Thomson	T54LS92		SN74ALS254	National	DM74ALS254		SN74ALS700	National	DM74ALS700	
	SGS-Thomson	T54LS55		SN54LS93	National	DM54LS93		SN74ALS255	National	DM74ALS255		SN74ALS701	National	DM74ALS701	
SN54LS640	TI	T54LS640		SN54LS95B	National	DM54LS95B 54LS95B		SN74ALS256	National	DM74ALS256		SN74ALS702	National	DM74ALS702	
SN54LS641	TI	T54LS641			SGS-Thomson	T54LS95		SN74ALS257	National	DM74ALS257		SN74ALS703	National	DM74ALS703	
SN54LS642	TI	T54LS642			SGS-Thomson	T54LS95		SN74ALS258	National	DM74ALS258		SN74ALS704	National	DM74ALS704	
SN54LS644	TI	T54LS644		SN74ALS00	National	DM74ALS00 74ALS00		SN74ALS259	National	DM74ALS259		SN74ALS705	National	DM74ALS705	
SN54LS645	TI	T54LS645			SGS-Thomson	T54LS95		SN74ALS260	National	DM74ALS260		SN74ALS706	National	DM74ALS706	
SN54LS668	TI	T54LS668			SGS-Thomson	T54LS95		SN74ALS261	National	DM74ALS261		SN74ALS707	National	DM74ALS707	
SN54LS669	TI	T54LS669			SGS-Thomson	T54LS95		SN74ALS262	National	DM74ALS262		SN74ALS708	National	DM74ALS708	
SN54LS670	National	DM54LS670 54LS670			SGS-Thomson	T54LS95		SN74ALS263	National	DM74ALS263		SN74ALS709	National	DM74ALS709	
	SGS-Thomson	T54LS670		SN74ALS02	National	DM74ALS02 74ALS02		SN74ALS264	National	DM74ALS264		SN74ALS710	National	DM74ALS710	
SN54LS673	TI	T54LS673		SN74ALS04	National	DM74ALS04 74ALS04		SN74ALS265	National	DM74ALS265		SN74ALS711	National	DM74ALS711	
SN54LS674	TI	T54LS674			SGS-Thomson	T54LS95		SN74ALS266	National	DM74ALS266		SN74ALS712	National	DM74ALS712	
SN54LS682	TI	T54LS682			SGS-Thomson	T54LS95		SN74ALS267	National	DM74ALS267		SN74ALS713	National	DM74ALS713	
SN54LS684	TI	T54LS684			SGS-Thomson	T54LS95		SN74ALS268	National	DM74ALS268		SN74ALS714	National	DM74ALS714	
SN54LS685	TI	T54LS685			SGS-Thomson	T54LS95		SN74ALS269	National	DM74ALS269		SN74ALS715	National	DM74ALS715	
SN54LS688	TI	T54LS688			SGS-Thomson	T54LS95		SN74ALS270	National	DM74ALS270		SN74ALS716	National	DM74ALS716	
SN54LS689	TI	T54LS689			SGS-Thomson	T54LS95		SN74ALS271	National	DM74ALS271		SN74ALS717	National	DM74ALS717	

• Discontinued

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				SN74LS126A	SGS-Thomson	T74LS126	(Cont'd)	SN74LS155	Hitachi National	HD74LS155 DM74LS155 74LS155		SN74LS168	National SGS-Thomson	DM74LS168 T74LS168	
SN74LS09	Hitachi National	HD74LS09 DM74LS09 74LS09		SN74LS126A	Signetics	74LS126A (3057)		SN74LS155	Panasonic SGS-Thomson	DM74LS155 74LS155		SN74LS168	Signetics	74LS168 (3057)	
SN74LS10	TI Hitachi National	T74LS09 SN74LS09 HD74LS10 DM74LS10 74LS10		SN74LS13	Hitachi National	HD74LS13 DM74LS13 74LS13		SN74LS156	Hitachi National	T74LS155 SN74LS155A HD74LS156 DM74LS156 74LS156		SN74LS169	National SGS-Thomson	DM74LS169 74LS169	
SN74LS109	Panasonic SGS-Thomson	DM74LS109 74LS109		SN74LS132	Panasonic SGS-Thomson	DM74LS132 74LS132		SN74LS157	Panasonic SGS-Thomson	DM74LS157 74LS157		SN74LS170	Hitachi National	DM74LS170 74LS170	
SN74LS11	Hitachi National	DM74LS11 74LS11		SN74LS133	Hitachi National	DM74LS133 74LS133		SN74LS158	Hitachi National	DM74LS158 74LS158		SN74LS173	Panasonic SGS-Thomson	DM74LS173 74LS173	
SN74LS112A	Panasonic SGS-Thomson	DM74LS112 74LS112		SN74LS136	Hitachi National	DM74LS136 74LS136		SN74LS160A	Panasonic SGS-Thomson	DM74LS160A 74LS160		SN74LS173A	National	DM74LS173 74LS173	
SN74LS113A	Hitachi National	DM74LS113 74LS113		SN74LS137	Hitachi National	DM74LS137 74LS137		SN74LS161A	Hitachi National	DM74LS161A 74LS161A		SN74LS174	Hitachi National	DM74LS174 74LS174	
SN74LS114	Hitachi National	DM74LS114 74LS114		SN74LS138	Panasonic SGS-Thomson	DM74LS138 74LS138		SN74LS162A	Panasonic SGS-Thomson	DM74LS162A 74LS162		SN74LS175	Panasonic SGS-Thomson	DM74LS175 74LS175	
SN74LS114A	Hitachi National	DM74LS114A 74LS114A		SN74LS139	Hitachi National	DM74LS139 74LS139		SN74LS163A	Hitachi National	DM74LS163A 74LS163		SN74LS181	Hitachi National	DM74LS181 74LS181	
SN74LS12	Hitachi National	DM74LS12 74LS12		SN74LS14	Hitachi National	DM74LS14 74LS14		SN74LS164	Hitachi National	DM74LS164 74LS164		SN74LS181	Signetics	74LS181 (3057)	
SN74LS122	Hitachi National	DM74LS122 74LS122		SN74LS15	Hitachi National	DM74LS15 74LS15		SN74LS164A	Panasonic SGS-Thomson	DM74LS164A 74LS164A		SN74LS190	Hitachi National	DM74LS190 74LS190	
SN74LS123	Hitachi National	DM74LS123 74LS123		SN74LS151	Hitachi National	DM74LS151 74LS151		SN74LS166	Hitachi National	DM74LS166 74LS166		SN74LS191	Hitachi National	DM74LS191 74LS191	
SN74LS125A	Panasonic SGS-Thomson	DM74LS125A 74LS125A		SN74LS152	Hitachi National	DM74LS152 74LS152		SN74LS166A	Hitachi National	DM74LS166A 74LS166A		SN74LS192	Hitachi National	DM74LS192 74LS192	
SN74LS126	Hitachi National	DM74LS126 74LS126		SN74LS153	Hitachi National	DM74LS153 74LS153		SN74LS166A	Hitachi National	DM74LS166A 74LS166A		SN74LS193	Hitachi National	DM74LS193 74LS193	
SN74LS126A	Hitachi National	DM74LS126A 74LS126A		SN74LS153	Hitachi National	DM74LS153 74LS153		SN74LS166A	Hitachi National	DM74LS166A 74LS166A		SN74LS194	Hitachi National	DM74LS194 74LS194	
(Continued)				(Continued)				(Continued)				(Continued)			

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				SN74LS21	Panasonic SGS-Thomson	DN74LS21	(Cont'd)	SN74LS257A	Hitachi National	DM74LS257 HD74LS257 74LS257A		SN74LS290	Signetics TI	74LS290 SN74LS290	(Cont'd)
♦ SN74LS194		(Cont'd) (3057)			Signetics TI	T74LS21 74LS21 SN74LS21	(3057)		SGS-Thomson	T74LS257		SN74LS293	Hitachi National	DM74LS293 74LS293	(3057)
SN74LS194A	Hitachi National	HD74LS194A DM74LS194 74LS194A		SN74LS22	Hitachi National Panasonic SGS-Thomson	HD74LS22 DM74LS22 DN74LS22		♦ SN74LS258	Hitachi	SN74LS257B HD74LS258 SN74LS258A	(2944)		Panasonic SGS-Thomson	T74LS293	
	Panasonic SGS-Thomson	DN74LS194A				T74LS22			National	DM74LS258 74LS258A DN74LS258A		SN74LS295A	Signetics TI	74LS293 SN74LS293 74LS295A	(3057)
♦ SN74LS195		T74LS194A 74LS194A SN74LS194A	(3057)	SN74LS221	Hitachi National	HD74LS221 DM74LS221 74LS221		♦ SN74LS258	Panasonic SGS-Thomson	T74LS258 74LS258 SN74LS258B	(3057)		SGS-Thomson	T74LS295A	
	GoldStar Hitachi Motorola	GL7924 HD74LS195A MC719924 MC7924 SN74LS195A	(2961) (2944)	SN74LS240	TI Hitachi National Panasonic SGS-Thomson	SN74LS221 HD74LS240 74LS240 DN74LS240		SN74LS258A	Hitachi National	HD74LS258 DM74LS258 74LS258A DN74LS258A		SN74LS298	Signetics TI	74LS295B SN74LS295B HD74LS298 74LS298	(3057)
♦ SN74LS195	National	μA7924 DM74LS195 LM7924 74LS195A		SN74LS241	Hitachi National Panasonic SGS-Thomson	T74LS240 74LS240 SN74LS240 HD74LS241 74LS241 DN74LS241	(3057)		Panasonic SGS-Thomson	T74LS258 74LS258 SN74LS258B	(3057)		SGS-Thomson	T74LS298	
♦ SN74LS195	NEC	μPC7924 DN74LS195A				T74LS241 74LS241 SN74LS241	(3057)	SN74LS259	National SGS-Thomson	74LS259		SN74LS299	Signetics TI	74LS298 SN74LS298 SN74LS299 74LS299	(3057)
♦ SN74LS195	Signetics TI	74LS195A μA7924 SN74LS195A	(3057)	SN74LS242	National	74LS242A 74LS242 SN74LS242	(3057)		Signetics TI	74LS259 SN74LS259B	(3057)		TI	SN74LS299	
♦ SN74LS195	Toshiba GoldStar Hitachi Motorola	TA79024 GL7924 HD74LS195A MC719924 MC7924 SN74LS195A	(2961) (2944)	SN74LS243	National	74LS243A 74LS243 SN74LS243	(3057)	SN74LS26	Hitachi National	HD74LS26 DM74LS26 74LS26			Panasonic SGS-Thomson	T74LS30	
♦ SN74LS195A				SN74LS244	Hitachi National Panasonic SGS-Thomson	HD74LS244 74LS244 DN74LS244			Panasonic SGS-Thomson	DN74LS26		SN74LS32	Signetics TI	74LS30 SN74LS30 DM74LS32	(3057)
	National	μA7924 DM74LS195 LM7924 74LS195A				T74LS244 74LS244 SN74LS244	(3057)	SN74LS260	National	74LS260 DM74LS266 74LS266			SGS-Thomson	T74LS32	
	NEC	μPC7924 DN74LS195A		SN74LS245	National SGS-Thomson	DM74LS245		SN74LS266	Panasonic Raytheon SGS-Thomson	DN74LS266 RC8242 T74LS266		SN74LS322	Signetics TI	74LS32 SN74LS32 DM74LS322A 74LS322	(3057)
	Signetics TI	74LS195A μA7924 SN74LS195A	(3057)			T74LS245 74LS245 SN74LS245	(3057)		Signetics TI	N8242 74LS266 SN74LS266	(3076) (3057)	SN74LS323	National	74LS322A 54LS323 74LS323	
♦ SN74LS195A	Toshiba GoldStar Hitachi Motorola	TA79024 GL7924 HD74LS195A MC719924 MC7924 SN74LS195A	(2961) (2944)	SN74LS247	Hitachi National	HD74LS247 DM74LS247 74LS247		SN74LS27	Hitachi National	HD74LS27 DM74LS27 74LS27			TI	SN54LS323 SN74LS323 74LS33	
♦ SN74LS195A				SN74LS248	TI	SN74LS247			Panasonic SGS-Thomson	DN74LS27		SN74LS352	Signetics TI	74LS33 SN74LS33 DM74LS352 74LS352	(3057)
♦ SN74LS195A	National	μA7924 DM74LS195 LM7924 74LS195A			SGS-Thomson	DM74LS248 74LS248				T74LS27 74LS27 SN74LS27	(3057)		National	DM74LS352 74LS352	
♦ SN74LS195A	NEC	μPC7924 DN74LS195A		SN74LS249	Hitachi National	HD74LS249 DM74LS249 74LS249		SN74LS273	National SGS-Thomson	74LS273		SN74LS353	SGS-Thomson	T74LS352 SN74LS352 DM74LS353 74LS353	
♦ SN74LS195A	Panasonic SGS-Thomson	μPC7924 DN74LS195A			SGS-Thomson	T74LS249			Signetics TI	74LS273 SN74LS273	(3057)		SGS-Thomson	T74LS353	
♦ SN74LS195A	Signetics TI	74LS195A μA7924 SN74LS195A	(3057)	SN74LS251	Hitachi National	HD74LS251 DM74LS251 74LS251		SN74LS279	Hitachi National	HD74LS279 DM74LS279 74LS279		SN74LS365A	TI	SN74LS353 SN74LS365 74LS365A DM74LS365A	
♦ SN74LS195A	Toshiba	TA79024			Panasonic SGS-Thomson	DN74LS251			Panasonic SGS-Thomson	DN74LS279			Panasonic SGS-Thomson	T74LS365	
SN74LS196	National	DM74LS196 74LS196		SN74LS253	Hitachi National	HD74LS253 DM74LS253 DM8214 74LS253	(3057)	SN74LS28	National SGS-Thomson	74LS28			Signetics TI	74LS365A SN74LS365A	(3057)
	Panasonic SGS-Thomson	DN74LS196				DM8214 74LS253				T74LS28 SN74LS28		SN74LS366A	National	DM74LS366 74LS366A DN74LS366A	
SN74LS197	Hitachi	N82S80			Panasonic SGS-Thomson	DN74LS253		SN74LS280	TI	74LS279 SN74LS279A 74LS28			Panasonic SGS-Thomson	T74LS365A	
	National	SN74LS196 DM74LS197 74LS197				T74LS253 74LS253 SN74LS253	(3057)		Hitachi	HD74LS280 DM74LS280			SGS-Thomson	74LS365A SN74LS366A	(3057)
	Panasonic SGS-Thomson	DN74LS197		SN74LS256	National SGS-Thomson	74LS256		SN74LS283	TI	SN74LS280 HD74LS283 DM74LS283		SN74LS367A	Hitachi National	DM74LS367 74LS367A DN74LS367A	
	Signetics TI	74LS197 SN74LS197	(3057)			T74LS256 74LS256 SN74LS256	(3057)		Panasonic SGS-Thomson	DN74LS283			Panasonic SGS-Thomson	T74LS366	
SN74LS20	Hitachi	HD74LS20		♦ SN74LS257	Signetics TI	SN74LS257			Signetics TI	74LS283 SN74LS283	(3057)			74LS366A SN74LS366A	(3057)
	National	DM74LS20 74LS20			Hitachi	HD74LS257 SN74LS257A	(2944)	♦ SN74LS289	National	DM74LS283 SN74LS283			Signetics TI	74LS367A SN74LS367A	(3057)
	Panasonic SGS-Thomson	DN74LS20			National	DM74LS257 74LS257A		SN74LS290	Hitachi	HD74LS289 DM74LS290 74LS290		SN74LS368A	Hitachi National	DM74LS368 74LS368A DN74LS368A	
	Signetics TI	74LS20 SN74LS20	(3057)	♦ SN74LS257	SGS-Thomson	74LS257			Panasonic SGS-Thomson	DN74LS290			Panasonic SGS-Thomson	DM74LS368A	
SN74LS21	Hitachi National	HD74LS21 DM74LS21 74LS21		♦ SN74LS257	Signetics TI	74LS257 74LS257A SN74LS257B	(3057) (3057)			T74LS290				T74LS368	
			(Continued)				(Continued)				(Continued)				(Continued)

♦ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Motorola (Cont'd)				SN74LS42	Signetics	74LS42	(Cont'd)	SN74LS74	National	DM74LS74	(Cont'd)	SN74LS95	Signetics	74LS95B	(3057)
SN74LS368A		(Cont'd)		SN74LS47	Hitachi	HD74LS47		SN74LS74	Panasonic	DM74LS74A		SN74LS95B	Hitachi	DM74LS95B	
SN74LS37	Hitachi	DM74LS37			National	DM74LS47			SGS-Thomson	T74LS74			National	DM74LS95B	
	National	DM74LS37				74LS47				74LS74			Panasonic	DM74LS95B	
		74LS37			SGS-Thomson	T74LS47				74LS74			SGS-Thomson	DM74LS95B	
	Panasonic	DM74LS37		SN74LS48	TI	SN74LS47		SN74LS74A	Hitachi	DM74LS74A				T74LS95	
	SGS-Thomson	74LS37			National	DM74LS48			National	DM74LS74				T74LS95B	
		74LS37				74LS48				74LS74		SN74S112	Signetics	74LS95B	(3057)
SN74LS373	National	74LS373			SGS-Thomson	T74LS48			Panasonic	DM74LS74A			TI	SN74LS95B	
	Panasonic	DM74LS373		SN74LS49	Signetics	74LS48			SGS-Thomson	T74LS74			National	DM74S112	
	SGS-Thomson	74LS373			National	DM74LS49				74LS74				74S112	(3057)
		74LS373			SGS-Thomson	T74LS49		SN74LS75	Signetics	SN74LS74A		SN74S113	Signetics	74S112	
	Signetics	74LS373	(3057)		TI	SN74LS49			TI	SN74LS75			TI	SN74S112	
	TI	SN74LS373		SN74LS490	National	74LS490			Hitachi	DM74LS75			National	DM74S113	
SN74LS374	National	DM74LS374			Panasonic	DM74LS490			National	DM74LS75		SN75172	Signetics	74S113	(3057)
		74LS374			SGS-Thomson	T74LS490			Panasonic	DM74LS75			TI	SN74S113	
	SGS-Thomson	74LS374				74LS490			SGS-Thomson	T74LS75			Motorola	SN75173	
		74LS374				74LS490				74LS75				SN75174	
	Signetics	74LS374	(3057)	SN74LS51	Signetics	74LS490	(3057)		Signetics	74LS75	(3057)			SN75175	
	TI	SN74LS374			Hitachi	HD74LS51		SN74LS76A	TI	SN74LS75			National	SN75176	
	National	74LS375			National	DM74LS51			Hitachi	DM74LS76				SN75177	
	Signetics	74LS375	(3057)			74LS51			National	DM74LS76				μA8T28	
	TI	SN74LS375			Panasonic	DM74LS51			Panasonic	DM74LS76				μA96172	
SN74LS377	National	SN74LS375			SGS-Thomson	DM74LS51			Signetics	74LS76	(3057)			μA96173	
	SGS-Thomson	74LS377				T74LS51			TI	SN74LS76A				μA96174	
		74LS377				74LS51				DM74LS78				μA96175	
	Signetics	74LS377	(3057)	SN74LS54	Signetics	74LS51	(3057)		National	DM74LS78				μA96176	
	TI	SN74LS377			TI	SN74LS51		SN74LS78A	Panasonic	DM74LS78				μA96177	
SN74LS378	AMD	SN74LS378			Hitachi	HD74LS54			TI	SN74LS78A				μA96178	
	National	74LS378			National	DM74LS54			Hitachi	HD74LS83A				DS3695	
	SGS-Thomson	74LS378				74LS54			Motorola	SN74LS83A	(2947)		TI	DS8T28	
		74LS378			Panasonic	DM74LS54			National	DM74LS83A				SN751176B	
		74LS378			SGS-Thomson	T74LS54				74LS83A				SN75145	
	Signetics	74LS378	(3057)			74LS54				DM74LS83A				SN75172	
	TI	SN74LS378		SN74LS540	Signetics	74LS54	(3057)		SN74LS83	T74LS83				SN75173	
SN74LS379	National	74LS379			TI	SN74LS54			SGS-Thomson	74LS83A	(3057)			SN75174	
	SGS-Thomson	74LS379			National	74LS540				TI	SN74LS83A		SN75173	Motorola	SN75175
		74LS379				74LS540				DM74LS83A				SN75176	
	TI	SN74LS379				74LS540				74LS83A				SN75177	
SN74LS38	Hitachi	DM74LS38		SN74LS541	Signetics	74LS541	(3057)			DM74LS83A			National	μA8T28	
	National	DM74LS38			TI	SN74LS541				TI	SN74LS83A			μA96172	
		74LS38			Hitachi	HD74LS55				Hitachi	DM74LS83A			μA96173	
	Panasonic	DM74LS38			National	DM74LS55				National	DM74LS85			μA96174	
	SGS-Thomson	74LS38				74LS55				DM74LS85				μA96175	
		74LS38				74LS55				74LS85				μA96176	
	Signetics	74LS38	(3057)		Panasonic	DM74LS55				DM74LS85				μA96177	
	TI	SN74LS38			SGS-Thomson	T74LS55				74LS85				μA96178	
SN74LS386	Hitachi	DM74LS386				74LS55				Signetics	74LS85	(3057)		DS3695	
	National	DM74LS386				74LS55				TI	SN74LS85			DS8T28	
	Panasonic	DM74LS386				74LS55				Hitachi	DM74LS86			SN751176B	
	TI	SN74LS386A				74LS55				National	DM74LS86			SN75145	
SN74LS390	National	74LS390		SN74LS568	Signetics	74LS568	(3057)			DM74LS86				SN75172	
	Panasonic	DM74LS390		SN74LS569	Signetics	74LS569	(3057)			74LS86				SN75173	
	SGS-Thomson	74LS390		SN74LS607	Signetics	N8T125	(3076)			DM74LS86				SN75174	
		74LS390		SN74LS640	Signetics	74LS640	(3057)			SN74LS86				SN75175	
	TI	SN74LS390				74LS640				TI	SN74LS86A			SN75177B	
SN74LS393	National	74LS393				74LS641				TI	SN74LS86A		SN75174	Motorola	SN75176
	Panasonic	DM74LS393				74LS641				National	DM74LS90			SN75177	
	SGS-Thomson	74LS393				74LS642				DM74LS90				SN75178	
		74LS393				74LS642				74LS90				SN75179	
	Signetics	74LS393	(3057)			74LS644				DM74LS90				SN75180	
	TI	SN74LS393				74LS644				SN74LS90				SN75181	
SN74LS395	National	DM74LS395		SN74LS644	SGS-Thomson	74LS645				SN74LS90				SN75182	
		74LS395		SN74LS645		74LS645				TI	SN74LS90			μA8T28	
		74LS395			Signetics	SN74LS645-1				Hitachi	DM74LS91			μA96172	
	Panasonic	DM74LS395A				74LS645				TI	SN74LS91			μA96173	
	SGS-Thomson	74LS395			TI	SN74LS645				Hitachi	DM74LS92			μA96174	
		74LS395				74LS645-1				TI	SN74LS92			μA96175	
	Signetics	74LS395	(3057)			74LS645-1				Hitachi	DM74LS92			μA96176	
	TI	SN74LS395A				74LS646				National	DM74LS92			μA96177	
SN74LS398	SGS-Thomson	74LS398		SN74LS669	TI	SN74LS669				Panasonic	DM74LS92			μA96178	
		74LS398		SN74LS670	National	DM74LS670				SGS-Thomson	DM74LS92			DS3695	
	TI	SN74LS398				74LS670					T74LS92			DS8T28	
	SGS-Thomson	74LS398				74LS670					Signetics	74LS92	(3057)	TI	SN751176B
		74LS398				74LS670					TI	SN74LS92			SN75145
	TI	SN74LS399				74LS670					Hitachi	DM74LS93			SN75172
SN74LS40	Hitachi	DM74LS40		SN74LS674	TI	SN74LS674					National	DM74LS93			SN75173
	National	DM74LS40		SN74LS73	Hitachi	HD74LS73					Panasonic	DM74LS93			SN75174
		74LS40			Motorola	SN74LS73A	(2941)				SGS-Thomson	DM74LS93			SN75175
	Panasonic	DM74LS40			National	DM74LS73						T74LS93			SN75176
	SGS-Thomson	74LS40			Panasonic	DM74LS73						Signetics	74LS93	(3057)	SN75177B
		74LS40				74LS73						TI	SN74LS93		SN75172
	Signetics	74LS40	(3057)			74LS73						Hitachi	DM74LS95B		SN75173
	TI	SN74LS40				74LS73						Hitachi	DM74LS95B		SN75174
SN74LS42	Hitachi	DM74LS42		SN74LS73A	Hitachi	HD74LS73A						Motorola	SN74LS95B	(2944)	SN75176
	National	DM74LS42			National	DM74LS73						National	DM74LS95B		SN75177
		74LS42			Panasonic	DM74LS73							74LS95B		μA8T28
	Panasonic	DM74LS42			Signetics	74LS73	(3057)						DM74LS95B		μA96172
	SGS-Thomson	74LS42			TI	SN74LS73A							T74LS95		μA96173
		74LS42		SN74LS74	Hitachi	HD74LS74A							T74LS95B		μA96174
		74LS42			Motorola	SN74LS74A	(2941)						T74LS95B		(Continued)

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Motorola (Cont'd)				UC1843A	(Cont'd)			ULN2004	(Cont'd)			♦ μAF355	(Cont'd)				
SN75175	National	(Cont'd)			SGS-Thomson	UC1843			SGS-Thomson	L204		PMI	OP15				
		μA96175			SiliconG	SG1843			ULN2004				OP43				
		μA96176			TeledyneS	TSC18C43			SG2004		♦ μAF355	SGS-Thomson	PM355				
		μA96177			Unitrode	UC1843			Sprague	ULN2004	(3258)		LF355				
		μA96178				UC1843A			ULS2004		♦ μAF356	LinearTech	LF356				
		DS3695				UC1844A			ULN2004			Motorola	LF356	(2953)			
		DS8T28			Motorola	IP1844-45			ULN2004A			National	LF356				
	TI	SN751176B			SGS-Thomson	UC1845A			Toshiba	TD62004		NEC	μPC356				
		SN75145				UC1844-45			TD62104				μPC813				
		SN75172			TeledyneS	TSC18C44		ULN2064	IPS	IP2064		♦ μAF356	PMI	OP16			
		SN75173				TSC18C45			Mitsubishi	M54532			PM356				
		SN75174				TSC28C45			SGS-Thomson	ULN2064		♦ μAF356	SGS-Thomson	LF356			
		SN75175			Unitrode	UC1844			Sprague	ULN2064	(3258)	♦ μAF398	LinearTech	LF398			
		SN75177B				UC1844A			TI	SN75064			National	LF398			
SN75176	Motorola	SN75172				UC1845			ULN2064				LM298				
		SN75173				UC1845A			Toshiba	TA75064		♦ μAF398	PMI	SMP10			
		SN75174			Motorola	UC1844A		ULN2065	IPS	IP2065			Signetics	LF398			
		SN75175			SGS-Thomson	UC1844-45			SGS-Thomson	ULN2065		♦ μAF398	TI	NE5537			
		SN75177				TSC18C44				ULN2065		♦ μAF771	GE/RCA	CA081	(2647)		
		μA8T28			TeledyneS	TSC18C45			SiliconG	SG2065			OP16				
		μA96172				TSC28C45			Sprague	ULN2065	(3258)		SGS-Thomson	LF351			
		μA96173			Unitrode	UC1844		ULN2066	IPS	IP2066		μAF774	Exar	XR084	(2619)		
		μA96174				UC1844A			SGS-Thomson	ULN2066			GE/RCA	CA084	(2647)		
		μA96175				UC1845				ULN2066			SGS-Thomson	TL084			
		μA96176				UC1845A			SiliconG	SG2066		μA0801	TI	TL084			
		μA96177				UC1845A			TI	SN75066			AD	ADDAC-08			
		μA96178			UC3842	SGS-Thomson			ULN2066								
		DS3695				UC3842		ULN2067	IPS	IP2067			Datel	DAC108	(2471)		
		DS8T28				SG3842			SGS-Thomson	ULN2067				DAC108			
	TI	SN751176B			SiliconG	UC3842				SG2067				DAC108			
		SN75145			Sprague	UC3842		ULN2068	SiliconG	SG2067				DAC108			
		SN75172			TeledyneS	TSC38C42			TI	SN75067				DAC108			
		SN75173			Unitrode	UC3842			ULN2067					DAC108			
		SN75174			Sprague	UDN2841		ULN2068	IPS	IP2068				DAC108			
		SN75175			Exar	XR2001	(2619)		SGS-Thomson	ULN2068			Motorola	CA081	(2971, 2989)		
		SN75177B				XR2001C	(2619)			SG2068			National	MC1408	(2971)		
		SN7517				XR2201	(2619)			SN75068				μA0802			
		SN75173			Mitsubishi	M54524		ULN2069	IPS	IP2069				DAC0801			
		SN75174			Motorola	MC1411	(2984)			ULN2068				DAC0802			
		SN75175			National	μA9665			Sprague	ULN2068	(3258)			DAC0806			
		SN75176			Sanyo	LB1231			TI	SN75068				DAC0807			
		SN75178			SGS-Thomson	L201		ULN2074	SiliconG	SG2069				DAC0808			
		μA8T28				ULN2001			Sprague	ULN2068	(3258)			DAC0808			
		μA96172				ULN2001			SGS-Thomson	ULN2069				DAC0808			
		μA96173			SiliconG	SG2001		ULN2075	IPS	IP2069				DAC0808			
		μA96174			Sprague	ULN2001	(3258)			ULN2069				DAC0808			
		μA96175				ULQ2001			SiliconG	SG2069				DAC0808			
		μA96176				ULS2001			Sprague	ULN2069	(3258)			DAC0808			
		μA96177			TI	ULN2001			TI	SN75069				DAC0808			
		μA96178				ULN2001A			ULN2069					DAC0808			
		DS3695			Toshiba	TD62001		ULN2074	IPS	IP2074				DAC0808			
		DS8T28				TD62101			SGS-Thomson	ULN2074				DAC0808			
	TI	SN751176B			Exar	XR2002C	(2619)			SG2074				DAC0808			
		SN75145				XR2202	(2619)			ULN2074				DAC0808			
		SN75172			Mitsubishi	M54525		ULN2801	SiliconG	SG2074				DAC0808			
		SN75173			Motorola	MC1412	(2984)		Sprague	ULN2074	(3258)			DAC0808			
		SN75174			National	μA9666			TI	ULN2074				DAC0808			
		SN75175				MC1412			Toshiba	TD62074				DAC0808			
		SN75177B				μPA2002		ULN2075	IPS	IP2075				DAC0808			
SN75178	TI	SN75178			NEC	LB1232			SGS-Thomson	ULN2075				DAC0808			
TCA4500	National	LM4500			Sanyo	LB1232				SG2075				DAC0808			
	Siemens	TCA4500			SGS-Thomson	L202		ULN2804	SiliconG	SG2075				DAC0808			
	TI	TMS4500A	(3298)			ULN2002			Sprague	ULN2075	(3258)	μA0802	Signetics	MC1408			
	VLSI Tech	VL4500A	(3363)			ULN2002			TI	ULN2075			AD	ADDAC-08			
TDA1085	Plessey	TDA1085			SiliconG	SG2002		ULN2801	SGS-Thomson	ULN2801				ADDAC-08			
TDA1085A	Plessey	TDA1085A			Sprague	ULN2002	(3258)			ULN2801				ADDAC-08			
TDA1327	TI	μ76227				ULS2002			SiliconG	SG2801				ADDAC-08			
TL431	National	μA431				ULN2002A			Sprague	ULS2801				ADDAC-08			
	TI	TL431			TI	ULN2002			Toshiba	TD62081				ADDAC-08			
TL493	Unitrode	UC493A				ULN2002A		ULN2804	SGS-Thomson	ULN2804				ADDAC-08			
TL494	Cherry Semi	CS494M			Toshiba	TD62002				ULN2804				ADDAC-08			
	Exar	XR494	(2619)		Exar	XR2003C	(2619)			SG2804				ADDAC-08			
	IPS	IP494A				XR2203	(2619)		SiliconG	SG2804				ADDAC-08			
	TI	TL494M			Mitsubishi	M52523			Sprague	ULN2804	(3258)			ADDAC-08			
	Unitrode	UC494A				M54523				ULS2804				ADDAC-08			
TL780-05C	IPS	IP7805AC			Motorola	MC1413	(2984, 2989)		Toshiba	TD62084				ADDAC-08			
	TI	TL780-05C			National	μA9667		68020	Krueger	68020	(2877)			ADDAC-08			
TL780-12C	TI	TL780-12C				MC1413		National Semiconductor									
TL780-15C	TI	TL780-15C			Sanyo	LB1233		♦ μAF255	MicroPwr	MP255				ADDAC-08			
UC1842A	Cherry Semi	CS1842			SGS-Thomson	L203			National	LF255				ADDAC-08			
	IPS	IP1842				ULN2003		♦ μAF255	PMI	PM155				ADDAC-08			
	LinearTech	LT1842				SG2003				PM255				ADDAC-08			
	SGS-Thomson				Sprague	ULN2003	(3258)	♦ μAF256	SGS-Thomson	LM255				ADDAC-08			
		UC1842				ULS2003				LF256				ADDAC-08			
		SG1842				ULN2003			National	LM256				ADDAC-08			
	TeledyneS	TSC18C42			TI	ULN2003		♦ μAF355	SGS-Thomson	μA2556				ADDAC-08			
	Unitrode	UC1842			Toshiba	TD62003				LF355				ADDAC-08			
		UC1842A				TD62103				Motorola	(2953)			ADDAC-08			
UC1843A	Cherry Semi	CS1843			Exar	XR2204	(2619)		Solitron	LF355				ADDAC-08			
	IPS	IP1843				MC1416	(2984)		LinearTech	LF355				ADDAC-08			
	LinearTech	LT1843			Mitsubishi	M54526			Motorola	LF355	(2953)			ADDAC-08			
					Sanyo	LB1234			National	LF355				ADDAC-08			
														ADDAC-08			

♦ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				μA26LS32	AMD	AM26LS32 AM26LS32A 26LS32		μA301	SGS-Thomson	(Cont'd)		μA307	National	μA207 LH0044	(Cont'd)
μA223	SGS-Thomson	LM223	(Cont'd)		Motorola	AM26LS32			SiiconG	LM301 LM301A			PMI	OP06	
μA224	Motorola	LM224	(2956, 2989)		National	DM26LS32			TI	SG301			Raytheon	OP77	
	Plessey	ZN448		μA2901	Cypress	AM26LS32		μA301A	Toshiba	LM301 LM301A				LM201	(3024)
	PMI	OP400			IDT	AM26LS32A	(2590)		AD	LM301A		μA3075	National	RC725	
	OP421				Motorola	AM26LS32AM	(2958, 2989)		GE/Intersil	TA7506			TI	RM714	
	SG224								GE/RCA	AD301	(2647)	μA308	Burr-Brown	RM725	
	SS16051				National	MC3302	(2958)		LinearTech	LM301				LM3075	
μA2240	TI	LM224	(2619)			LM3302			Motorola	LM301	(2952, 2989)			SN76675	
	Exar	XR2240			PMI	LM2901			National	μA301				3500	
	GE/Intersil	ICL8240				CMP04				LM301				AD308	(2470)
μA238	TI	μA2240			Raytheon	PM139			NEC	LM301A			GE/Intersil	AD308	
	IPS	IP238				PM339			PMI	OP77	(3024)			LM308	(2952, 2989)
	National	LM238			SGS-Thomson	LM2901			Raytheon	LM301				OP97	
μA239	SiiconG	SG238				RC3302			SGS-Thomson	LM301		μA308A	Raytheon	PM1008	
	GE/RCA	CA239	(2648)							LM301			AD	PM308	
	Motorola	LM239	(2958, 2989)							LM301A			LinearTech	LM308A	(2470)
	National	μA250								LM301			Motorola	LM308A	(2952, 2989)
	PMI	LM239								LM301				LM308	
	CMP04									LM301A				OP97	
	PM139									μPC301				PM1008	
	PM239									μPC301A				PM1012	
	Raytheon	LM239								OP77				PM308	
	SGS-Thomson	LM239								LM301				LM308	
		LM239								LM301A				AD308A	(2470)
	Signetics	LM239								SG301				LM308A	
	TI	LM239								μA301				LM308A	(2952, 2989)
μA248	Exar	XR4741	(2619)							LM301				LM308A	
	Harris	HA4741								LM301A				PM308A	
	LinearTech	LT1014								TA7506				CA3046	(2650)
	MicroPwr	MP0P11								LM3045				CA3146	(2650)
	Motorola	LM148	(2957)							LA3045				MC3346	(2951, 2990)
		LM248	(2956)							LM3045				μA3046	
		MC33174	(2957, 2990)							ULS2045				LM3046	
		MC4741	(2956, 2990)							CA3046	(2650)			SL3046	
	National	μA148								CA3146	(2650)			SL3086	
	LM148									MC3346	(2951, 2990)			SL3146	
	NEC	μPC4741								LM3046				CA3046	
	PMI	OP11								SL3046				SFC2046	
	OP400									SL3086				TBA331	
	OP421									SL3146				SG3046	
	OP470									LA3046				SG3146	
	PM148									CA3046				SG3821	
	PM248									SFC2046				ULN2046	
	Raytheon	HA14741								TBA331				LM309	(2959)
		HA34741								SG3046				LM309	
		HA4741								SG3146				ZN447	
		LM148	(3025)							SG3821				SG309	
		RM4158								ULN2046				SSI6050	
		LM148								LM305				AD311	(2470)
μA250	TI	CA239	(2648)							ZNREF025				CA311	(2648)
	GE/RCA	LM239	(2958, 2989)							SG305				LM311	
	Motorola	LM239								SSI6050				LM311	
	National	μA239								CA3054	(2649, 2655)			LM2903	(2958, 2989)
	LM239									HC3054	(2951)			LM311	(2958, 2989)
	CMP04									LM3054				LM2903	
	PM139									TP3054				μPC311	
	PM239													PM211	
	Raytheon	LM239												LM311	
	SGS-Thomson	LM239												SGS-Thomson	
		LM239												LM2903	
	Signetics	LM239												LM311	
	TI	LM239												LM2903	
μA2524	Cherry Semi	CS2524	(2619)											LM311	
	Exar	XR2524												LM311	
	IPS	IP2524												SG311	
	LinearTech	LT2524												LM2903	
		SG2524												LM311	
	National	LM2524												TA75393	
	SGS-Thomson	SG2524												GL317	(2714)
		UC2524A												IP317	
		SG2524												LM317	
		SG2524B												LM317	
		SG2524												MCELM317	
		UC2524												Motorola	(2962, 2989)
		UC2524A												LM317	
μA26LS31	AMD	AM26LS31	(2983)											μPC317	
	Motorola	AM26LS31												LM317	
	National	DS26LS31												TDB0117	
	Signetics	AM26LS31												SG317	
	TI	AM26LS31												LM317	
			(Continued)											UC317	(Continued)

• Discontinued

The manufacturers report their devices can be used as direct replacements.
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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
μA723M	Samsung	LM723	(3039)	μA749	Raytheon	RC4739	(3057)	μA776	Solitron	UC4250	(2962)	μA78L10	Toshiba	TA78L010	(2961, 2990)
	SGS-Thomson	μA723			SGS-Thomson	TBA231			TI	TLC251		μA78L10A	National	μA78L10	
		LM723			TI	SN76131				TLC271			TI	LM78L10	
		L123		μA750	National	μA212A		μA78HGA	IPS	IP350				μA78L10	
		SFC2723			SiliconG	SG508			Lambda	LLM350		μA78L12	Toshiba	μA78L10A	
	Signetics	μA723			Sprague	UHD508			LinearTech	LM350			Motorola	TA78L010	
μA725	National	SG723		μA75450	National	DS75450				LT350				MC78L12	(2960, 2990)
	PMI	μA723				75450			Motorola	μA350			National	μA78L12A	
μA7327	GoldStar	LM725			SiliconG	SG75450			National	LM350				LM340LA-12	
	Sprague	OP06		μA75451	TI	SG75450B			SiliconG	SG350			NEC	LM78L12	
	Telefunken	OP77			National	SN75450		μA78H05	TI	LM350			TI	μPC78L12	
μA733	Adv Analog	TDA1170				DM7426			Unitrode	UC350		μA78L12A	Toshiba	μA78L12	
	GE/Intersil	A733			Signetics	DM8810			IPS	IP123-5			Motorola	TA78L012	
		μA733			TI	7426				IP323				MC78L12	(2960, 2990)
		NE592-8			National	SN7426			Lambda	LAS1405			National	μA78L12	
		SE592		μA75452		DS75452			LinearTech	LM323				LM340LA-12	
	Hitachi	HA17733			SiliconG	75452				LT323			NEC	LM78L12	
	Motorola	MC1733	(2953, 2989)	μA75453		SG75452			Micropac	M78H05			TI	μPC78L12	
		NE592	(2991)		Motorola	SG75452A			Motorola	LM323		μA78L15	Toshiba	μA78L12	
		SE592			National	SG75452B			National	μA323			Motorola	TA78L012	
	National	LM733				SN75452				SH0323				MC78L15	(2961, 2990)
	Signetics	NE592				SN75452B			SGS-Thomson	LM323			National	μA78L15A	
		SE592				DS75453				SG323				LM340LA-15	
	SiliconG	SG1401		μA75461		LM75453		μA78H12A	SiliconG	LM323			NEC	LM340T-15	
	TI	μA733				75453			Lambda	LAS1412			TI	LM78L15	
		μA733M				SG75453A			Micropac	M78H12				μPC78L15	
		NE592			TI	SG75453B			National	μA78L02A				μA78L15	
		NE592-8		μA75462	Motorola	SN75453B			TI	μA78L02		μA78L15A	Toshiba	TA78L015	
		SE592				MC75401				μA78L02A			Motorola	MC78L15	(2961, 2990)
μA739	Exar	XR4739	(2619)			DS75461			National	μA78L02			National	μA78L15	
	National	μA749			Motorola	SG75461			TI	μA78L02A				LM340LA-15	
		LM1303				TI			Motorola	μA78L02			NEC	LM340T-15	
	Raytheon	RC4739		μA760	National	SN75462			National	μA78L05			TI	LM78L15	
	SGS-Thomson	TBA231		μA771	PMI	LM160			NEC	LM78L05				μPC78L15	
		TI			AnalogSys	CMP05			TI	μA78L05		μA78L18	Toshiba	μA78L15A	
		SN76131			Motorola	MA333				TA78L005			Motorola	TA78L015	
		SN76149				MC34001	(2953, 2990)		Toshiba	μA78L05A				MC78L18	(2961)
μA741	Fujitsu	MB3603			NEC	μPC4071			Motorola	TA78L005			National	LM78L18	
	Intel	27C202			PMI	OP15		μA78L05A	National	μA78L05			TI	TA78L018	
μA741M	Waferscale	WS57C257	(3390)		TI	TL071				LM340LA-5		μA78L20	Toshiba	LM78L20	
	AD	AD741	(2427, 2462)	μA772		TL081C			NEC	LM78L05			TI	μA78L20	
		MB3609			Toshiba	TA75071			TI	μPC78L05		μA78L26	Toshiba	TA78L024	
	Hitachi	HA17741			AnalogSys	MA336			TI	μA78L05A			National	TA78L20	
	MicroPwr	MPOPO2			GE/RCA	CA3240	(2647)			TA78L005				μA78L02	
	Motorola	MC1741	(2953, 2989)		LinearTech	OP215		μA78L06	National	μA78L06A			TI	μA78L02A	
		LM741			Motorola	MC34002	(2955, 2990)			LM78L06		μA78M05	Motorola	μA78L02A	
		μPC151				OP215			TI	μA78L06			National	MC78M05	(2990)
		μPC741				TL072				TA78L06A				LM341-5	
	PMI	OP02				TL072				TA78L012			NEC	LM342-05	
		OP77				TL082C				μA78L06				LM78M05	
		PM741				TA75072				LM78L06			NEC	μPC78M05	
	Raytheon	RM741		μA774		TA75074			TI	μA78L06			Samsung	MC78M05	
	Samsung	LM741	(3039)		AnalogSys	MA374				μA78L06A			Sanyo	L78M05	
	SGS-Thomson	μA741			Motorola	MC33074	(2957)			μA87L06			SGS-Thomson	L78M05	
		LS141				MC34004	(2956, 2990)			TA78L012				L78M05CV	
		μA741M				MC34004A	(2956, 2990)		μA78L06A	National			SiliconG	SG14005	
		TA7504				MC34074	(2956, 2991)			μA78L08A				SG14012	
	Unitrode	PIC7504								LM78L08			TI	SG7805AT	
	GE/RCA	CA747	(2647)			μPC4084			NEC	μPC78L08		μA78M05M	Toshiba	μA78M05	
	Hitachi	HA17747				TL074			TI	μA78L08			TI	TA78M05	
	MicroPwr	MPOPO4				TL084BC				TA78L08A		μA78M06	Motorola	μA78M05M	
	Motorola	MC1747	(2954, 2989)			ICL7611	(2673, 2675)	μA78L08A	Motorola	MC78L08	(2960, 2990)			MC78M06	(2960)
		LM747				ICL8021			National	μA78L08			National	LM78M06	
		μPC1418				LM4250				LM78L08			Samsung	MC78M06	
		OP04				HA2720				μPC78L08			Sanyo	L78M06	
		PM747				HA2725				μA78L08			SGS-Thomson	L78M06	
	Raytheon	RC747	(3024)			ICL7611				μA78L08A				L78M06CV	
		RM747	(3024)			MC1776	(2953, 2989)			TA78L008		μA78M08	TI	μA78M06	
		μA747				MC3476	(2953)			LM78L09			Toshiba	TA78M08	
	Signetics	TSC747				LF441				μA78L09A			Motorola	LM78M08	
	TeledyneS	μA747M				LM4250				LM78L09			National	μPC78M08	
	TI	XR4739	(2619)			μPC4250				μA78L09			NEC	MC78M08	
μA749	Exar	μA739				OP20				μA78L09A			Samsung	MC78M08	
	National	LM1303				OP43				LM78L09			Sanyo	L78M08	
			(Continued)			SGS-Thomson				LM78L09			SGS-Thomson	L78M08CV	
						μA776				μA78L10A			TI	μA78M08	
						MC1776				LM78L10		μA78M09	Toshiba	TA78M08	
										μA78L10A			National	LM78M09	
													SGS-Thomson	L78M09	
															(Continued)

• Discontinued

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				μA7807	Gould/AMI	S8978		μA7820			(Cont'd)	μA79M12M			(Cont'd)
μA78M09	TI	μA78M09	(Cont'd)	μA7808	Hitachi	HA17807			PMI	PM0820		TI		μA79M12M	
μA78M10	Toshiba	TA78M09			Mitel	MT8978	(2714)		Samsung	KAD0820		Toshiba		μA7912	
	National	LM78M10			GoldStar	GL7808			SGS-Thomson	L7820				TA78024	
	SGS-Thomson	L78M10			Hitachi	HA17808			SiliconG	SG7820				TA79012	
	TI	μA78M10			Motorola	MC08	(2960)			SG7820A		μA7902		MC7902	
μA78M12	Motorola	MC78M12	(2960, 2990)		National	LM7808			Siliconix	SI7820		μA7905		IP7905	
	National	LM341-12			NEC	μPC7808			TI	μA7820				MC7905	(2959)
	NEC	μPC78M12			Samsung	MC7808				SN55182				LM7905	
	Samsung	MC78M12			SGS-Thomson	μA7808			μA7824	AD	AD7824	(3325)		MC7905	
	Sanyo	L78M12				L7808				GoldStar	GL7824	(2414, 2462)		μPC7905	
	SGS-Thomson	L78M12CV			SiliconG	SG340-8				Maxim	AD7824	(2714)		MC7905	
	TI	μA78M12			TI	SG7808				Motorola	MC7824	(2961)		L7905	
μA78M12M	Toshiba	TA78M12		μA7809	Toshiba	TA78008	(2714)			National	LM7824			SG7905	
μA78M15	Motorola	MC78M15	(2961, 2990)		GoldStar	GL7809				NEC	μPC7824			SG7905A	
	National	LM341-15			Hitachi	HA17809				Samsung	MC7824		μA7906	UC7905	
	NEC	μPC78M15			Motorola	MC7809				SGS-Thomson	μA7824			MC7906	(2960)
	Samsung	MC78M15			National	LM7809					L7824			LM7906	
	Sanyo	L78M15			NEC	μPC7809				SiliconG	SG7824			MC7906	
	SGS-Thomson	L78M15CV			TI	μA7809					SG7824A			L7906	
	TI	μA78M15			Toshiba	TA78009				TI	μA7824			μA7906	
μA78M18	Toshiba	TA78M15	(2961)	μA7810	National	LM7810					LM340-24		μA7908	TA78006	(2960)
	Motorola	MC78M18			SGS-Thomson	LM7810			μA787		TA78024	(2655, 2658)		Motorola	MC7908
	Samsung	MC78M18				L7810				National	LM1829			National	MC7908
	Sanyo	L78M18			TI	μA7810			μA79HG	Lambda	LM3126			MC7908	
	SGS-Thomson	L78M18CV			Toshiba	TA78010			μA79M05	IPS	LA579HG			SGS-Thomson	
	TI	μA78M18			GoldStar	GL7812					IP120-5			L7908	
	Toshiba	TA78M18			IPS	IP140-12				National	IP320-5			SG7908	
	Motorola	MC78M18	(2961)			IP7812					LM120			SG7908A	
	Samsung	MC78M18				IP7812AC					LM320-05			μA79M08	
	Sanyo	L78M18				LM340-12	(2960)				LM79M05			μA7908	
	SGS-Thomson	L78M18				LM7812	(2960)				SG120-5		μA7909	TA79008	(2714)
	TI	μA78M18				μPC7812				SiliconG	SG320-05			GoldStar	GL7909
	Toshiba	TA78M18				MC7812					SH12005			National	LM7909
	Motorola	MC78M20	(2961)			SGS-Thomson					UC320-05			NEC	μPC7909
	Samsung	MC78M20				μA7812				μA79M05M	μA79M05M			SGS-Thomson	
	Sanyo	L78M20				L7812				TI	μA79M06			L7909	
	SGS-Thomson	L78M20CV				SG340-12				TI	μA79M06			μA7909	
	TI	μA78M20				SG7812				National	MC7908	(2960)	μA7910	TA79009	
	Toshiba	TA78M20				SG7812A					LM7908			AMD	AM7910
	Motorola	MC78M24	(2961)			SG7812AT					MC7908			National	LM7910
	Samsung	MC78M24				μA7812					MC7908			SGS-Thomson	EF7910
	Sanyo	L78M24				TA78012					L7908			TI	μA7910
	SGS-Thomson	L78M24CV				UC340-12					SG7908			Toshiba	TA78020
	TI	μA78M24				UC7812					SG7908A			GoldStar	GL7912
	Toshiba	TA78M24				GL7815	(2714)				μA79M08			IPS	IP320-12
	Motorola	MC78M24				IP140-15					μA7908			IP7912	
	Samsung	MC78M24				IP340-15					TA79008			Motorola	MC7912
	Sanyo	L78M24				IP7815					GL7912	(2714)		National	LM7912M
	SGS-Thomson	L78M24CV				IP7815AC					IP320-12			LM320MP12	
	TI	μA78M24				LA51515					IP7912			LM7912	
	Toshiba	TA78M24				LM340-15	(2960)				MC7912	(2960)		LM7912	
	Lambda	LA53905				MC7815	(2961)				μA79M12M			μPC7912	
	Micropac	MLAS3905				LM340-15					μA7912			SGS-Thomson	MC7912
		M78P05				LM7815					LM320MP12			SGS-Thomson	
		μA78P05				μPC7815					LM7912			μA7912	
		μA78S40				MC7815					LM7912			L7912	
		μA7805				SGS-Thomson					μPC7912			SG320P-12	
						μA7815					MC7912			SG7912	
						L7815								SG7912A	
						SG340-15					μA7912			μA79M12M	
						SG7815					L7912			μA7912	
						SG7815A					SG320P-12			TA78024	
						μA7815					SG7912			TA79012	
						LM340-15					SG7912A			GL7915	(2714)
						TA78015					μA79M12M			IP7915	
						UC340-15					μA7912			MC7915	(2961)
						UC7815					TA78024			LM320-15	
						MC7818	(2961)				TA79012			LM320T15	
						NEC					GL7912	(2714)		LM7915	
						μPC7818					IP320-12			μPC7915	
						SGS-Thomson					MC7912	(2960)		MC7915	
						μA7818					μA79M12			SGS-Thomson	
						L7818					LM7912			μA7915	
						SG7818					LM320MP12			L7915	
						SG7818A					LM7912			SG320-15	
						μA7818					LM7912			SG7915	
						TA78018					μPC7912			SG7915A	
						AD7820	(2414, 2462)				MC7912			μA7915	
						Crystal					SGS-Thomson			TA79015	
						Maxim					μA7912			UC320-15	
						MAX150					L7912			UC7915	
						DS7820					SG320P-12			MC7918	
						LM7820					SG7912			National	LM7918
											SG7912A			Samsung	MC7918
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National Semiconductor (Cont'd)				μA96173	Motorola	(Cont'd)		μA96177	National	(Cont'd)		μA9667	SiliconG	SG2003	(Cont'd)
μA7918	SGS-Thomson	(Cont'd)											Sprague	ULN2003	(3258)
													TI	ULN2003	
													Toshiba	TD62003	
														TD62103	
												μA9668	SGS-Thomson	ULQ2004	
												μA9679	National	μA9638	
													TI	μA9638	
														SN75ALS191	
												μA9708	Motorola	MC14443	(2970, 2991)
														MC14447	(2970, 2991)
												μPD27C1024	AMD	AM27C1024	
													Atmel	AT27C1024	
													Fujitsu	MBM27C1024	
													Hitachi	HN27C1024	
														HN27C1024G	
													Microchip	27C1024	
													National	NMC27C1024	
													NEC	μPD27C1024	
													OKI	MSM27C1024	
													SGS-Thomson	M27C1024	
													VLSI Tech	VT27C1024	
												ADC0801	TI	ADC0801	
												ADC0802	GE/Intersil	ADC0802	(2669)
													TI	ADC0802	
												ADC0803	Datel	ADC830	(2595)
													GE/Intersil	ADC0803	(2669)
													Signetics	ADC0803	
													TeledyneS	TSC8701	
													TI	ADC0803	
												ADC0804	GE/Intersil	ADC0804	(2669)
													Signetics	ADC0804	
													TI	ADC0804	
												ADC0805	Signetics	ADC0805	
													TI	ADC0805	
														ADC0824A	
												ADC0808	MicroLinear	ML2258	
													Samsung	KAD0808	
													SGS-Thomson		
														MK0808	
													Siemens	SDA0808	
													TI	ADC0808	
												ADC0809	MicroLinear	ADC0809	
													Samsung	KAD0809	
													TI	ADC0809	
												ADC0811	Motorola	MC145040	(2932, 2970, 2992)
													TI	TLC540	(3325)
														TLC541	(3325)
												ADC0816	Datel	DAS952	
												ADC0820	Maxim	ADC0820	
													MicroPwr	MP0820	
													PMI	PM0820	
													Samsung	KAD0820	
													Signetics	ADC0820	
												ADC0829	Motorola	MC14442	(2970, 2991)
													TI	TLC532	
														TLC533	
												ADC0830	Motorola	MC14444	
													TI	TLC530	
														TLC531	
												ADC0831	Intel	ADC0831	
													MicroLinear	ADC0831	
														ML2281	
													TI	ADC0831	
														ADC0831A	
												ADC0832	Intel	ADC0832	
													MicroLinear	ADC0832	
														ML2282	
													TI	ADC0832	
														ADC0832B	
												ADC0834	MicroLinear	ADC0834	
														ML2284	
													TI	ADC0834A	
												ADC0838	MicroLinear	ADC0838	
														ML2288	
													TI	ADC0838B	
												AD7520	AD	AD7520	(2462, 2470)
															(2466)
													GE/Intersil	AD7520	
													Maxim	AD7520	
													MicroPwr	MP7520	
													Motorola	MC7520	
													National	DAC1020	
														DAC1021	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				AM0163	GE/Intersil	DG163		CD4006	GE/RCA	CD4006 (2638, 2653)		CD4012	Solitron	CM4012	(Cont'd)
				AM0164	GE/Intersil	DG164			Motorola	MC14006 (2944)		CD4013	Toshiba	TC4012B (3341)	
AD7520	National		(Cont'd)	AM97C09	GE/Intersil	AH0164			National	F4006			GE/RCA	CD4013 (2638, 2656)	
		DAC1022 7520			National	IH5009				F4006B			Motorola	MC14013	
	Sanyo	LA7520		• AM97C10	GE/Intersil	AH5009			SGS-Thomson	HCC/HCF4006			National	F4013	
AD7521	AD	PIC7520	(2462, 2470)		National	AM9709			Signetics	HEF4006			OKI	MM74C74	
		PIC7521	(2666)	• AM97C11	GE/Intersil	AH5010		CD4007	Solitron	CM4006			Sanyo	MSM4013	
	GE/Intersil	AD7521			National	AM9710			Toshiba	TC4006B (3341)			SGS-Thomson	LC4013	
	HybridSys	DAC331-12		• AM97C12	GE/Intersil	IH5011			GE/RCA	CD4007 (2637)		CD4014	HCC/HCF4013		
	Maxim	AD7521			National	AH5011			Motorola	MC14007 (2939)			Signetics	HEF4013	
	MicroPwr	MP7521		• AM97C09	GE/Intersil	AM9711			National	F4007			Solitron	CM4013	
	Motorola	MC7521			National	IH5012			SGS-Thomson	HCC/HCF4007			GE/RCA	CD4014 (2638)	
	National	DAC1220				AH5012		CD4008	Signetics	HEF4007			Motorola	MC14014 (2944)	
		DAC1221		AM9709	GE/Intersil	AM9712			Solitron	CM4007			National	F4014	
		DAC1222			National	AH5009			Toshiba	TC4007UB (3341)		CD4015	SGS-Thomson	HCC/HCF4014	
	PMI	AD7521				AM97C09			GE/RCA	CD4008 (2639)			Signetics	HEF4014	
AD7530	AD	AD7530	(2470)	AM9710	GE/Intersil	IH5010			Motorola	MC14008 (2947)			Solitron	CM4014	
	GE/Intersil	AD7530	(2666)		National	AH5010			National	F4008			Toshiba	TC4014B (3341)	
	Maxim	AD7530		AM9711	GE/Intersil	IH5011			SGS-Thomson	MM74C83			GE/RCA	CD4015 (2638)	
	MicroPwr	MP7530			National	AH5011		CD4009	SGS-Thomson	HCC/HCF4008			Motorola	MC14015 (2944)	
	Sanyo	LA7530		AM9712	GE/Intersil	IH5012			Signetics	HEF4008			National	F4015	
AD7531	AD	PIC7530	(2470)		National	AH5012			Solitron	CM4008		CD4016	OKI	MM74C164	
		PIC7531		BLC80/316	Intel	ISBC80/30			Toshiba	TC4008B (3341)			Sanyo	MSM4015	
	GE/Intersil	AD7531	(2666)	CD4000	GE/RCA	CD4000 (2637)		CD4009	GE/RCA	CD4009 (2637)			SGS-Thomson	LC4015	
		AD8531			Motorola	CD4000B (2637)			Motorola	MC14009				HCC/HCF4015	
		AS7531				MC14000B (2938)			SGS-Thomson	MC14000B (2938)			Signetics	HEF4015	
	Maxim	AD7531			National	CD4000B			Solitron	HCC/HCF4009		CD4016	Solitron	CM4015	
	MicroPwr	MP7531			SGS-Thomson	HCC/HCF4000			Toshiba	TC4009UB (3341)			Toshiba	TC4015B (3341)	
	PMI	PM7531				HCC/HCF4000B		CD4010	GE/RCA	CD4010 (2637)			GE/RCA	CD4016 (2639, 2655)	
	Unitrode	PIC7531			Signetics	HEF400			Motorola	MC14010				CD4066 (2639, 2655)	
AD7533	AD	AD7533	(2411, 2462)		Solitron	CM4000			SGS-Thomson	HCC/HCF4010			Motorola	MC14016 (2945)	
		DAC7533	(2596)		Toshiba	TC4000B (3341)		CD40106		CM4010			National	CD4066	
	GE/Intersil	AD7533	(2666)		GE/RCA	CD4000B (2637)			Toshiba	TC4010B (3341)			F4016	F4066	
	Maxim	AD7533			Motorola	MC14000 (2938)			GE/RCA	CD40106 (2637, 2653)			Sanyo	LC4016	
	MicroPwr	MP7533	(3019)			MC14000B (2938)				CD4584B			SGS-Thomson	LC4066	
	PMI	PM7533			National	CD4000			Motorola	MC14106 (2940)				HCC/HCF4016	
AH0126	Unitrode	PIC7533	(2671)		SGS-Thomson	HCC/HCF4000				MC14584B (2940)			Signetics	HCC/HCF4066	
	GE/Intersil	DG126				HCC/HCF4000B			National	CD4584			Solitron	HEF4016	
AH0129	Siliconix	DG126			Signetics	HEF400				CD4584B			Toshiba	HEF4066	
	GE/Intersil	DG129			Solitron	CM4000				F400014			Motorola	CM4016	
AH0133	Siliconix	DG129			Toshiba	TC4000B (3341)				MM54C14			Motorola	CM4066	
	GE/Intersil	DG133			Fujitsu	MB4001				MM74C14			Motorola	HCF4016	
AH0134	GE/Intersil	DG133		CD4001	GE/RCA	CD4001 (2637)			SGS-Thomson	HCC/HCF40106			Toshiba	TC4016B (3341)	
AH0139	Siliconix	DG134			Motorola	MC14001 (2938)			Signetics	HEF40106			Motorola	TC4066B (3341)	
	GE/Intersil	DG134			National	MC14001UB (2938)		CD4011	Toshiba	TC4584B (3341)		CD40160	Unitrode	PIC7516	
AH0140	Siliconix	DG139				CD4001UB (2938)			GE/RCA	CD4011 (2637)			GE/RCA	CD40160 (2638)	
AH0141	GE/Intersil	DG140			OKI	MM74C02				CD4011UB (2637)			Motorola	CD40160B (2638)	
AH0141	Siliconix	DG140			Sanyo	MSM4001			Motorola	MC14011 (2937)			National	MC40160B	
AH0142	GE/Intersil	DG141			SGS-Thomson	LC4001B				MC14011UB (2937)				CD40160B	
AH0142	Siliconix	DG141				HCC/HCF4001			National	CD4011UB			SGS-Thomson	F40160	
AH0143	GE/Intersil	DG142			Signetics	HEF4001				F4011				HCC/HCF40160	
AH0143	Siliconix	DG142			Solitron	CM4001			OKI	MM74C00			Signetics	HCC/HCF40160B	
AH0144	GE/Intersil	DG143			Toshiba	TC4001B (3341)			Sanyo	MSM4011			Toshiba	TC40160 (3341)	
AH0144	Siliconix	DG143			Fujitsu	TC4001UB (3341)			SGS-Thomson	LC4011			Motorola	TC40160B (3341)	
AH0145	GE/Intersil	DG144			GE/RCA	CD4001 (2637)				HCC/HCF4011		CD40160B	GE/RCA	CD40160 (2638)	
AH0146	Siliconix	DG144		CD4001UB	Motorola	MC14001 (2938)			Signetics	HEF4011			Motorola	CD40160B (2638)	
	GE/Intersil	DG145				CD4001UB (2637)			Solitron	CM4011			Motorola	MC14160 (2942)	
AH0151	Siliconix	DG145			Motorola	MC14001 (2938)		CD4011UB	Toshiba	TC4011B (3341)			National	MC40160B	
AH0151	GE/Intersil	DG151				MC14001UB (2938)				TC4011UB (3341)				CD40160	
AH0152	GE/Intersil	DG152			National	CD4001UB (2637)		CD4011UB	GE/RCA	CD4011 (2637)			SGS-Thomson	F40160	
AH0153	GE/Intersil	DG153			OKI	MM74C02			Motorola	MC14011 (2937)				HCC/HCF40160	
AH0154	GE/Intersil	DG154			Sanyo	MSM4001			National	CD4011UB			Signetics	HEF40160	
	National	AM0154			SGS-Thomson	LC4001B				F4011			Toshiba	TC40160 (3341)	
AH0161	GE/Intersil	DG161			Signetics	HEF4001			OKI	MM74C00			Motorola	CD40161 (2638)	
AH0162	GE/Intersil	DG162			Solitron	CM4001			Sanyo	MSM4011			Motorola	CD40161B (2638)	
AH0163	GE/Intersil	DG163			Toshiba	TC4001B (3341)			SGS-Thomson	LC4011			Motorola	MC14161 (2942)	
	National	AM0163			Fujitsu	MB4001				HCC/HCF4011		CD40160B	GE/RCA	CD40160 (2638)	
AH0164	GE/Intersil	DG164			GE/RCA	CD4001 (2637)			Signetics	HEF4011			Motorola	CD40160B (2638)	
	National	AM0164			Motorola	MC14002 (2938)		CD4011UB	Toshiba	TC4011B (3341)			National	MC40160B	
AH5009	GE/Intersil	IH5009				MC14002 (2938)				TC4011UB (3341)				CD40160	
	National	AM97C09			National	CD4001		CD4011UB	GE/RCA	CD4011 (2637)			SGS-Thomson	F40160	
		AM9709			OKI	F4001			Motorola	MC14011 (2937)				HCC/HCF40160	
AH5010	GE/Intersil	IH5010			SGS-Thomson	MM74C02			National	MC14011UB (2937)			Signetics	HEF40160B	
	National	AM9710			Signetics	HEF4001				CD4011			Toshiba	TC40160 (3341)	
AH5011	GE/Intersil	IH5011			Solitron	CM4001			OKI	F4011			Motorola	TC40160B (3341)	
	National	AM9711			Toshiba	TC4001B (3341)			Sanyo	MSM4011			Motorola	CD40161 (2638)	
AH5012	GE/Intersil	IH5012			Fujitsu	MB4002			SGS-Thomson	LC4011			Motorola	MC14161B (2945)	
	National	AM9712			GE/RCA	CD4002 (2637)				HCC/HCF4011			National	MC14161 (2942)	
	National	AM9712			Motorola	MC14002 (2938)			Signetics	HEF4011			Panasonic	CD40161B	
AH5013	GE/Intersil	IH5013				CD4002 (2637)			Solitron	CM4011			SGS-Thomson	F40161	
AH5014	GE/Intersil	IH5014			National	F4002		CD4012	Toshiba	TC4011B (3341)				MN40161	
AH5015	GE/Intersil	IH5015			SGS-Thomson	HCC/HCF4002				TC4011UB (3341)				HCC/HCF40161	
AH5016	GE/Intersil	IH5016			Signetics	HEF4002			GE/RCA	CD4012 (2637)			Signetics	HCC/HCF40161B	
AM0154	GE/Intersil	DG154			Solitron	CM4002			National	F4012			Toshiba	TC40161 (3341)	
	National	AH0154			Toshiba	TC4002B (3341)			SGS-Thomson	HCC/HCF4012			Motorola	TC40161B (3341)	
			(Continued)				(Continued)			HEF4012			GE/RCA	CD40161 (2638)	
											(Continued)			CD40161B (2638)	

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALT CALIBRE DIRECTORY

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WALT: SOURCE DIRECTORY

◆ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				DAC08	Samsung	KDA0806 KDA0807 KDA0808 DAC08 MC1408 ADDAC-08 AD1408 (2471) DACIC8B (2596) DACIC8BC (2596) DAC08B (2596) HA17008 HA17408 DAC08 (2971, 2989) DAC08 (2971)	(Cont'd)	DAC0802	PMI	DAC1408 DAC1508 DAC08 (3025) KDA0800 KDA0801 KDA0802 KDA0805 KDA0807 KDA0808 DAC08 MC1408 ADDAC-08 AD1408 (2471) DACIC8B DACIC8BC (2596) DACIC8BC DAC08B (2596) HA17008 HA17408 DAC08 (2971, 2989) DAC08 (2971)	(Cont'd)	DAC0808	National	DAC0807 MA0802M μ PC624 DAC08 (3017) DAC1408 DAC1508 DAC08 (3025) KDA0800 KDA0801 KDA0802 KDA0805 KDA0807 KDA0808 DAC08 MC1408 ADDAC-08 AD1408 (2471) DACIC8B DACIC8BC (2596) DACIC8BC DAC08B (2596) HA17008 HA17408 DAC08 (2971, 2989) DAC08 (2971)	(Cont'd)
CD4724	SGS-Thomson	HCC/HCF4724		• DAC0800	AD	ADDAC-08	(2471)	• DAC0806	AD	ADDAC-08	(2471)	DAC0832	Datel	DAC608	(2596)
COP410	HybridSys	HS9410		• DAC0800	Datel	DACIC8B	(2596)		Signetics	DAC08		DAC1006	Datel	DAC610	(2596)
COP411	SGS-Thomson	ET9410		• DAC0800	Hitachi	HA17008			Hitachi	HA17008		DAC1020	AD	AD7520	(2462, 2470)
COP420	SGS-Thomson	ET9411		• DAC0800	Motorola	DAC08	(2971, 2989)		Datel	DACIC8B	(2596)		GE/Intersil	AD7520	(2666)
COP421	SGS-Thomson	ET9420		• DAC0800	National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			Motorola	DAC08	(2971, 2989)		Maxim	AD7520	
COP422	TeledyneS	TSC9421		• DAC0800	NEC	DAC08	(3017)		National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		MicroPwr	MP7520	
COP444	SGS-Thomson	ET9444		• DAC0800	Raytheon	DAC08	(3025)		Raytheon	DAC08	(3025)		Motorola	MC7520	
COP445	SGS-Thomson	ET9445		• DAC0800	Signetics	DAC08			Signetics	DAC08			National	AD7520	
COP494	National	NMC9306		• DAC0801	AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		Maxim	AD7520	
	Sierra	SC22001			Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		MicroPwr	MP7520	
	Xicor	X2444	(3408, 3445)		Hitachi	HA17008			Hitachi	HA17008			Motorola	MC7520	
COP495	Catalyst	CAT93C46		• DAC0800	Motorola	DAC08	(2971, 2989)		Datel	DACIC8B	(2596)		National	AD7520	
	EXEL	XL93C46			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
	Gould/AMI	S93C46			NEC	DAC08	(3017)		Raytheon	DAC08	(3025)		Maxim	AD7520	
	Hyundai	HY93C46	(2778)		Raytheon	DAC08	(3025)		Raytheon	DAC08	(3025)		MicroPwr	MP7520	
	ICT	93C46	(2876)		Signetics	DAC08			Signetics	DAC08			Motorola	MC7520	
	Microchip	ER5911		• DAC0800	AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		National	AD7520	
	National	NMC93C46			Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		Maxim	AD7520	
	NCR	NCR59308			Hitachi	HA17008			Hitachi	HA17008			MicroPwr	MP7520	
	SGS-Thomson	NCR59346			Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		Motorola	MC7520	
		M9346			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
		TS93C46		• DAC0800	Signetics	DAC08			Signetics	DAC08			Maxim	AD7520	
	Sierra	SC22011			Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		MicroPwr	MP7520	
COP820	Sierra	SC44820			Hitachi	HA17008			Hitachi	HA17008			Motorola	MC7520	
COP821	Sierra	SC44821			Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		National	AD7520	
COP822	Sierra	SC44822			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
COP841	Sierra	SC44840			NEC	DAC08	(3017)		NEC	DAC08	(3017)		Maxim	AD7520	
COP844	Sierra	SC44844			Raytheon	DAC08	(3025)		Raytheon	DAC08	(3025)		MicroPwr	MP7520	
COP848	Sierra	SC44848			Signetics	DAC08			Signetics	DAC08			Motorola	MC7520	
COP8620	Sierra	SC48620			AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		National	AD7520	
COP8621	Sierra	SC48621			Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		Maxim	AD7520	
COP8622	Sierra	SC48622			Hitachi	HA17008			Hitachi	HA17008			MicroPwr	MP7520	
COP8720	Sierra	SC48720			Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		Motorola	MC7520	
COP8721	Sierra	SC48721			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
COP8722	Sierra	SC48722			NEC	DAC08	(3017)		NEC	DAC08	(3017)		Maxim	AD7520	
COP884	Sierra	SC44884			Raytheon	DAC08	(3025)		Raytheon	DAC08	(3025)		MicroPwr	MP7520	
COP888	Sierra	SC44888			Signetics	DAC08			Signetics	DAC08			Motorola	MC7520	
CY3341AC	AMD	AM2841 AM3341			AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		National	AD7520	
	Cypress	CY3341	(2587)		Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		Maxim	AD7520	
	National	3341			Hitachi	HA17008			Hitachi	HA17008			MicroPwr	MP7520	
	Plessey	MJ2841			Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		Motorola	MC7520	
DAC0630	Inmos	IMS6171	(2797)		National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
	NCR	77C171			AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		Maxim	AD7520	
	Silicon Logic	LD1104			Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		MicroPwr	MP7520	
DAC08	AD	ADDAC-08			Hitachi	HA17008			Hitachi	HA17008			Motorola	MC7520	
	Datel	DACIC8B	(2596)		Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		National	AD7520	
	Hitachi	HA17008			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
	Motorola	DAC08	(2971, 2989)		AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		Maxim	AD7520	
	National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		MicroPwr	MP7520	
	NEC	DAC08	(3017)		Hitachi	HA17008			Hitachi	HA17008			Motorola	MC7520	
	PMI	DAC08	(3025)		Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		National	AD7520	
	Raytheon	DAC08	(3025)		National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
	Samsung	KDA0800 KDA0801 KDA0802 KDA0805 KDA0807 KDA0808 DAC08 MC1408 ADDAC-08 AD1408 (2471) DACIC8B DACIC8BC (2596) DACIC8BC DAC08B (2596) HA17008 HA17408 DAC08 (2971, 2989) DAC08 (2971)			AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		Maxim	AD7520	
		(Continued)			Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		MicroPwr	MP7520	
					Hitachi	HA17008			Hitachi	HA17008			Motorola	MC7520	
					Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		National	AD7520	
					National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
					NEC	DAC08	(3017)		NEC	DAC08	(3017)		Maxim	AD7520	
					Raytheon	DAC08	(3025)		Raytheon	DAC08	(3025)		MicroPwr	MP7520	
					Signetics	DAC08			Signetics	DAC08			Motorola	MC7520	
					AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		National	AD7520	
					Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		Maxim	AD7520	
					Hitachi	HA17008			Hitachi	HA17008			MicroPwr	MP7520	
					Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		Motorola	MC7520	
					National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
					NEC	DAC08	(3017)		NEC	DAC08	(3017)		Maxim	AD7520	
					Raytheon	DAC08	(3025)		Raytheon	DAC08	(3025)		MicroPwr	MP7520	
					Signetics	DAC08			Signetics	DAC08			Motorola	MC7520	
					AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		National	AD7520	
					Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		Maxim	AD7520	
					Hitachi	HA17008			Hitachi	HA17008			MicroPwr	MP7520	
					Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		Motorola	MC7520	
					National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)			National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ PC624 DAC08 (3017)	(2971)		AD7520		
					NEC	DAC08	(3017)		NEC	DAC08	(3017)		Maxim	AD7520	
					Raytheon	DAC08	(3025)		Raytheon	DAC08	(3025)		MicroPwr	MP7520	
					Signetics	DAC08			Signetics	DAC08			Motorola	MC7520	
					AD	ADDAC-08	(2471)		AD	ADDAC-08	(2471)		National	AD7520	
					Datel	DACIC8B	(2596)		Datel	DACIC8B	(2596)		Maxim	AD7520	
					Hitachi	HA17008			Hitachi	HA17008			MicroPwr	MP7520	
					Motorola	DAC08	(2971, 2989)		Motorola	DAC08	(2971, 2989)		Motorola	MC7520	
					National	μ A0801 μ A0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μ									

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
National Semiconductor (Cont'd)				DM54ALS02	Motorola	SN54ALS02		DM54ALS251	TI	SN54ALS251		DM54ALS699	Motorola	SN54ALS699		
				DM54ALS03	TI	SN54ALS03		DM54ALS253	TI	SN54ALS253		DM54ALS74	Motorola	SN54ALS74		
DAC1230	MicroPwr	MP1230		DM54ALS04	Motorola	SN54ALS04		DM54ALS257	TI	SN54ALS257		DM54ALS804	TI	SN54ALS804		
DAC1231	MicroPwr	MP1231		DM54ALS05	TI	SN54ALS05A		DM54ALS258	TI	SN54ALS258		DM54ALS805	TI	SN54ALS805A		
DAC1232	MicroPwr	MP1232		DM54ALS08	Motorola	SN54ALS08		DM54ALS27	TI	SN54ALS27		DM54ALS832	TI	SN54ALS832A		
DAC1280	AD	ADDAC80	(2410)	DM54ALS09	Motorola	SN54ALS09		DM54ALS273	Motorola	SN54ALS273		DM54ALS86	TI	SN54ALS86		
		ADDAC85	(2410)	DM54ALS10	TI	SN54ALS10A		DM54ALS28	TI	SN54ALS28A		DM54ALS873	Motorola	SN54ALS873		
		DAC80		DM54ALS1000				DM54ALS30A	TI	SN54ALS30A			TI	SN54ALS873B		
	Burr-Brown	DAC80	(2553)		National	DM54AS160		DM54ALS32	Motorola	SN54ALS32		DM54ALS876	Motorola	SN54ALS876		
		DAC800		DM54ALS1002				DM54ALS33	TI	SN54ALS33A		DM54ALS880	Motorola	SN54ALS880		
		DAC85	(2553)		National	DM54AS162		DM54ALS352	TI	SN54ALS352		DM54AS00	TI	SN54AS00		
		DAC850			SiliconG	SG3049		DM54ALS353	Mitsubishi	M74ALS158		DM54AS02	TI	SN54AS02		
	Datel	DACHZ12B	(2596)	DM54ALS1003					National	DM54AS158		DM54AS04	LinearTech	UC1847		
	Harris	HI5685			National	DM54AS168		DM54ALS337	TI	SN54ALS337			National	DM54ALS521		
	HybridSys	DAC9356			SiliconG	SG2950		DM54ALS373	Signetics	DM74ALS158			SiliconG	SG1847		
		HSDAC80		DM54ALS1004					TI	SN54ALS353			Siliconix	SG1847		
	MicroNet	DAC80			National	DM54AS175		DM54ALS373	Motorola	SN54ALS373				SG2847		
		DAC85			SiliconG	SG2813			TI	SN54ALS373		DM54AS08	TeledyneS	TSC171	(3268)	
	National	DAC1285			Sprague	ULN2813		DM54ALS374	Motorola	SN54ALS374			Unitrode	UC1847		
	TeledyneP	TPDAC80			TI	SN54AS175A			TI	SN54ALS374		DM54AS10	TI	SN54AS10		
DAC1285	AD	ADDAC80	(2410)	DM54ALS1005				DM54ALS377	Motorola	SN54ALS377		DM54AS1000	Mitsubishi	M74ALS158		
		ADDAC85	(2410)		National	DM54AS243		DM54ALS38	TI	SN54ALS38A			National	DM54ALS353		
		DAC80			SiliconG	SG2814		DM54ALS40	National	SN54ALS1032				DM74ALS158		
	Burr-Brown	DAC80	(2553)		Sprague	ULN2814				DM54AS808			Signetics	74ALS158		
		DAC800		DM54ALS1008				DM54ALS465	TI	SN54AS808B			TI	SN54ALS353		
		DAC85	(2553)		SiliconG	SG2815			National	DM54AS1004		DM54AS1004	National	DM54ALS465		
		DAC850			Sprague	ULN2815				DM74ALS231				DM74ALS231		
	Datel	DACHZ12B	(2596)	DM54ALS1010					TI	SN54AS1004A			TI	SN54AS1004A		
	Harris	HI5685			TI	SN54ALS1010A		DM54ALS466	National	DM54AS1008		DM54AS1008	National	SN54ALS466		
	HybridSys	DAC9356		DM54ALS1011				DM54ALS467	National	DM54AS1032		DM54AS1032	National	DM54ALS467		
		HSDAC80			National	DM54AS258			TI	SN54AS1032A			TI	SN54AS1032A		
	MicroNet	DAC80		DM54ALS1020				DM54ALS468	LinearTech	UC1846		DM54AS1034	LinearTech	UC1846		
		DAC85			National	DM54AS264			National	DM54AS1034			SGS-Thomson	DM54ALS468		
	National	DAC1280		DM54ALS1032					SGS-Thomson	UC1846				UC1846		
DAC1287	TeledyneP	TPDAC80			National	DM54AL4S0			SiliconG	SG1846			SiliconG	UC1846		
	Burr-Brown	DAC85/CCD	(2553)		TI	DM54AS808			Siliconix	SG1846			Siliconix	SG1846		
				DM54ALS1034		SN54AS808B			TeledyneS	TSC170	(3268)		TeledyneS	TSC170	(3268)	
DH0006	Elantec	EDH0006			TI	SN54ALS1034				TSC18C46				TSC18C46		
	Micra	MC0006		DM54ALS1035				DM54ALS519	TI	SN54AS1034A			TI	SN54AS1034A		
DH0008	CTI	CT0008			National	DM54ALS131			Unitrode	UC1846			Unitrode	UC1846		
	Elantec	EDH0008		DM54ALS109	TI	SN54ALS109A			National	DM54AS1036		DM54AS1036	National	DM54ALS519		
	Micra	MC0008		DM54ALS11	TI	SN54ALS11A			SGS-Thomson	UC2846			SGS-Thomson	UC2846		
DH3725	Motorola	MQ3725		DM54ALS112	TI	SN54ALS112A				SG2846				UC2846		
	National	FQ3725		DM54ALS113	TI	SN54ALS113A			SiliconG	SG2846				SG2846		
	Raytheon	SP3725		DM54ALS114	TI	SN54ALS114A			TeledyneS	TSC170	(3268)			TSC170	(3268)	
DM100422	Fujitsu	MBM100422		DM54ALS12	TI	SN54ALS12A				TSC28C46				TSC28C46		
		MBM100422A		DM54ALS1244					TI	SN54AS1036A				TSC28C46		
		MB8118			TI	SN54ALS1244A			Unitrode	UC2846				SN54AS1036A		
	Krueger	2118-120	(2877)	DM54ALS1245				DM54ALS520	TI	SN54ALS520			TI	UC2846		
		2118-150	(2877)		TI	SN54ALS1245		DM54ALS521	LinearTech	UC1847		DM54AS109	TI	SN54AS109		
	Motorola	MCM100422			National	DM54ALS1035			National	DM54AS04		DM54AS160	National	DM54ALS1000		
	National	F100422		DM54ALS131		SN54ALS135			SiliconG	SG1847		DM54AS161	TI	SN54AS161		
		NMC5295		DM54ALS133	TI	SN54ALS133			Siliconix	SG1847			National	DM54ALS1002		
	NEC	μPB100422		DM54ALS137	TI	SN54ALS137				SG2847			SiliconG	SG3049		
DM10116	Motorola	MC10116	(2946)	DM54ALS138	TI	SN54ALS138			TeledyneS	TSC171	(3268)	DM54AS163	TI	SN54AS163		
	Signetics	10116	(3075)	DM54ALS15	TI	SN54ALS15A			Unitrode	UC1847		DM54AS168	National	DM54ALS1003		
DM10414	Motorola	MCM10152		DM54ALS151	TI	SN54ALS151			National	DM54AS32			SiliconG	SG2950		
DM10415	Fujitsu	MBM10415		DM54ALS153	TI	SN54ALS153		DM54ALS522	National	SG2847			TI	SN54AS174		
	Motorola	MCM10146	(2948)	DM54ALS160	Motorola	SN54ALS160			SiliconG	TSC171	(3268)	DM54AS175	National	DM54ALS1004		
	Siemens	GXB10415		DM54ALS160B	National	DM54ALS160B			TeledyneS	SN54ALS563A			SiliconG	SG2813		
DM10422	Fujitsu	MBM10422A			Motorola	SN54ALS160		DM54ALS563	TI	SN54ALS563A			Sprague	ULN2813		
	NEC	μPB10422			National	DM54ALS160		DM54ALS564	TI	SN54ALS564A				SN54AS175A		
DM10470	Fujitsu	MBM10470A		DM54ALS161	Motorola	SN54ALS161		DM54ALS573	Motorola	SN54ALS573			TI	SN54AS181B		
		MB10470			TI	SN54ALS161B			TI	SN54ALS573B			TI	SN54AS20		
	Motorola	MCM10470			TI	SN54ALS161B		DM54ALS574	Motorola	SN54ALS574			TI	SN54AS21		
	NEC	μPB10470		DM54ALS162	Motorola	SN54ALS162			TI	SN54ALS574A			DM54AS21	TI	SN54AS21	
	Saratoga	SSM10470			TI	SN54ALS162B		DM54ALS576	Motorola	SN54ALS576			DM54AS24	TI	SN54AS24	
DM10474	AMD	AM10474		DM54ALS163	Motorola	SN54ALS163			TI	SN54ALS576A			DM54AS242	TI	SN54AS242	
	Fujitsu	MBM10474A	(2625)		TI	SN54ALS163B		DM54ALS580	Motorola	SN54ALS580			National	DM54ALS1005		
				DM54ALS168B					TI	SN54ALS580A			SiliconG	SG2814		
		MB10474			National	DM54AS880		DM54ALS620	Motorola	SN54ALS620				ULN2814		
	Motorola	MCM10474		DM54ALS169	TI	SN54ALS169B		DM54ALS621	Motorola	SN54ALS621		DM54AS244	TI	SN54AS244		
	National	F10474			TI	SN54ALS174		DM54ALS622	Motorola	SN54ALS622		DM54AS245	TI	SN54AS245		
	NEC	μPB10474		DM54ALS171	TI	SN54ALS175		DM54ALS623	Motorola	SN54ALS623			National	DM54ALS1011		
		μPB10474A		DM54ALS191	TI	SN54ALS191		DM54ALS640	Motorola	SN54ALS640		DM54AS264	National	DM54ALS1020		
		μPB10474A		DM54ALS193	TI	SN54ALS193			TI	SN54ALS640A			TI	SN54AS27		
	Saratoga	SSM10474		DM54ALS20	TI	SN54ALS20A		DM54ALS641	Motorola	SN54ALS641			DM54AS30	TI	SN54AS30	
DM2502	Samsung	KS25C02		DM54ALS20	TI	SN54ALS21A		DM54ALS644	Motorola	SN54ALS644			DM54AS32	National	DM54ALS522	
DM2503	Samsung	KS25C03		DM54ALS22	TI	SN54ALS22B		DM54ALS645	Motorola	SN54ALS645A			SiliconG	SG2847		
DM2504	Samsung	KS25C04		DM54ALS240	Motorola	SN54ALS240A			TI	SN54ALS646			TeledyneS	TSC171	(3268)	
DM26LS32	AMD	AM26LS32			TI	SN54ALS240A		DM54ALS646	Motorola	SN54ALS646		DM54AS34	TI	SN54AS34		
		AM26LS32A		DM54ALS241	Motorola	SN54ALS241		DM54ALS647	Motorola	SN54ALS647		DM54AS373	TI	SN54AS373		
		26LS32			TI	SN54ALS241A		DM54ALS648	Motorola	SN54ALS648		DM54AS374	TI	SN54AS374		

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				DM54LS670	SGS-Thomson	(Cont'd)		DM54S138	National	54S138		DM5400	Signetics	5400	(Cont'd)
DM54LS352	SGS-Thomson	(Cont'd)		DM54LS73	Motorola	DM54LS73A		DM54S139	National	54S139		DM5401	TI	SN5400	
DM54LS353	Motorola	SN54LS353		DM54LS73A	Motorola	SN54LS73A		DM54S140	Signetics	54S140		DM5402	TI	SN5401	
DM54LS366	Motorola	SN54LS366A	(2939)	DM54LS74	Motorola	SN54LS74A (2941)		DM54S151	National	54S151		DM5403	National	SN5402	
DM54LS367	Motorola	SN54LS367A	(2939)	DM54LS74A	Motorola	SN54LS74A (2941)		DM54S153	Signetics	54S153		DM5404	TI	SN5403	
DM54LS368	Motorola	SN54LS368A	(2939)	DM54LS75	Motorola	SN54LS75 (2941)		DM54S157	National	54S157		DM5405	TI	SN5404	
DM54LS37	Motorola	SN54LS37 (2937)		DM54LS76	Motorola	SN54LS76A (2941)		DM54S158	National	54S158		DM5406	TI	SN5405	
DM54LS374	Motorola	SN54LS374 (2942)		DM54LS77	Motorola	SN54LS77 (2941)		DM54S163	TI	SN54S163		DM5407	TI	SN5406	
DM54LS38	Motorola	SN54LS38 (2937)		DM54LS78	Motorola	SN54LS78A		DM54S174	Signetics	54S174		DM5408	TI	SN5407	
DM54LS386	Motorola	SN54LS386 (2938)		DM54LS83A	Motorola	SN54LS83A (2947)		DM54S175	National	54S175		DM5409	TI	SN5408	
DM54LS40	Motorola	SN54LS40 (2937)		DM54LS85	Motorola	SN54LS85 (2946)		DM54S182	TI	SN54S182		DM5410	TI	SN5409	
DM54LS42	Motorola	SN54LS42 (2945)		DM54LS86	Motorola	SN54LS86 (2938)		DM54S188	AMD	AM27LS18		DM5411	TI	SN5410	
DM54LS47	Motorola	SN54LS47 (2945)		DM54LS89	Motorola	SN54LS89 (2942)		DM54S189A	National	DM54S189A		DM54107	TI	SN54107	
DM54LS48	Motorola	SN54LS48 (2945)		DM54LS92	Motorola	SN54LS92 (2942)		DM54S194	National	54S194		DM54109	TI	SN54109	
DM54LS49	Motorola	SN54LS49		DM54LS95B	Motorola	SN54LS95B (2944)		DM54S195	Signetics	54S195		DM54121	TI	SN54121	
DM54LS51	Motorola	SN54LS51 (2938)		DM54LS99	Motorola	SN54LS99		DM54S200	TI	SN54S200		DM54123	TI	SN54123	
DM54LS54	Motorola	SN54LS54 (2938)		DM54LS100	Motorola	SN54LS100		DM54S222	TI	SN54S222		DM54125	TI	SN54125	
DM54LS55	Motorola	SN54LS55 (2938)		DM54LS101	Motorola	SN54LS101		DM54S251	Signetics	54S251		DM54126	TI	SN54126	
DM54LS670	Motorola	SN54LS670 (2943)		DM54LS102	Motorola	SN54LS102		DM54S257	TI	SN54S257		DM54127	TI	SN54127	
		(Continued)		DM54LS103	Motorola	SN54LS103		DM54S258	National	54S258		DM54128	TI	SN54128	
				DM54LS104	Motorola	SN54LS104		DM54S280	National	54S280		DM54129	TI	SN54129	
				DM54LS105	Motorola	SN54LS105		DM54S283	TI	SN54S283		DM54130	TI	SN54130	
				DM54LS106	Motorola	SN54LS106		DM54S287	MMI	53S141		DM54131	TI	SN54131	
				DM54LS107	Motorola	SN54LS107		DM54S288	National	DM7578		DM54132	TI	SN54132	
				DM54LS108	Motorola	SN54LS108		DM54S289	AMD	SN5489-1		DM54133	TI	SN54133	
				DM54LS109	Motorola	SN54LS109		DM54S299	TI	SN54S299		DM54134	TI	SN54134	
				DM54LS110	Motorola	SN54LS110		DM54S300	National	54S300		DM54135	TI	SN54135	
				DM54LS111	Motorola	SN54LS111		DM54S32	TI	SN54S32		DM54136	TI	SN54136	
				DM54LS112	Motorola	SN54LS112		DM54S37	AMD	AM27S37		DM54137	TI	SN54137	
				DM54LS113	Motorola	SN54LS113		DM54S38	MMI	63S140		DM54138	TI	SN54138	
				DM54LS114	Motorola	SN54LS114		DM54S40	National	54S40		DM54139	TI	SN54139	
				DM54LS115	Motorola	SN54LS115		DM54S473	Fujitsu	MB7123		DM54140	TI	SN54140	
				DM54LS116	Motorola	SN54LS116		DM54S475	National	DM77S295		DM54141	TI	SN54141	
				DM54LS117	Motorola	SN54LS117		DM54S51	National	54S51		DM54142	TI	SN54142	
				DM54LS118	Motorola	SN54LS118		DM54S571	MMI	53S241		DM54143	TI	SN54143	
				DM54LS119	Motorola	SN54LS119		DM54S572	AMD	AM27S32		DM54144	TI	SN54144	
				DM54LS120	Motorola	SN54LS120		DM54S573	National	93452		DM54145	TI	SN54145	
				DM54LS121	Motorola	SN54LS121		DM54S573A	Motorola	MCM7643M		DM54146	TI	SN54146	
				DM54LS122	Motorola	SN54LS122		DM54S64	National	54S64		DM54147	TI	SN54147	
				DM54LS123	Motorola	SN54LS123		DM54S65	National	54S65		DM54148	TI	SN54148	
				DM54LS124	Motorola	SN54LS124		DM54S66	National	54S66		DM54149	TI	SN54149	
				DM54LS125	Motorola	SN54LS125		DM54S67	National	54S67		DM54150	TI	SN54150	
				DM54LS126	Motorola	SN54LS126		DM54S68	National	54S68		DM54151	TI	SN54151	
				DM54LS127	Motorola	SN54LS127		DM54S69	National	54S69		DM54152	TI	SN54152	
				DM54LS128	Motorola	SN54LS128		DM54S70	National	54S70		DM54153	TI	SN54153	
				DM54LS129	Motorola	SN54LS129		DM54S71	National	54S71		DM54154	TI	SN54154	
				DM54LS130	Motorola	SN54LS130		DM54S72	National	54S72		DM54155	TI	SN54155	
				DM54LS131	Motorola	SN54LS131		DM54S73	National	54S73		DM54156	TI	SN54156	
				DM54LS132	Motorola	SN54LS132		DM54S74	National	54S74		DM54157	TI	SN54157	
				DM54LS133	Motorola	SN54LS133		DM54S75	National	54S75		DM54158	TI	SN54158	
				DM54LS134	Motorola	SN54LS134		DM54S76	National	54S76		DM54159	TI	SN54159	
				DM54LS135	Motorola	SN54LS135		DM54S77	National	54S77		DM54160	TI	SN54160	
				DM54LS136	Motorola	SN54LS136		DM54S78	National	54S78		DM54161	TI	SN54161	
				DM54LS137	Motorola	SN54LS137		DM54S79	National	54S79		DM54162	TI	SN54162	
				DM54LS138	Motorola	SN54LS138		DM54S80	National	54S80		DM54163	TI	SN54163	
				DM54LS139	Motorola	SN54LS139		DM54S81	National	54S81		DM54164	TI	SN54164	
				DM54LS140	Motorola	SN54LS140		DM54S82	National	54S82		DM54165	TI	SN54165	
				DM54LS141	Motorola	SN54LS141		DM54S83	National	54S83		DM54166	TI	SN54166	
				DM54LS142	Motorola	SN54LS142		DM54S84	National	54S84		DM54167	TI	SN54167	
				DM54LS143	Motorola	SN54LS143		DM54S85	National	54S85		DM54168	TI	SN54168	
				DM54LS144	Motorola	SN54LS144		DM54S86	National	54S86		DM54169	TI	SN54169	
				DM54LS145	Motorola	SN54LS145		DM54S87	National	54S87		DM54170	TI	SN54170	
				DM54LS146	Motorola	SN54LS146		DM54S88	National	54S88		DM54171	TI	SN54171	
				DM54LS147	Motorola	SN54LS147		DM54S89	National	54S89		DM54172	TI	SN54172	
				DM54LS148	Motorola	SN54LS148		DM54S90	National	54S90		DM54173	TI	SN54173	
				DM54LS149	Motorola	SN54LS149		DM54S91	National	54S91		DM54174	TI	SN54174	
				DM54LS150	Motorola	SN54LS150		DM54S92	National	54S92		DM54175	TI	SN54175	
				DM54LS151	Motorola	SN54LS151		DM54S93	National	54S93		DM54176	TI	SN54176	
				DM54LS152	Motorola	SN54LS152		DM54S94	National	54S94		DM54177	TI	SN54177	
				DM54LS153	Motorola	SN54LS153		DM54S95	National	54S95		DM54178	TI	SN54178	
				DM54LS154	Motorola	SN54LS154		DM54S96	National	54S96		DM54179	TI	SN54179	
				DM54LS155	Motorola	SN54LS155		DM54S97	National	54S97		DM54180	TI	SN54180	
				DM54LS156	Motorola	SN54LS156		DM54S98	National	54S98		DM54181	TI	SN54181	
				DM54LS157	Motorola	SN54LS157		DM54S99	National	54S99		DM54182	TI	SN54182	
				DM54LS158	Motorola	SN54LS158		DM54S100	National	54S100		DM54183	TI	SN54183	
				DM54LS159	Motorola	SN54LS159		DM54S101	National	54S101		DM54184	TI	SN54184	
				DM54LS160	Motorola	SN54LS160		DM54S102	National	54S102		DM54185	TI	SN54185	
				DM54LS161	Motorola	SN54LS161		DM54S103	National	54S103		DM54186	TI	SN54186	
				DM54LS162	Motorola	SN54LS162		DM54S104	National	54S104		DM54187	TI	SN54187	
				DM54LS163	Motorola	SN54LS163		DM54S105	National	54S105		DM54188	TI	SN54188	
				DM54LS164	Motorola	SN54LS164		DM54S106	National	54S106		DM54189	TI	SN54189	
				DM54LS165	Motorola	SN54LS165		DM54S107	National	54S107		DM54190	TI	SN54190	
				DM54LS166	Motorola	SN54LS166		DM54S108	National	54S108		DM54191	TI	SN54191	
				DM54LS167	Motorola	SN54LS167		DM54S109	National	54S109		DM54192	TI	SN54192	
				DM54LS168	Motorola	SN54LS168		DM54S110	National	54S110		DM54193	TI	SN54193	
				DM54LS169	Motorola	SN54LS169		DM54S111	National	54S111		DM54194	TI	SN54194	
				DM54LS170	Motorola	SN54LS170		DM54S112	National	54S112		DM54195	TI	SN54195	
				DM54LS171	Motorola	SN54LS171		DM54S113	National	54S113		DM54196	TI	SN54196	
				DM54LS172	Motorola	SN54LS172		DM54S114	National	54S114		DM54197	TI	SN54197	
				DM54LS173	Motorola	SN54LS173		DM54S115	National	54S115		DM54198	TI	SN54198	
				DM54LS174	Motorola	SN54LS174		DM54S116	National	54S116		DM54199	TI	SN54199	
				DM54LS175	Motorola	SN54LS175		DM54S117	National	54S117		DM54200	TI	SN54200	
				DM54LS176	Motorola	SN54LS176		DM54S118	National	54S118		DM54201	TI	SN54201	
				DM54LS177	Motorola	SN54LS177		DM54S119	National	54S119		DM54202	TI	SN54202	
				DM54LS178	Motorola	SN54LS178		DM54S120	National	54S120		DM54203	TI	SN54203	
				DM54LS179	Motorola	SN54LS179		DM54S121	National	54S121		DM54204	TI	SN54204	
				DM54LS180	Motorola	SN54LS180		DM54S122	National						

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				DM5426	Lansdale Signetics TI	ML5426 5426 SN5426		DM5495	National Signetics TI	5495 5495 SN5495A		DM74ALS11	Signetics TI	74ALS11 SN74ALS11 SN74ALS11A	
DM54161	Lansdale National Signetics TI	ML54161 54161 SN54161		DM5427	Lansdale TI	ML5427 SN5427		DM5496	Lansdale Signetics TI	ML5496 5496 SN5496		DM74ALS112	Signetics TI	74ALS112 SN74ALS112A	
DM54162	Lansdale TI	ML54162 SN54162		DM5430	Lansdale National TI	ML5430 5430 SN5430		DM7093	National TI	DM54125 54125 SN54125		DM74ALS113	TI	SN74ALS113A	
DM54163	Lansdale Signetics TI	ML54163 54163 SN54163		DM5432	National Signetics TI	5432 5432 SN5432		DM7094	Marconi National Signetics TI	MA5413 DM54126 54126 SN54126		DM74ALS114	TI	SN74ALS114A	
DM54164	National Signetics TI	DM7570 54164 54164 SN54164		DM5437	Lansdale National TI	ML5437 5437 SN5437		DM7095	Signetics TI	S8T95 SN54365A		DM74ALS1242	TI	SN74ALS1242	
DM54165	Lansdale National Signetics TI	ML54165 54165 SN54165		DM5440	Lansdale National TI	ML5440 5440 SN5440		DM7096	Lansdale TI	SL8T96 SN54366A		DM74ALS1243	TI	SN74ALS1243	
DM54166	Signetics TI	SN54166 54166 SN54166		DM5442	Lansdale National Signetics TI	ML5442 5442A 5442 SN5442A		DM7097	Signetics TI	S8T97 SN54367A		DM74ALS1244	TI	SN74ALS1244A	
DM5417	Lansdale TI	ML5417 SN5417		DM5445	SGS-Thomson	L602 S042 NE602 SA602	(3155)	DM7160	National IDT	DM8160 IDT7213		DM74ALS1245	TI	SN74ALS1245A	
DM54170	National TI	SN54170 DM7551 54173		DM5446	Siemens Signetics	S042 NE602 SA602		DM7213	National	DM74154 DM8311 9311		DM74ALS131	TI	SN74ALS131	
DM54173	Raytheon TI	RM8T10 SN54173		DM5447A	National	5446		DM7214	Motorola	SN54154 SN54LS253 (2944)	(3057)	DM74ALS133	TI	SN74ALS133	
DM54174	Lansdale National Signetics TI	ML54174 54174 SN54174		DM5448	National	5448 SN5448		DM7098	Signetics TI	S8T98 SN54368A		DM74ALS137	TI	SN74ALS137	
DM54175	Lansdale National Signetics TI	ML54175 54175 SN54175		DM5450	Lansdale SGS-Thomson	ML5450 M5450		DM7099	Signetics TI	SL8T96 SN54366A		DM74ALS138	Signetics TI	74ALS138 SN74ALS138	
DM54176	Lansdale Signetics TI	ML54176 ML74176		DM5451	Lansdale National SGS-Thomson	ML5451 MM5451		DM7121	Fujitsu National	MB7121 DM54251		DM74ALS151	Mitsubishi Signetics	74ALS151 SN74ALS151	
DM54177	Lansdale National Signetics TI	ML54177 ML74177 DM7281		DM5453	Lansdale National	ML5453 SL5453 MM5453		DM7160	National	DM8160		DM74ALS153	Mitsubishi Signetics	M74ALS153 74ALS153	
DM54180	Lansdale Signetics TI	ML54180 54180 SN54180		DM5454	Lansdale TI	ML5454 SN5454		DM7281	National Signetics	DM74154 DM8311 9311		DM74ALS157	Mitsubishi Signetics	M74ALS157 74ALS157	
DM54181	Signetics	54181		DM5457	Lansdale TI	ML5470 SL5470 SN5470		DM74ALS00	Motorola Signetics	RC9311 74154		DM74ALS158	Mitsubishi National	SN74ALS158 M74ALS158	
DM54182	Lansdale	ML54182 SL54182		DM5470	Lansdale TI	ML5470 SL5470 SN5470		DM74ALS01	TI	SN54154		DM74ALS160	Motorola	DM54ALS353 DM54ALS1000	
DM54190	Raytheon Lansdale Signetics TI	RM9342 ML54190 54190 SN54190		DM5472	Lansdale TI	ML5472 SL5472 SN5472		DM74ALS02	Motorola Signetics	SN54LS253 (2944)		DM74ALS161	Motorola Signetics	74ALS161 SN74ALS161B	
DM54191	Lansdale National Signetics TI	ML54191 54191 SN54191		DM5473	Lansdale National Signetics TI	ML5473 5473 SN5473		DM74ALS03	TI	SN54154		DM74ALS162	Motorola TI	SN74ALS162	
DM54192	National TI	DM7560 SN54192		DM5474	Lansdale National Signetics TI	ML5474 5474 SN5474		DM74ALS04	Motorola Signetics	SN54177 SN74ALS00		DM74ALS1621	TI	SN74ALS1621	
DM54193	Lansdale National TI	ML54193 DM7563 SN54193		DM5475	Lansdale National Signetics TI	ML5475 5475 SN5475		DM74ALS05	TI	74ALS00		DM74ALS163	Mitsubishi Motorola	SN74ALS163 74ALS163	
DM54194	Lansdale Signetics	ML54194 54194		DM5476	Lansdale National Signetics TI	ML5476 5476 SN5476		DM74ALS06	TI	SN74ALS00A		DM74ALS164	Signetics TI	SN74ALS163 SN74ALS163A SN74ALS163B	
DM54195	Lansdale National TI	ML54195 9300 SN54195		DM5477	Lansdale National Signetics TI	ML5477 5477 SN5477		DM74ALS07	TI	SN74ALS00A		DM74ALS164	Signetics TI	74ALS164	
DM54196	Lansdale Signetics TI	ML54196 54196 SN54196		DM5478	Lansdale National Signetics TI	ML5478 5478 SN5478		DM74ALS08	Motorola Signetics	SN74ALS04		DM74ALS1640A	TI	SN74ALS1640A	
DM54197	National TI	54197 SN54197		DM5479	Lansdale National Signetics TI	ML5479 5479 SN5479		DM74ALS09	TI	SN74ALS04B		DM74ALS168	TI	SN74ALS168B	
DM54198	Lansdale TI	SL54198 SN54198		DM5480	Lansdale National Signetics TI	ML5480 5480 SN5480		DM74ALS10	Signetics TI	SN74ALS04B		DM74ALS169	TI	SN74ALS169B	
DM54199	TI	SN54199		DM5481	Lansdale National Signetics TI	ML5481 5481 SN5481		DM74ALS11	TI	SN74ALS04B		DM74ALS174	Mitsubishi Signetics	M74ALS174 74ALS174	
DM5420	Lansdale LSI Logic National Signetics TI	ML5420 LL5420 5420 SN5420		DM5482	Lansdale National Signetics TI	ML5482 5482 SN5482		DM74ALS12	TI	SN74ALS04B		DM74ALS175	Mitsubishi Signetics	M74ALS175 74ALS175	
DM5423	Lansdale TI	ML5423 SN5423		DM5483	Lansdale National Signetics TI	ML5483 5483 SN5483		DM74ALS13	TI	SN74ALS04B		DM74ALS190	TI	SN74ALS190	
DM5425	Lansdale National TI	ML5425 5425 SN5425		DM5484	Lansdale National Signetics TI	ML5484 5484 SN5484		DM74ALS14	TI	SN74ALS04B		DM74ALS191	Mitsubishi Signetics	M74ALS191 74ALS191	
DM54251	Fujitsu National TI	MB7121 DM7121 SN54251		DM5485	Lansdale National Signetics TI	ML5485 5485 SN5485		DM74ALS15	TI	SN74ALS04B		DM74ALS192	Motorola TI	SN74ALS192	
				DM5486	Lansdale National Signetics TI	ML5486 5486 SN5486		DM74ALS16	TI	SN74ALS04B		DM74ALS193	Mitsubishi Motorola	M74ALS193 SN74ALS193	
				DM5487	Lansdale National Signetics TI	ML5487 5487 SN5487		DM74ALS17	TI	SN74ALS04B		DM74ALS193	Signetics TI	74ALS193 SN74ALS193	
				DM5488	Lansdale AMD	SL8224 SN5488-1		DM74ALS18	TI	SN74ALS04B		DM74ALS20	Signetics TI	74ALS20 SN74ALS20A	
				DM5489	National	DM54S289 MM54S289		DM74ALS19	TI	SN74ALS04B		DM74ALS21	TI	SN74ALS21	
				DM5490A	TI	SN5490A		DM74ALS20	TI	SN74ALS04B		DM74ALS22	TI	SN74ALS22B	
				DM5492	National	5492		DM74ALS21	TI	SN74ALS04B		DM74ALS231	National	DM54ALS465 DM54AS1004	
				DM5493A	TI	SN5493A		DM74ALS22	TI	SN74ALS04B		DM74ALS240	TI	SN54AS1004A M74ALS240	
								DM74ALS23	TI	SN74ALS04B		DM74ALS240A-1	Motorola	SN74ALS240A-1 74ALS240	
								DM74ALS24	TI	SN74ALS04B		DM74ALS241	TI	SN74ALS241A-1 SN74ALS241	
								DM74ALS25	TI	SN74ALS04B		DM74ALS241A-1	Motorola	SN74ALS241A-1 74ALS241	
								DM74ALS26	TI	SN74ALS04B		DM74ALS242	Signetics	74ALS242	
								DM74ALS27	TI	SN74ALS04B		DM74ALS243	TI	SN74ALS243	
								DM74ALS28	TI	SN74ALS04B		DM74ALS244	TI	SN74ALS244	
								DM74ALS29	TI	SN74ALS04B		DM74ALS245	TI	SN74ALS245	
								DM74ALS30	TI	SN74ALS04B		DM74ALS246	TI	SN74ALS246	
								DM74ALS31	TI	SN74ALS04B		DM74ALS247	TI	SN74ALS247	
								DM74ALS32	TI	SN74ALS04B		DM74ALS248	TI	SN74ALS248	
								DM74ALS33	TI	SN74ALS04B		DM74ALS249	TI	SN74ALS249	
								DM74ALS34	TI	SN74ALS04B		DM74ALS250	TI	SN74ALS250	
								DM74ALS35	TI	SN74ALS04B		DM74ALS251	TI	SN74ALS251	
								DM74ALS36	TI	SN74ALS04B		DM74ALS252	TI	SN74ALS252	
								DM74ALS37	TI	SN74ALS04B		DM74ALS253	TI	SN74ALS253	
								DM74ALS38	TI	SN74ALS04B		DM74ALS254	TI	SN74ALS254	
								DM74ALS39	TI	SN74ALS04B		DM74ALS255	TI	SN74ALS255	
								DM74ALS40	TI	SN74ALS04B		DM74ALS256	TI	SN74ALS256	
								DM74ALS41	TI	SN74ALS04B		DM74ALS257	TI	SN74ALS257	
								DM74ALS42	TI	SN74ALS04B		DM74ALS258	TI	SN74ALS258	
								DM74ALS43	TI	SN74ALS04B		DM74ALS259	TI	SN74ALS259	
								DM74ALS44	TI	SN74ALS04B		DM74ALS260	TI	SN74ALS260	
								DM74ALS45	TI	SN74ALS04B		DM74ALS261	TI	SN74ALS261	
								DM74ALS46	TI	SN74ALS04B		DM74ALS262	TI	SN74ALS262	
								DM74ALS47	TI	SN74ALS04B		DM74ALS263	TI	SN74ALS263	
								DM74ALS48	TI	SN74ALS04B		DM74ALS264	TI	SN74ALS264	
								DM74ALS49	TI	SN74ALS04B		DM74ALS265	TI	SN74ALS265	
								DM74ALS50	TI	SN74ALS04B		DM74ALS266	TI	SN74ALS266	
								DM74ALS51	TI	SN74ALS04B		DM74ALS267	TI	SN74ALS267	
								DM74ALS52	TI	SN74ALS04B		DM74ALS268	TI	SN74ALS268	
								DM74ALS53	TI	SN74ALS04B		DM74ALS269	TI	SN74ALS269	
								DM74ALS54	TI	SN74ALS04B		DM74ALS270	TI	SN74ALS270	
								DM74ALS55	TI	SN74ALS04B		DM74ALS271	TI	SN74ALS271	
								DM74ALS56	TI	SN74ALS04B		DM74ALS272	TI	SN74ALS272	
								DM74ALS57	TI	SN74ALS04B		DM74ALS273	TI	SN74ALS273	
								DM74ALS58	TI	SN74ALS04B		DM74ALS274	TI	SN74ALS274	
								DM74ALS59	TI	SN74ALS04B		DM74ALS275	TI	SN74ALS275	
								DM74ALS60	TI	SN74ALS04B		DM74ALS276	TI	SN74ALS276	
								DM74ALS61	TI	SN74ALS04B		DM74ALS277	TI	SN74ALS277	
								DM74ALS62	TI	SN74ALS04B		DM74ALS278	TI	SN74ALS278	
								DM74ALS63	TI	SN74ALS04B		DM74ALS279	TI	SN74ALS279	
								DM74ALS64	TI	SN74ALS04B		DM74ALS280	TI	SN74ALS280	
								DM74ALS65	TI	SN74ALS04B		DM74ALS281	TI	SN74ALS281	
								DM74ALS66	TI	SN74ALS04B		DM74ALS282	TI	SN74ALS282	
								DM74ALS67	TI	SN74ALS04B		DM74ALS283	TI	SN74ALS283	
								DM74ALS68	TI	SN74ALS04B		DM74ALS284	TI	SN74ALS284	
								DM74ALS69	TI	SN74ALS04B		DM74ALS285	TI	SN74ALS285	
								DM74ALS70	TI	SN74ALS04B		DM74ALS286	TI	SN74ALS286	
								DM74ALS71	TI	SN74ALS04B		DM74ALS287	TI	SN74ALS287	
								DM74ALS72	TI	SN74ALS04B		DM74ALS288	TI	SN74ALS288	
								DM74ALS73	TI	SN74ALS04B		DM74ALS289	TI	SN74ALS289	

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
DM74ALS241	TI	SN74ALS241A SN74ALS241A-1	(Cont'd)	DM74ALS620	Motorola Signetics	SN74ALS620 74ALS620 74ALS620A-1 SN74ALS621 SN74ALS620A-1	(Cont'd)	DM74AS241	TI	SN74AS241 SN74AS242 SN74AS243	(3299)	DM74LS02	Signetics TI	74LS02 SN74LS02	(3057)
DM74ALS242	Motorola	SN74ALS242 SN74ALS242B		DM74ALS621	Motorola	SN74ALS621 SN74ALS621A		DM74AS242	TI	SN74AS242 SN74AS243		DM74LS03	Hitachi Motorola	HD74LS03 SN74LS03	(2937)
DM74ALS243	Motorola	SN74ALS243 SN74ALS243A		DM74ALS623	Mitsubishi	M74ALS623 M74ALS623A-1 SN74ALS623 74ALS623		DM74AS244	TI	SN74AS244 SN74AS245		DM74LS04	National Panasonic	74LS03 DN74LS03	
DM74ALS244	Mitsubishi	M74ALS244 M74ALS244A-1 SN74ALS244 74ALS244			Motorola Signetics	SN74ALS623A-1 SN74ALS623 74ALS623A-1 SN74ALS623A		DM74AS250	TI	SN74AS250 SN74AS253			TI	T74LS03 SN74LS03	
	Motorola	SN74ALS244A-1 74ALS244A-1 SN74ALS244A			TI	SN74ALS623A-1 SN74ALS623A SN74ALS623A-1		DM74AS253	TI	SN74AS253 SN74AS257		DM74LS04	Hitachi Motorola	HD74LS04 SN74LS04	(2939)
	Signetics	SN74ALS244A-1 74ALS244A-1 SN74ALS244A		DM74ALS640	Motorola	SN74ALS640 SN74ALS640A SN74ALS641		DM74AS258	TI	SN74AS258 SN74AS260			National	74LS04	
DM74ALS245	Mitsubishi	M74ALS245 M74ALS245A-1 SN74ALS245 74ALS245		DM74ALS641	Motorola	SN74ALS641 SN74ALS641A SN74ALS642		DM74AS2620	TI	SN74AS2620 SN74AS2623	(3299)		Panasonic	DN74LS04	
	Motorola	SN74ALS245A-1 74ALS245A-1 SN74ALS245A		DM74ALS642	Motorola	SN74ALS642 SN74ALS642A SN74ALS643		DM74AS2623	TI	SN74AS2623 SN74AS2640	(3299)		SGS-Thomson	T74LS04 74LS04	(3057)
	TI	SN74ALS245A-1 74ALS245A-1 SN74ALS245A		DM74ALS643	Motorola	SN74ALS643 SN74ALS643A SN74ALS644		DM74AS264	TI	SN74AS264 SN74AS2640	(3299)	DM74LS05	Signetics TI	74LS05 SN74LS05	(2939)
DM74ALS251	Mitsubishi	M74ALS251 74ALS251 SN74ALS251		DM74ALS644	Motorola	SN74ALS644 SN74ALS644A 74ALS645A		DM74AS2645	TI	SN74AS2645 SN74AS2645	(3299)		Hitachi	HD74LS05	
	Signetics	74ALS251 SN74ALS251		DM74ALS645	Signetics	74ALS645A-1 SN74ALS645A-1 SN74ALS646		DM74AS27	TI	SN74AS27 SN74AS280			Motorola	SN74LS05	(2939)
DM74ALS253	Mitsubishi	M74ALS253 74ALS253 SN74ALS253			TI	SN74ALS645A-1 SN74ALS646 SN74ALS647		DM74AS282	TI	SN74AS282 SN74AS286		DM74LS08	National Panasonic	74LS05 DN74LS05	
DM74ALS257	Mitsubishi	M74ALS257 SN74ALS257		DM74ALS646	Motorola	SN74ALS646 SN74ALS647 SN74ALS648		DM74AS30	TI	SN74AS30 SN74AS32			SGS-Thomson	T74LS05 74LS05	(3057)
DM74ALS258	Mitsubishi	M74ALS258 74ALS258 SN74ALS258		DM74ALS647	Motorola	SN74ALS647 SN74ALS648 SN74ALS649		DM74AS32	TI	SN74AS32 SN74AS33			Signetics	74LS08	(3057)
	Signetics	SN74ALS258 74ALS258 SN74ALS258		DM74ALS648	Motorola	SN74ALS648 SN74ALS649 SN74ALS689		DM74AS34	TI	SN74AS34 SN74AS352		DM74LS09	Hitachi Motorola	HD74LS08 SN74LS08	(2937)
DM74ALS27	Signetics	74ALS27 SN74ALS27		DM74ALS649	Motorola	SN74ALS649 SN74ALS689 SN74ALS690		DM74AS352	TI	SN74AS352 SN74AS353			National	74LS08	
DM74ALS273	Mitsubishi	M74ALS273 SN74ALS273		DM74ALS690	Motorola	SN74ALS690 SN74ALS691 SN74ALS692		DM74AS373	TI	SN74AS373 SN74AS374			Panasonic	DN74LS08	
	Motorola	SN74ALS273 74ALS273 SN74ALS273		DM74ALS691	Motorola	SN74ALS691 SN74ALS692 SN74ALS693		DM74AS374	TI	SN74AS374 SN74AS374			SGS-Thomson	T74LS08 74LS08	(3057)
DM74ALS28	TI	SN74ALS28A 74ALS30		DM74ALS692	Motorola	SN74ALS692 SN74ALS693 SN74ALS697		DM74AS533	TI	SN74AS533 SN74AS534		DM74LS10	Hitachi Motorola	HD74LS09 SN74LS10	(2937)
DM74ALS30	Signetics	SN74ALS30 SN74ALS32		DM74ALS693	Motorola	SN74ALS693 SN74ALS697 SN74ALS698		DM74AS534	TI	SN74AS534 SN74AS573			National	74LS10	
DM74ALS32	Motorola	SN74ALS32 SN74ALS32		DM74ALS697	Motorola	SN74ALS697 SN74ALS698 SN74ALS699		DM74AS573	TI	SN74AS573 SN74AS575			Panasonic	DN74LS10	
DM74ALS33	TI	SN74ALS33A SN74ALS332		DM74ALS74	Motorola	SN74ALS74 SN74ALS74A SN74ALS804A		DM74AS575	TI	SN74AS575 SN74AS576			SGS-Thomson	T74LS10 74LS10	(3057)
DM74ALS352	TI	SN74ALS352 SN74ALS353		DM74ALS804	TI	SN74ALS804A SN74ALS805A SN74ALS808A		DM74AS576	TI	SN74AS576 SN74AS577		DM74LS109	Hitachi Motorola	HD74LS109 SN74LS109	(2941)
DM74ALS37	TI	SN74ALS37A M74ALS373		DM74ALS805	TI	SN74ALS805A SN74ALS808A SN74ALS810		DM74AS577	TI	SN74AS577 SN74AS580			National	74LS109	
DM74ALS373	Mitsubishi	M74ALS373 SN74ALS373		DM74ALS810	TI	SN74ALS810 SN74ALS811 SN74ALS811		DM74AS580	TI	SN74AS580 SN74AS620			Panasonic	DN74LS109	
	Motorola	SN74ALS373 74ALS373		DM74ALS811	TI	SN74ALS811 SN74ALS811 SN74ALS832A		DM74AS620	TI	SN74AS620 SN74AS621			SGS-Thomson	T74LS109 74LS109	(3057)
DM74ALS374	Mitsubishi	M74ALS374 SN74ALS374		DM74ALS832	TI	SN74ALS832A 74ALS86 SN74ALS86		DM74AS621	TI	SN74AS621 SN74AS622		DM74LS11	Hitachi Motorola	HD74LS109 SN74LS11	(2937)
	Motorola	SN74ALS374 74ALS374		DM74ALS86	Signetics	74ALS86 SN74ALS86 SN74ALS873		DM74AS622	TI	SN74AS622 SN74AS623			National	74LS11	
DM74ALS377	Mitsubishi	M74ALS377 SN74ALS377		DM74ALS873	Motorola	SN74ALS873 SN74ALS873B SN74ALS874		DM74AS639	TI	SN74AS639 SN74AS640			Panasonic	DN74LS11	
	Motorola	SN74ALS377 74ALS377		DM74ALS874	Motorola	SN74ALS874 SN74ALS874B SN74ALS876		DM74AS640	TI	SN74AS640 SN74AS641			SGS-Thomson	T74LS11 74LS11	(3057)
DM74ALS38	Signetics	74ALS38 SN74ALS38A		DM74ALS876	Motorola	SN74ALS876 SN74ALS876A SN74ALS880		DM74AS641	TI	SN74AS641 SN74AS642		DM74LS110	Hitachi Motorola	HD74LS11 SN74LS11	(2937)
DM74ALS40	TI	SN74ALS40A SN74ALS465A		DM74ALS877	TI	SN74ALS877 SN74ALS876A SN74ALS880		DM74AS642	TI	SN74AS642 SN74AS643	(3298)		National	74LS11	
DM74ALS465	TI	SN74ALS465A SN74ALS466A		DM74ALS880	Motorola	SN74ALS880 SN74ALS880A SN74ALS880B		DM74AS643	TI	SN74AS643 SN74AS644		DM74LS112	Hitachi Motorola	HD74LS112 SN74LS112A	(2941)
DM74ALS467	TI	SN74ALS467A SN74ALS468A		DM74ALS887A	TI	SN74ALS887A SN74ALS880 SN74ALS880B		DM74AS644	TI	SN74AS644 SN74AS645			Panasonic	74LS112	
DM74ALS518	TI	SN74ALS518 SN74ALS519		DM74ALS887B	TI	SN74ALS887B SN74ALS880 SN74ALS880B		DM74AS645	TI	SN74AS645 SN74AS646			SGS-Thomson	T74LS112 74LS112	
DM74ALS521	TI	SN74ALS521 SN74ALS522		DM74ALS887C	TI	SN74ALS887C SN74ALS880 SN74ALS880B		DM74AS646	TI	SN74AS646 SN74AS647			Signetics	74LS112	(3057)
DM74ALS522	TI	SN74ALS522 SN74ALS523		DM74ALS887D	TI	SN74ALS887D SN74ALS880 SN74ALS880B		DM74AS647	TI	SN74AS647 SN74AS648		DM74LS113	Hitachi Motorola	HD74LS113 SN74LS113A	(2941)
DM74ALS533	TI	SN74ALS533 SN74ALS534		DM74ALS887E	TI	SN74ALS887E SN74ALS880 SN74ALS880B		DM74AS648	TI	SN74AS648 SN74AS651			National	74LS113	
DM74ALS534	TI	SN74ALS534 74ALS563		DM74ALS887F	TI	SN74ALS887F SN74ALS880 SN74ALS880B		DM74AS651	TI	SN74AS651 SN74AS652			Panasonic	DN74LS113	
DM74ALS563	Signetics	74ALS563 SN74ALS563		DM74ALS887G	TI	SN74ALS887G SN74ALS880 SN74ALS880B		DM74AS652	TI	SN74AS652 SN74AS653		DM74LS114	Hitachi Motorola	HD74LS114 SN74LS114A	(2942)
DM74ALS564	Signetics	74ALS564 SN74ALS564		DM74ALS887H	TI	SN74ALS887H SN74ALS880 SN74ALS880B		DM74AS653	TI	SN74AS653 SN74AS654			Panasonic	DN74LS114	
DM74ALS573	Motorola	SN74ALS573 74ALS573		DM74ALS887I	TI	SN74ALS887I SN74ALS880 SN74ALS880B		DM74AS654	TI	SN74AS654 SN74AS655			SGS-Thomson	T74LS114 74LS114	
	TI	SN74ALS573 SN74ALS574		DM74ALS887J	TI	SN74ALS887J SN74ALS880 SN74ALS880B		DM74AS655	TI	SN74AS655 SN74AS656		DM74LS12	Hitachi Motorola	HD74LS114 SN74LS114A	(2937)
DM74ALS574	Motorola	SN74ALS574 74ALS574		DM74ALS887K	TI	SN74ALS887K SN74ALS880 SN74ALS880B		DM74AS656	TI	SN74AS656 SN74AS657			National	74LS114	
	TI	SN74ALS574 SN74ALS576		DM74ALS887L	TI	SN74ALS887L SN74ALS880 SN74ALS880B		DM74AS657	TI	SN74AS657 SN74AS658			Panasonic	DN74LS114	
DM74ALS576	Motorola	SN74ALS576 SN74ALS576		DM74ALS887M	TI	SN74ALS887M SN74ALS880 SN74ALS880B		DM74AS658	TI	SN74AS658 SN74AS659			SGS-Thomson	T74LS114 74LS114	
DM74ALS580	Motorola	SN74ALS580 SN74ALS580A		DM74ALS887N	TI	SN74ALS887N SN74ALS880 SN74ALS880B		DM74AS659	TI	SN74AS659 SN74AS660			Signetics	74LS114	(3057)
DM74ALS620	Mitsubishi	M74ALS620A-1 M74ALS620A-1	(Continued)	DM74ALS887O	TI	SN74ALS887O SN74ALS880 SN74ALS880B		DM74AS660	TI	SN74AS660 SN74AS661			TI	SN74LS114	
				DM74ALS887P	TI	SN74ALS887P SN74ALS880 SN74ALS880B		DM74AS661	TI	SN74AS661 SN74AS662			Hitachi	HD74LS114	
				DM74ALS887Q	TI	SN74ALS887Q SN74ALS880 SN74ALS880B		DM74AS662	TI	SN74AS662 SN74AS663			Motorola	SN74LS114	(2937)
				DM74ALS887R	TI	SN74ALS887R SN74ALS880 SN74ALS880B		DM74AS663	TI	SN74AS663 SN74AS664			National	74LS114	
				DM74ALS887S	TI	SN74ALS887S SN74ALS880 SN74ALS880B		DM74AS664	TI	SN74AS664 SN74AS665			Panasonic	DN74LS114	
				DM74ALS887T	TI	SN74ALS887T SN74ALS880 SN74ALS880B		DM74AS665	TI	SN74AS665 SN74AS666			SGS-Thomson	T74LS114 74LS114	
				DM74ALS887U	TI	SN74ALS887U SN74ALS880 SN74ALS880B		DM74AS666	TI	SN74AS666 SN74AS667			Signetics	74LS114	(3057)
				DM74ALS887V	TI	SN74ALS887V SN74ALS880 SN74ALS880B		DM74AS667	TI	SN74AS667 SN74AS668			TI	SN74LS114	
				DM74ALS887W	TI	SN74ALS887W SN74ALS880 SN74ALS880B		DM74AS668	TI	SN74AS668 SN74AS669			Hitachi	HD74LS114	
				DM74ALS887X	TI	SN74ALS887X SN74ALS880 SN74ALS880B		DM74AS669	TI	SN74AS669 SN74AS670			Motorola	SN74LS114	(2937)
				DM74ALS887Y	TI	SN74ALS887Y SN74ALS880 SN74ALS880B		DM74AS670	TI	SN74AS670 SN74AS671			National	74LS114	
				DM74ALS887Z	TI	SN74ALS887Z SN74ALS880 SN74ALS880B		DM74AS671	TI	SN74AS671 SN74AS672			Panasonic	DN74LS114	
				DM74ALS887A	TI	SN74ALS887A SN74ALS880 SN74ALS880B		DM74AS672	TI	SN74AS672 SN74AS673			SGS-Thomson	T74LS114 74LS114	
				DM74ALS887B	TI	SN74ALS887B SN74ALS880 SN74ALS880B		DM74AS673	TI	SN74AS673 SN74AS674			Signetics	74LS114	(3057)
				DM74ALS887C	TI	SN74ALS887C SN74ALS880 SN74ALS880B		DM74AS674	TI	SN74AS674 SN74AS675			TI	SN74LS114	
				DM74ALS887D	TI	SN74ALS887D SN74ALS880 SN74ALS880B		DM74AS675	TI	SN74AS675 SN74AS676			Hitachi	HD74LS114	
				DM74ALS887E	TI	SN74ALS887E SN74ALS880 SN74ALS880B		DM74AS676	TI	SN74AS676 SN74AS677			Motorola	SN74LS114	(2937)
				DM74ALS887F	TI	SN74ALS887F SN74ALS880 SN74ALS880B		DM74AS677	TI	SN74AS677 SN74AS678			National	74LS114	
				DM74ALS887G	TI	SN74ALS887G SN74ALS880 SN74ALS880B		DM74AS678	TI	SN74AS678 SN74AS679			Panasonic	DN74LS114	
				DM74ALS887H	TI	SN74ALS887H SN74ALS880 SN74ALS880B		DM74AS679	TI	SN74AS679 SN74AS680			SGS-Thomson	T74LS114 74LS114	
				DM74ALS887I	TI	SN74ALS887I SN74ALS880 SN74ALS880B		DM74AS680	TI	SN74AS680 SN74AS681			Signetics	74LS114	(3057)
				DM74ALS887J	TI	SN74ALS887J SN74ALS880 SN74ALS880B		DM74AS681	TI	SN74AS681 SN74AS682			TI		

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				DM74LS153	National Panasonic SGS-Thomson	74LS153 DN74LS153 T74LS153 Signetics 74LS153 (3057) TI SN74LS153	(Cont'd)	DM74LS168	Motorola SGS-Thomson	SN74LS168 (2943) T74LS168 Signetics 74LS168 (3057) Motorola National SGS-Thomson	DM74LS196	SGS-Thomson	(Cont'd)		
DM74LS12	Signetics TI	74LS12 SN74LS12	(Cont'd)	DM74LS154	Signetics Hitachi	74LS154 (3057) HD74LS155		DM74LS169	Signetics SGS-Thomson	SN74LS169 (2943) T74LS169	DM74LS197	Motorola National Panasonic SGS-Thomson	SN74LS197 (2942) T74LS197 DN74LS197		
DM74LS122	Motorola TI	SN74LS122 (2946) SN74LS122		DM74LS155	Signetics Hitachi	74LS155 (2945) DN74LS155		DM74LS170	Signetics TI	74LS169A (3057) SN74LS169	DM74LS20	Signetics TI	74LS197 (3057) SN74LS197		
DM74LS123	Hitachi Motorola Panasonic TI	HD74LS123 SN74LS123 (2946) DN74LS123 SN74LS123		DM74LS156	Motorola National Panasonic SGS-Thomson	SN74LS156 (2945) 74LS156 DN74LS156		DM74LS173	Motorola National Panasonic SGS-Thomson	SN74LS170 (2943) 74LS170 DN74LS170	DM74LS21	Motorola National Panasonic SGS-Thomson	SN74LS20 (2937) 74LS20 DN74LS20		
DM74LS125	Motorola National Panasonic SGS-Thomson	SN74LS125A (2939) 74LS125A DN74LS125A T74LS125 Signetics 74LS125A (3057) TI SN74LS125A Motorola SN74LS126A (2939) 74LS126		DM74LS157	Signetics Hitachi Motorola National Panasonic SGS-Thomson	74LS155 (3057) SN74LS155A HD74LS156 SN74LS156 (2945) 74LS156 DN74LS156		DM74LS174	Signetics TI	74LS170 (3057) SN74LS170 SN74LS173A (2942) 74LS173 DN74LS173	DM74LS22	Signetics TI	74LS20 (3057) SN74LS20 HD74LS21 Motorola National Panasonic SGS-Thomson	74LS20 (3057) SN74LS20 HD74LS21 SN74LS21 (2937) 74LS21 DN74LS21	
DM74LS126	National SGS-Thomson	74LS126 T74LS126 Signetics 74LS126A (3057) TI SN74LS126A		DM74LS158	Signetics Hitachi Motorola National Panasonic SGS-Thomson	74LS156 (3057) SN74LS156 HD74LS157 SN74LS157 (2944) 74LS157 DN74LS157		DM74LS190	Signetics TI	74LS173 (3057) SN74LS173A HD74LS174 SN74LS174 (2942) 74LS174 DN74LS174	DM74LS221	Signetics TI	74LS21 (3057) SN74LS21 HD74LS22 Motorola Panasonic SGS-Thomson	74LS21 (3057) SN74LS21 HD74LS22 SN74LS22 (2937) DN74LS22	
DM74LS13	Hitachi Motorola National Panasonic SGS-Thomson	HD74LS13 SN74LS13 (2940) 74LS13 DN74LS13		DM74LS159	Signetics TI	74LS157 (3057) SN74LS157 HD74LS158 SN74LS158 (2944) 74LS158 DN74LS158		DM74LS191	Signetics TI	74LS174 (3057) SN74LS174 HD74LS190 SN74LS190 (2942) 74LS190 DN74LS190	DM74LS245	Motorola SGS-Thomson	SN74LS245 (2939) T74LS245		
DM74LS132	Hitachi Motorola National Panasonic SGS-Thomson	HD74LS132 SN74LS132 (2937, 2940) 74LS132 DN74LS132		DM74LS160	Signetics Hitachi Motorola National Panasonic SGS-Thomson	74LS158 (3057) SN74LS158 HD74LS160A SN74LS160A (2942) 74LS160 DN74LS160A		DM74LS192	Signetics TI	74LS174 (3057) SN74LS174 HD74LS190 SN74LS190 (2942) 74LS190 DN74LS190	DM74LS247	Signetics TI	74LS221 (2946) SN74LS221 74LS221 SN74LS221		
DM74LS136	Hitachi Motorola National Panasonic SGS-Thomson	HD74LS136 SN74LS136 (2938) 74LS136 DN74LS136		DM74LS161	Signetics TI	74LS158 (3057) SN74LS158 HD74LS160A SN74LS160A (2942) 74LS160 DN74LS160A		DM74LS193	Signetics TI	74LS191 (3057) SN74LS191 HD74LS191 SN74LS191 (2942) 74LS191 DN74LS191	DM74LS248	Motorola National SGS-Thomson	SN74LS245 (3057) 74LS245 SN74LS245 HD74LS247 SN74LS247 (2945) 74LS247 SN74LS247		
DM74LS138	Hitachi Motorola National Panasonic SGS-Thomson	HD74LS138 SN74LS138 (2945) 74LS138 DN74LS138		DM74LS162	Signetics Hitachi Motorola National Panasonic SGS-Thomson	74LS158 (3057) SN74LS158 HD74LS160A SN74LS160A (2942) 74LS160 DN74LS160A		DM74LS194	Signetics TI	74LS191 (3057) SN74LS191 HD74LS192 SN74LS192 (2942) 74LS192 DN74LS192	DM74LS249	Motorola National SGS-Thomson	SN74LS248 (2945) 74LS248 SN74LS248 HD74LS249 74LS249		
DM74LS139	Hitachi Motorola National Panasonic SGS-Thomson	HD74LS139 SN74LS139 (2945) 74LS139 DN74LS139		DM74LS163	Signetics TI	74LS161A (3057) SN74LS161A HD74LS162A SN74LS162A (2942) 74LS162 DN74LS162A		DM74LS195	Signetics TI	74LS192 (3057) SN74LS192 HD74LS193 SN74LS193 (2942) 74LS193 DN74LS193	DM74LS251	Signetics Hitachi Motorola National Panasonic SGS-Thomson	74LS248 (2945) 74LS248 SN74LS248 HD74LS249 74LS249		
DM74LS14	Hitachi Motorola National Panasonic SGS-Thomson	HD74LS14 SN74LS14 (2940) 74LS14 DN74LS14		DM74LS164	Signetics Hitachi Motorola National Panasonic SGS-Thomson	74LS161A (3057) SN74LS161A HD74LS162A SN74LS162A (2942) 74LS162 DN74LS162A		DM74LS196	Signetics TI	74LS192 (3057) SN74LS192 HD74LS194A SN74LS194A (2944) 74LS192 DN74LS192	DM74LS253	Motorola National Panasonic SGS-Thomson	SN74LS245 (3057) 74LS245 SN74LS245 HD74LS247 SN74LS247 (2945) 74LS247 SN74LS247		
DM74LS15	Hitachi Motorola National Panasonic SGS-Thomson	HD74LS15 SN74LS15 (2937) 74LS15 DN74LS15		DM74LS165	Signetics TI	74LS161A (3057) SN74LS161A HD74LS162A SN74LS162A (2942) 74LS162 DN74LS162A		DM74LS197	Signetics TI	74LS193 (3057) SN74LS193 HD74LS194A SN74LS194A (2944) 74LS193 DN74LS193	DM74LS257	Signetics TI	74LS249 (2944) 74LS249 SN74LS249 HD74LS251 74LS251 DN74LS251		
DM74LS151	Hitachi Motorola National Panasonic SGS-Thomson	HD74LS151 SN74LS151 (2944) 74LS151 DN74LS151		DM74LS166	Signetics Hitachi Motorola National Panasonic SGS-Thomson	74LS162A (3057) SN74LS162A HD74LS163 SN74LS163A (2942) 74LS163 DN74LS163A		DM74LS198	Signetics TI	74LS193 (3057) SN74LS193 HD74LS194A SN74LS194A (2944) 74LS193 DN74LS193	DM74LS258	Motorola National Panasonic SGS-Thomson	SN74LS251 (2944) 74LS251 SN74LS251 HD74LS253 SN74LS253 (2944) DM8214 74LS253 DN74LS253		
DM74LS153	Hitachi Motorola	HD74LS153 SN74LS153 (2944) (Continued)		DM74LS167	Signetics TI	74LS163A (3057) SN74LS163A HD74LS164 SN74LS164A (2943) 74LS164 DN74LS164		DM74LS199	Signetics TI	74LS194 (3057) SN74LS194 HD74LS195A SN74LS195A (2944) 74LS194 DN74LS194A	DM74LS26	Signetics TI	74LS253 (3057) 74LS253 SN74LS253 HD74LS257 SN74LS257A (2944) 74LS257A 74LS257A SN74LS257A		

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				DM7403	National Saratoga Signetics	7403 SSL7403 7403	(3057)	DM74161	National Signetics	74161 74161 SN74161	(3057)	DM7427	National Signetics	7427 7427 SN7427	(3057)
DM74S288	AMD	AM27LS19 AM27S19 27S19		DM7404	National Saratoga Signetics	7404 SSL7404 7404	(3057)	DM74162	TI	SN74162		DM7430	National Signetics	7430 7430 SN7430	(3057)
	Fujitsu	MB7112		DM7405	Toshiba	TC7404UB		DM74163	National Signetics	74163 SN74163	(3057)	DM7432	National Signetics	7432 7432 SN7432	(3057)
	MMI	53S081 63S081		DM7406	National Signetics	7405 7405 SN7405	(3057)	DM74165	National Signetics	DM8590 74165 74165	(3057)	DM7437	National Signetics	7437 7437 SN7437	(3057)
	Motorola	MCM27S19		DM7407	National Signetics	7406 7406 SN7406	(3057)	DM74166	National Signetics	74166 SN74166	(3057)	DM7438	National Signetics	7438 7438 SN7438	(3057)
	National	DM8578 N82S123 N82US123 S82S123 82S123		DM7408	National Signetics	7407 SN7407	(3057)	DM7417	National Signetics	7417 SN7417	(3057)	DM7440	National Signetics	7440 7440 SN7440	(3057)
DM74S289	National	DM7489 DM8589 MM74S289		DM7409	National Signetics	7408 SN7408	(3057)	DM74170	National Signetics	74170 SN74170	(3057)	DM7441	National	DM74141 93141	
	Signetics	74S289 SN7489		DM7410	National Signetics	7409 SSL7409		DM74173	National	DM8551 74173		DM7442	National	DM8842 7442	
DM74S30	National	74S30		DM74107	National Signetics	7410 SN7410	(3057)	DM74174	National Signetics	74174 SN74174	(3057)	DM7444	National	DM8842 7442	(3057)
DM74S387	Fujitsu	MB7113		DM74109	National Signetics	74107 SN74107	(3057)	DM74175	National	74175 SN74175		DM7450	National Signetics	7450 SN7450	(3057)
DM74S40	National	74S40	(3057)	DM7411	National Signetics	74109 SN74109	(3057)	DM74176	Lansdale National	RL8280 DM8280		DM7451	National Signetics	7451 SN7451	(3057)
DM74S472	AMD	AM27S29		DM74121	National Signetics	7411 SN7411	(3057)	DM74177	Raytheon	96176 RC8280		DM7454	TI	SN7454	
	Fujitsu	MB7124		DM74123	National Signetics	74121 SN74121	(3057)	DM74180	Signetics	RM8280 S8280		DM7470	TI	SN7470	
	MMI	63S481		DM74125	National Signetics	74121 SN74121	(3057)	DM74181	Signetics	74176 SN74176		DM7473	National Signetics	7473 SN7473	(3057)
	Raytheon	29623		DM74126	National Signetics	74123 SN74123	(3057)	DM74182	TI	DM8281 RC8281		DM7474	National Signetics	7474 SN7474	(3057)
DM74S474	AMD	AM27S31		DM74127	National Signetics	74125 SN74125	(3057)	DM74183	Signetics	74177 SN74177		DM7475	National Signetics	7475 SN7475	(3057)
	GE/Intersil	ICL7641	(2673, 2675)	DM74128	National Signetics	74125 SN74125	(3057)	DM74184	National Signetics	74180 SN74180	(3057)	DM7476	National Signetics	7476 SN7476	(3057)
	Harris	HM6642	(2752)	DM74129	National Signetics	74125 SN74125	(3057)	DM74185	Lansdale	ML54181		DM7485	National Signetics	7485 SN7485	(3057)
	Maxim	ICL7641		DM74130	National Signetics	74125 SN74125	(3057)	DM74186	Raytheon	RC9341		DM7486	National Signetics	7486 SN7486	(3057)
	MMI	63S485		DM74131	National Signetics	74125 SN74125	(3057)	DM74187	Signetics	74181 SN74181	(3057)	DM7489	National	DM74S289 DM8589 MM74S289	
	Signetics	N82S141		DM74132	National Signetics	74125 SN74125	(3057)	DM74188	Signetics	74181 SN74181	(3057)	DM7496	Signetics	7496 SN7496	(3057)
DM74S475	AMD	AM27S30		DM74133	National Signetics	74125 SN74125	(3057)	DM74189	Signetics	74181 SN74181	(3057)	DM75S07	AMD	AM27S07	
	National	DM77S475		DM74134	National Signetics	74125 SN74125	(3057)	DM74190	Signetics	74181 SN74181	(3057)		Cypress	CY7C190	(2580)
DM74S51	National	74S51	(3057)	DM74135	National Signetics	74125 SN74125	(3057)	DM74191	Signetics	74181 SN74181	(3057)		National	54F219 74F219	
DM74S570	Fujitsu	MB7115		DM74136	National Signetics	74125 SN74125	(3057)	DM74192	National Signetics	74181 SN74181	(3057)	DM7551	National	SN54LS219A SN74HC219	
	MMI	63S240		DM74137	National Signetics	74125 SN74125	(3057)	DM74193	Signetics	74181 SN74181	(3057)		Raytheon	RM8110 SN54173	
	Signetics	N82S130		DM74138	National Signetics	74125 SN74125	(3057)	DM74194	Signetics	74181 SN74181	(3057)	DM7560	National	DM54192	
DM74S571	AMD	AM27S13		DM74139	National Signetics	74125 SN74125	(3057)	DM74195	Signetics	74181 SN74181	(3057)	DM7563	National	DM54193	
	GE/Intersil	ICL7621	(2673, 2675)	DM74140	National Signetics	74125 SN74125	(3057)	DM74196	Signetics	74181 SN74181	(3057)	DM7570	National	DM54164	
	Maxim	ICL7621		DM74141	National Signetics	74125 SN74125	(3057)	DM74197	Signetics	74181 SN74181	(3057)		Signetics	54164 SN54164	
	MicroPwr	MP7621		DM74142	National Signetics	74125 SN74125	(3057)	DM74198	Signetics	74181 SN74181	(3057)	DM7577	AMD	AM27LS18	
	MMI	63S241		DM74143	National Signetics	74125 SN74125	(3057)	DM74199	Signetics	74181 SN74181	(3057)	DM7578	National	DM54S188	
	National	DM74S571A		DM74144	National Signetics	74125 SN74125	(3057)	DM74200	Signetics	74181 SN74181	(3057)	DM7590	AD	AD7511	(2424, 2462)
	Signetics	N82S131		DM74145	National Signetics	74125 SN74125	(3057)	DM74201	Signetics	74181 SN74181	(3057)			AD7590	(2424, 2462)
DM74S571A	AMD	AM27S13	(2673, 2675)	DM74146	National Signetics	74125 SN74125	(3057)	DM74202	Signetics	74181 SN74181	(3057)			AD7591	(2424, 2462)
	Maxim	ICL7621		DM74147	National Signetics	74125 SN74125	(3057)	DM74203	Signetics	74181 SN74181	(3057)		MicroPwr	MP7511DI	
	MicroPwr	MP7621		DM74148	National Signetics	74125 SN74125	(3057)	DM74204	Signetics	74181 SN74181	(3057)		PMI	SW7511	
	MMI	63S241		DM74149	National Signetics	74125 SN74125	(3057)	DM74205	Signetics	74181 SN74181	(3057)		TeddyneS	TSC445	(3273)
	National	DM74S571		DM74150	National Signetics	74125 SN74125	(3057)	DM74206	Signetics	74181 SN74181	(3057)		Unitrode	PIC7511	(Continued)
	Signetics	N82S131		DM74151	National Signetics	74125 SN74125	(3057)	DM74207	Signetics	74181 SN74181	(3057)				
DM74S573	AMD	AM27S33		DM74152	National Signetics	74125 SN74125	(3057)	DM74208	Signetics	74181 SN74181	(3057)				
	Fujitsu	MB7122		DM74153	National Signetics	74125 SN74125	(3057)	DM74209	Signetics	74181 SN74181	(3057)				
DM74S65	MMI	63S441		DM74154	National Signetics	74125 SN74125	(3057)	DM74210	Signetics	74181 SN74181	(3057)				
DM74S74	National	SN74S65		DM74155	National Signetics	74125 SN74125	(3057)	DM74211	Signetics	74181 SN74181	(3057)				
	Signetics	74S74	(3057)	DM74156	National Signetics	74125 SN74125	(3057)	DM74212	Signetics	74181 SN74181	(3057)				
DM74S86	National	SN74S86	(3057)	DM74157	National Signetics	74125 SN74125	(3057)	DM74213	Signetics	74181 SN74181	(3057)				
DM7400	National	7400	(3057)	DM74158	National Signetics	74125 SN74125	(3057)	DM74214	Signetics	74181 SN74181	(3057)				
	Signetics	7400	(3057)	DM74159	National Signetics	74125 SN74125	(3057)	DM74215	Signetics	74181 SN74181	(3057)				
DM7401	Toshiba	TC7400B	(2713)	DM74160	National Signetics	74125 SN74125	(3057)	DM74216	Signetics	74181 SN74181	(3057)				
	GoldStar	GL7401						DM74217	Signetics	74181 SN74181	(3057)				
	National	7401						DM74218	Signetics	74181 SN74181	(3057)				
	Saratoga	SSL7401						DM74219	Signetics	74181 SN74181	(3057)				
DM7402	National	SN7401						DM74220	Signetics	74181 SN74181	(3057)				
	Signetics	7402	(3057)					DM74221	Signetics	74181 SN74181	(3057)				
	TI	SN7402						DM74222	Signetics	74181 SN74181	(3057)				
	Toshiba	TA7402P						DM74223	Signetics	74181 SN74181	(3057)				

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				DM9093	Motorola	MC853 MC953 9093		DM9602	National	DM8602 9602		DP8228	NEC TI	μPB8228 SN74S428 TIM8228	(Cont'd)
DM87S402A	MMI	(Cont'd)		DM9094	National Raytheon Motorola	9093 RM993 MC856 MC956 9094		DM961	Motorola	MC961		DP8303	AMD	DP8303	
	National	57402 67C402 DM77S402 DM77S402A			National Raytheon	RM994 RM9094		DM962	National	9961 MC962		DP8304	AMD Fujitsu Harris	DP8304 MBL8286 CP82C86H	(2635)
DM87S421	AMD	AM29C116 AM29C116A AM29L116A AM29116		DM9097	Motorola	MC855 MC955 9097		DM963	Motorola	MC963			Intel	82C86 8286	
	Cypress	CY7C9116 (2592) CY7C9117 (2592) 27CX322 (2875)		DM930	National Raytheon Motorola	MC830 MC930 930		DN3836	Raytheon Matsushita	RM963 DN6835 DN6836 103SR		DP8340	OKI	MSM82C86	
	ICT	R29671S 74ACT29116 74ACT29116-1			National	930 9930			Microswitch	92SS12-2		DP8421	SMC	COM9064 KS84C21 KS84C22	
DM87S475	AMD	AM27S30 DM74S475 DM77S475		DM9301	Raytheon Lansdale	RM930 RL8252 SL8252		DN6835	National Sprague Matsushita	DN6835 UGN3501 (3259) DN6835 DN6836	(3259)	DP8464	Cypress	CY7C185 (2580) CY7C186 (2580)	
DM878291	AMD	AM27S191 AM27S291 AM27S291A AM27S291SA		DM9309	National	DM8309 9309			Microswitch	92SS12-2			Dense-Pac Exar Fujitsu	DP588H08 XR8464 MB88464 MB81C78A	(2620)
	Cypress	CY7C291 (2585)		DM9311	Raytheon Signetics TI	RC8252 S8252 DM8309		DN6837	National Sprague Matsushita	DN6837 UGN3501 (3259) DN6839	(3259)		GE/RCA	CDM6264 (2644, 2653)	
	Fujitsu	MB7138 MB7138E MB7138H			National	DM54154 54154			Microswitch	613SS2 8SS7			GoldStar	GM76C88 (2696, 2703)	
	MMI	63S1681 63S1681A		DM9312	Raytheon Signetics TI	RM9311 54154 SN54154			National	8SS7E1 DN6839			Harris Hitachi	HM65642 HM6264 HM6464 MB6264	(2747)
	Motorola	MCM76 932511		DM9316	Lansdale	SL8230		DN6838	Siemens Sprague TI	SAS261 UGN3019 (3259) TL172C	(3259)		Hyundai	HY6264 (2778)	
	National	29683A		DM9318	Raytheon	RM9316			Matsushita	DN6838			Inmos	IMS1630 (2796)	
	Raytheon	TBP38A166 TBP38S166			National	DM54148 Signetics 54148 TI SN54148			Microswitch	SS46 8SS1E1 8SS5E1			IDT	IDT7165	
	Waferscale	WS57C191 (3390) WS57C291 (3390)		DM932	Motorola	MC932 932			Sprague	UGN3030 (3259) TI TL170	(3259)		Krueger	6264-100 (2877) 6264-120 (2877) 6264-150 (2877)	
DM8810	National	μA75451 DM7426			Raytheon	9932 RM932		DN6839	Matsushita	DN6837 DN6839				6264LP-100 (2877) 6264LP-120 (2877)	
	Signetics	7426 (3057)		DM9322	Raytheon	RM9322			Microswitch	613SS2 8SS7				6264LP-150 (2877)	
DM8842	National	DM7442 7442 (3057)		DM933	Motorola	MC933 9933			National	DN6837 SAS261			Matra-Harris	HM2064 HM56162 HM62641 HM65641 HN65641	
	Signetics	7442 (3057)		DM935	Motorola	MC835 MC935			Siemens	SAS261 UGN3019 (3259)	(3259)		MicroLinear	ML8464	
DM8875A	National	DM8875B TI SN7442A			National	9135 9935		DN834	Sprague TI	TL172C DN834			MicronTech	MT5C6404 MT5C6408	
DM8875B	National	DM8875A TI SN74284		DM936	Motorola	MC936 936			Matsushita	DN837 DN839			Mitsubishi	AM99C88 M5M165 M5M5164 M5M5165 M5M5178	
DM8885	ITT	ITT505 505		DM937	Motorola	MC837 MC937			National	DN837 DN839				MCM6164 MCM6164C MCM6264	
DM8887	National	DS8885 Cherry Semi CS594 CS594C			National	937 9937			Siemens	DN837 SAS241 SAS250 SAS251			National	NMC6164 μPD4364	
	Dionics	DI513B DI514B DI514BR		DM939	Raytheon	RM939		DN835	Sprague	UGN3201K (3259) Matsushita DN835	(3259)		OKI	MSM5164 MSM5165 MSM5178	
	Exar	XR6118 (2619)		DM944	Motorola	MC944 944		DN837	Microswitch Matsushita	6SS DN834 DN837 DN839			Mosel	MS6264 MCM6064	
	Motorola	MC3490		DM945	Motorola	MC945 945			National	DN834 DN837 DN839			Motorola	MCM6164 MCM6164C MCM6264	
	National	DS8887		DM946	Motorola	MC946 946			Siemens	DN839 SAS241 SAS250 SAS251				NMC6164	
	OKI	MSL912			National	9945							NEC	μPD4364	
	Sanyo	LB1290		DM948	Motorola	MC948 948		DN838	Sprague	UGN3201K (3259) Matsushita DN838	(3259)		OKI	MSM5164 MSM5165 MSM5188	
	Signetics	NE594 SA594		DM949	Motorola	MC949 949		DN839	Sprague	UGN3203K DN834			Performance	P4C164 P4C188	
	Sprague	UDN6118 (3258) UDN6118A (3258) UDN6118A-1 (3258)		DM9567	Raytheon Motorola	RM949 MC857 MC957			National	DN837 DN839 DN834			S-MOS	SRM2064 SRM2264	
	TI	UDQ6118 TL594C TL594M			National	DM957 9157			Siemens	DN837 DN839 DN834			Samsung	KM6264 (3036) KM6264A (3036)	
DM8889	Toshiba	TD62781		DM957	Raytheon	RM957		DP8216	Sprague	UGN3201K (3259) Intel 8216	(3259)		Sharp	LH5164 LH5165	
DM8891	Dionics	DI230A		DM958	Motorola	MC857 MC957		DP8224	National	INS8216 μPB8216			Sony	CVK5864P CXK5863P	
DM8894	National	DS8889 DS8891			National	9157 DM9567			Intel	INS8216 μPB8216			STC	STC6264 SMU68CE64	
DM8897	National	DS75494 TI SN75494			Raytheon	RM957			NEC	INS8224			Toshiba	TC5565 TC5565A	
DM9004C	Dionics	DI804A			Motorola	MC857 MC957		DP8226	Signetics	S8224 8226				TC5585 TC5588	
	National	DS8897		DM957	National	DM9567 9157			Intel	8226				TMM2063 TMM2064	
	LSI Logic	LL7420		DM958	Raytheon	RM957		DP8228	National	INS8226 μPB8226			Vitellic	TMM2088 V61C62 V61C64	(Continued)
	National	DM7420 7420 9004 RL7420 7420	(3057)		Motorola	MC858 MC958			AMD	8228					
DM9016C	Raytheon	7420		DM9601	Raytheon	DM8601 9601			Intel	INS8226 μPB8226					
	Signetics	TI SN7420			Raytheon	RF8601			National	INS8226					
	TI	SN7420			Signetics	RF9601			AMD	8228					
	AMD	AM9016			TI	N8T22			Intel	8228 INS8228					
	Lansdale	ML5404				SN74122			National						
	National	DM5404 5404 9016													

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				DS1489A	National	(Cont'd)		DS3669	SGS-Thomson	(Cont'd)		DS55454	TI	SNJ55454	(Cont'd)
DP8464	Vitelc	(Cont'd)				DS1489								SN55454	
		V62C64				MC1488						DS55460	SiliconG	SG55460	
	VLSI Tech	VT20C98			SGS-Thomson	MC1489		DS3680	TI	SN75440			TI	SNJ55460	
DP8480	TI	DP8480			Signetics	MC1488		DS3695	TI	DS3680		DS55461	SiliconG	SG55461	
DP8481	TI	DP8481				MC1489			Motorola	SN75172			TI	SNJ55461	
DS0025	National	MH0025				MC1489A				SN75173		DS55462	National	μA55462	
DS0026	GE/Intersil	ICL7667	(2676)			SG1489				SN75174			SiliconG	SG55462	
	Motorola	MMH0026			SiliconG	SG1489A			National	SN75175			TI	SNJ55462	
	National	NMH0026				SG75188				SN75176		DS55463	SiliconG	SG55463	
	SGS-Thomson					SG75788				SN75177			TI	SN55462	
		SG1626				MC1488				μA8T28				SG55463	
		SG2626				MC1489				μA96172		DS55464	TI	SN55463	
		SG3626				SN75188				μA96173				SG55464	
	Siliconix	SG1626		DS1603	AD	AD521	(2431, 2462)			μA96174			SiliconG	SNJ55464	
		SG2626				AD624	(2431, 2462)			μA96175				SN55464	
		SG3626				INA110	(2545)			μA96176		DS55470	Toshiba	TC55464	
	TeledyneS	TSC426			Burr-Brown	LM148			TI	μA96177			GE/RCA	CD22221	
DS0056	National	MH0056			National	LM163				DS8T28			SiliconG	SG55470	
DS14C88	TI	SN75C188				AMP05				SN75145			SiliconSys	SSI2221	
DS14C89	TI	SN75C189A			PMI	LM148				SN75172		DS55471	TI	SNJ55470	
DS1488	Exar	XR1488	(2619)			LM161				SN75173			SiliconG	SG55471	
		XR1489A	(2619)			LM1612				SN75174			TI	SNJ55471	
	GoldStar	GD75188	(2708)	DS1611	National	LM1611				SN75175		DS75S24	AD	AD7524	(2411, 2460, 2462)
	Motorola	MC1488	(2983, 2989)	DS1612	National	LM1612		DS3896	TI	SN75ALS056				AD7524	
		MC1489	(2989)	DS1613	National	LM1613		DS3897	TI	SN75ALS057			GE/Intersil	AD7524	
		MC1489A	(2989)	DS1614	National	LM1614		DS55107	Motorola	MC55107			Maxim	MP7524	
	National	μA1489		DS26LS31	AMD	AM26LS31			National	LM55107A			MicroPwr	MC7524	
		μA1489A				26LS31			TI	SN55107A			Motorola	PM7524	(3019)
		μA212A			Motorola	AM26LS31	(2983)			LM55108			Signetics	7524	
		μA750			Signetics	AM26LS31		DS55108	Motorola	MC55108			TI	TLC7524	(3325)
		DS1489		DS26LS32	AMD	AM26LS32			National	LM55108A		DS75107	Motorola	LM75107	
		DS1489A				AM26LS32A				55108			National	LM75107A	
		MC1488				26LS32			TI	SN55108A				75107	
		MC1489				AM26LS32		DS55110	TI	SN55110A			TI	SN75107B	
	SGS-Thomson	MC1488			Motorola	μA26LS32		DS55121	Signetics	S8T13		DS75108	Motorola	MC75108	
		MC1489			National	DM26LS32			TI	SN55121			National	LM75108A	
		MC1488			Signetics	AM26LS32		DS55122	Lansdale	SL8T14			TI	75108	
		MC1489			TI	AM26LS32A			TI	SN55122		DS75113	TI	SN75108B	
		MC1489A				AM26LS32AM		DS5522	Motorola	MC5522		DS75121	TI	SN75113	
		SG1489		DS26S10	AMD	AM26S10			National	MC5523			National	N8T13	(3076)
		SG1489A			Motorola	MC26S10		DS5522	Motorola	LM5522			Signetics	N8T13	
		SG75188			TI	AM26S10		DS5524	Motorola	MC5524		DS75122	National	DS75123	(3076)
		SG75788		DS26S11	AMD	AM26S11			National	LM5524			TI	SN75121	
	TI	MC1488			TI	AM26S11		DS5524	Raytheon	RM5524		DS75123	National	DS75123	(3076)
		MC1489		DS3486	Motorola	MC3486	(2990)		TI	SNJ5524			TI	SN75123	
		SN75188			TI	SN75ALS195		DS5528	Motorola	MC5528		DS75123	National	DS75122	(3076)
DS1489	Exar	XR1488	(2619)	DS3487	Motorola	MC3487	(2990)		National	MC5528			TI	SN75123	
		XR1489A	(2619)		TI	MC3487				MC55325		DS75124	Signetics	N8T24	(3076)
	GoldStar	GD75188	(2708)			SN75ALS194		DS55325	Motorola	JAN55325			TI	SN75124	
	Motorola	MC1488	(2989)	DS3611	National	LM3611			SiliconG	SG55325		DS75125	Motorola	MC75125	
		MC1489	(2989)		SiliconG	SG75471				JANB55325			TI	SN75ALS125	
		MC1489A	(2989)		Sprague	UDN3611			TI	SNJ55325				SN75125	
	National	μA1489		DS3612	National	DS3632		DS5534	Exar	XR5534		DS75127	Motorola	MC75127	
		μA1489A				LM3612			Motorola	MC5534			TI	SN75ALS127	
		μA212A			SiliconG	SG75472		DS5534	National	LM5534		DS75128	Motorola	SN75127	
		μA750			Sprague	UDN3612		DS55365	TI	SN55365			TI	SN75128	
		DS1488			TI	SN75472		DS55450	National	μA55450		DS75129	Motorola	MC75129	
		DS1489A		DS3613	National	LM3613			Signetics	55450			TI	SN75150	
		MC1488			Sprague	UDN3613		DS55450	SiliconG	SG55450		DS75150	TI	SN75150	
		MC1489		DS3614	National	LM3614				SG55450B		DS75161A	TI	SN75154	
	SGS-Thomson	MC1488			SiliconG	SG75474		DS55450	TI	SNJ55450		DS75162A	TI	SN75161B	
		MC1489			Sprague	UDN3614				SN55450		DS75207	TI	SN75162B	
		MC1488		DS3625	Signetics	N8T25				55451				SN75207B	
		MC1489		DS3632	National	LM3612		DS55451	National	55451		DS7524	AD	AD7524	(2411, 2460, 2462)
		MC1489A				SG75472			Signetics	SG55451				AD7524	
		SG1489			Sprague	UDN3612			SiliconG	SG55451B			GE/Intersil	AD7524	
		SG1489A		DS3650	Motorola	MC3450	(2990)			SNJ55451			Maxim	AD7524	
		SG75188			TI	MC3450				SN55451			MicroPwr	MP7524	
		SG75788		DS3651	Motorola	MC3430	(2958)		TI	SN55452			Motorola	MC7524	
	TI	MC1488				MC3441		DS55452	National	μA55452			National	DS75S24	
		MC1489		DS3652	Motorola	MC3452	(2990)		Signetics	55452			PMI	PM7524	(3019)
		SN75188			TI	MC3452			SiliconG	SG55452		DS7528	Signetics	TLC7524	(3325)
DS1489A	Exar	XR1488	(2619)	DS3653	Motorola	MC3432	(2958)			SNJ55452			TI	AD7528	(2413, 2461)
		XR1489A	(2619)	DS3658	GE/RCA	CA3219	(2651)	DS55453	National	LM55453			AD		
	GoldStar	GD75188	(2708)		Hitachi	HAI3007				55453			Maxim	AD7528	
	Motorola	MC1488	(2983, 2989)		IPS	IP3658			Signetics	55453			MicroPwr	MP7528	
		MC1489	(2989)		SGS-Thomson	L6222			SiliconG	SG55453			Motorola	MC7528	
		MC1489A	(2989)			SN75437			TI	SNJ55453			Plessey	ZN7528	
	National	μA1489		DS3668	TI	SN75435		DS55454	TI	SN55453			PMI	PM7528	(3019)
		μA1489A		DS3669	GE/RCA	CA3252	(2651, 2653)		Signetics	55454			Raytheon	RC7528	
		μA212A			IPS	IP3669	(Cont'd)		SiliconG	SG55454			TI	TLC7528	(3325)
		μA750								SG55454B			Unitrode	PIC7528	
		DS1488													(Cont'd)

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				F4027	National	CD4027 CD4027B MM74C476 MSM4027 LC4027	(Cont'd)	F4044	Signetics Solitron Toshiba GE/RCA	HEF4044 CM4044 TC4044B CD4046	(3341) (2639, 2656)	F4068	Signetics Solitron Toshiba GE/RCA Motorola National	HEF4068 CM4068 TC4068B CD4069 MC14069 CD4069	(3341) (2637) (2939)
F4019B	Solitron	CM4019	(Cont'd)		OKI Sanyo SGS-Thomson	HCC/HCF4027 HCC/HCF4027B		F4046	Motorola National SGS-Thomson	MC14046 CD4046		F4069	OKI Sanyo SGS-Thomson	HEF4069 HCC/HCF4069	
F40192	Toshiba	TC4019B	(3341)		Signetics Solitron	HEF4027 CM4027			Solitron	HCC/HCF4046 HEF4047 CM4047	(2638)		Signetics Solitron	HEF4069 CM4069	
	GE/RCA	CD40192	(2638)		Toshiba	TC4027B	(3341)	F4047	GE/RCA	CD4047	(2638)		Toshiba	TC4069UB	(3341)
	Motorola	MC14029	(2942)		GE/RCA	CD4028	(2637)		National	CD4047			GE/RCA	CD4070	(2637, 2639)
	National	CD40192 CD4029 F4029		F4028	Motorola	MC14028	(2945)		SGS-Thomson	HCC/HCF4047			Motorola	MC14070	(2938)
	SGS-Thomson	HCC/HCF40192 HCC/HCF4029			National	CD4028 MM74C42 MSM4028 LC4028		F4049	Signetics Solitron Toshiba GE/RCA	HEF4047 CM4047 TC4047B CD4049	(2637, 2656) (2939)	F4070	National	CD4070 MM74C86	
	Signetics	HEF40192			OKI	MSM4028			Motorola	MC14049	(2939)		SGS-Thomson	HCC/HCF4070	
	Solitron	CM4029			Sanyo	LC4028			National	CD4049			Signetics Solitron	HEF4070 CM4070	
	Toshiba	TC40192B	(3341)		SGS-Thomson	HCC/HCF4028			SGS-Thomson	HCC/HCF4049		F4071	GE/RCA	CD4071	(2637)
F40193	GE/RCA	CD40193	(2638)		Signetics Solitron	HEF4028 CM4028			Signetics Solitron	HEF4049 CM4049			Motorola	MC14071B	(2637)
	National	CD40193 MM54C193 MM74C193		F4029	Toshiba	TC4028B	(3341)		Toshiba	TC4049B	(3341)		National	CD4071	
	SGS-Thomson	HCC/HCF40193			GE/RCA	CD40192	(2638)		GE/RCA	CD4050	(2637, 2656)			CD4071B	
	Signetics	HEF40193			Motorola	MC14029	(2942)		Motorola	MC14050	(2939)		OKI	MSM4071	
F40194	Toshiba	TC40193B	(3341)		National	CD40192 CD4029 F40192		F4050	SGS-Thomson	HCC/HCF4050			Sanyo	LC4071	
	GE/RCA	CD40194	(2638)		SGS-Thomson	HCC/HCF40192 HCC/HCF4029			Signetics	HEF4050			SGS-Thomson	HCC/HCF4071	
	Motorola	MC140194B	(2944)		Signetics Solitron	HEF40192 CM4029			Solitron	CM4050				HCC/HCF4071B	
	SGS-Thomson	HCC/HCF40194 HCC/HCF40194B		F4030	Toshiba	TC40192B	(3341)		Toshiba	TC4050B	(3341)			MM74C32	
	Signetics	HEF40194			GE/RCA	CD4029B	(3341)		GE/RCA	CD4051	(2639, 2655, 2658)	F4072	Motorola	MC14072	(2637)
F40195	Toshiba	TC40194B	(3341)		National	CD4030			Motorola	MC14051	(2945)		National	CD4071B	
	National	CD40195 MM74C195			SGS-Thomson	HCC/HCF4030			National	CD4051			Signetics Solitron	HEF4071 CM4071	
F4020	GE/RCA	CD4020	(2638)		Signetics Solitron	HEF4030 CM4030			SGS-Thomson	HCC/HCF4051			Toshiba	TC4071B	
	Motorola	MC14020	(2943)		Toshiba	TC4030B	(3341)		Signetics	HEF4051			GE/RCA	CD4072	(2637)
	National	CD4020			GE/RCA	CD4031	(2638)		Toshiba	TC4051B	(3341)		Motorola	MC14072B	(2637)
	SGS-Thomson	HCC/HCF4020		F4031	National	CD4031			GE/RCA	CD4052	(2639, 2653, 2655)		National	CD4072	
	Signetics	HEF4020			SGS-Thomson	HCC/HCF4031			National	CD4052B			NEC	μPC4072	
	Solitron	CM4020			Signetics	HEF4731			SGS-Thomson	HCC/HCF4052		F4073	Signetics	HEF4072	
	Toshiba	TC4020B	(3341)		GE/RCA	CD4034	(2638)		Signetics	HEF4052			Toshiba	TC4072B	
F4021	GE/RCA	CD4021	(2638)		Motorola	MC14034	(2943)		GE/RCA	CD4053	(2639, 2655, 2658)		GE/RCA	CD4073	(2637)
	Motorola	MC14021	(2943)		National	CD4034			Motorola	MC14053	(2945)		Motorola	MC14073	(2937)
	National	CD4021		F4034	SGS-Thomson	HCC/HCF4034			SGS-Thomson	HCC/HCF4052			National	CD4073	
	SGS-Thomson	HCC/HCF4021			Signetics	HEF4731			Signetics	HEF4052			SGS-Thomson	HCC/HCF4073	
	Signetics	HEF4021			GE/RCA	CD4034	(2638)		Solitron	CM4052			Signetics	HEF4073	
F4022	Toshiba	TC4021B	(3341)		Motorola	MC14034	(2943)		GE/RCA	CD4053	(2639, 2655, 2658)		Solitron	CM4073	
	GE/RCA	CD4022	(2638)		National	CD4034			Motorola	MC14053	(2945)		Toshiba	TC4073B	
	Motorola	MC14022	(2943)		SGS-Thomson	HCC/HCF4034			National	CD4053		F4075	GE/RCA	CD4075	(2637)
	National	CD4022		F4035	Signetics	HEF4731			SGS-Thomson	HCC/HCF4053			Motorola	MC14075	(2937)
	SGS-Thomson	HCC/HCF4022			GE/RCA	CD4035B			Signetics	HEF4053			National	CD4075	
	Signetics	HEF4022			SGS-Thomson	HCC/HCF4035			Solitron	CM4053			SGS-Thomson	HCC/HCF4075	
	Solitron	CM4022			Signetics	HEF4035			Toshiba	TC4053B	(3341)		Signetics	HEF4075	
	Toshiba	TC4022B	(3341)		Solitron	CM4035			GE/RCA	CD4016	(2639, 2653, 2655)	F4076	Solitron	CM4075	
F4023	GE/RCA	CD4023	(2637)		Toshiba	TC4035B			Motorola	MC14056	(2945)		Toshiba	TC4075B	
	Motorola	MC14023	(2937)		GE/RCA	CD4040	(2638)		National	CD4056	(2639, 2655, 2658)		GE/RCA	CD4076	(2638)
	National	CD4023		F4040	Motorola	MC14040	(2943)		Motorola	MC14066	(2945)		Motorola	MC14076	(2942)
	SGS-Thomson	MM74C10			National	CD4040			National	CD4016			National	CD4076	
	HCC/HCF4023				SGS-Thomson	HCC/HCF4040			SGS-Thomson	CD4066			SGS-Thomson	MM54C173 MM74C173	
	Signetics	HEF4023			Signetics	HEF4040			Sanyo	LC4016				HCC/HCF4076	
	Solitron	CM4023			Solitron	CM4040			SGS-Thomson	LC4066			Signetics Solitron	HEF4076 CM4076	
	Toshiba	TC4023	(3341)		Toshiba	TC4040B	(3341)		SGS-Thomson	LC4066			Toshiba	TC4076B	(3341)
F4024	GE/RCA	CD4024	(2638)		GE/RCA	CD4041	(2637, 2656)			HCC/HCF4016 HCC/HCF4066		F4077	GE/RCA	CD4077	(2637, 2639)
	Motorola	MC14024	(2943)		National	CD4041			Signetics	HEF4016 HEF4066			Motorola	MC14077	(2938)
	National	CD4024			SGS-Thomson	HCC/HCF4041			Solitron	CM4016 CM4066			National	CD4077	
	SGS-Thomson	HCC/HCF4024			Signetics Solitron	HEF4041 CM4041			Toshiba	TC4016B	(3341)		SGS-Thomson	HCC/HCF4077	
	Signetics	HEF4024			GE/RCA	CD4042	(2638)		Motorola	MC14068	(2937)		Signetics	HEF4077	
	Solitron	CM4024			Motorola	MC14042	(2941)		SGS-Thomson	HCC/HCF4067		F4078	GE/RCA	CD4078	(2637)
	Toshiba	TC4024B	(3341)		National	CD4042			Signetics	HEF4067			Motorola	MC14078	(2938)
F4025	GE/RCA	CD4025	(2637)		SGS-Thomson	HCC/HCF4042			Toshiba	TC4068B	(3341)		SGS-Thomson	HCC/HCF4078	
	Motorola	MC14025	(2938)		Signetics	HEF4042			Unitrode	MC14067					
	National	CD4025			Solitron	CM4042			Motorola	MC14067			Signetics	HEF4077	
	SGS-Thomson	HCC/HCF4025			Toshiba	TC4042B	(3341)		SGS-Thomson	HCC/HCF4067			Solitron	CM4077	
	Signetics	HEF4025			GE/RCA	CD4044	(2638)		Signetics	HEF4067			Toshiba	TC4077B	(3341)
	Solitron	CM4025			Motorola	MC14044	(2941)		GE/RCA	CD4068	(2637)		GE/RCA	CD4078	(2637)
	Toshiba	TC4025B	(3341)		National	MC4044			Motorola	MC14068	(2937)		Motorola	MC14078	(2938)
F4027	GE/RCA	CD4027	(2638)		SGS-Thomson	HCC/HCF4044			SGS-Thomson	HCC/HCF4068			SGS-Thomson	HCC/HCF4078	
	Motorola	MC14027				(Continued)									

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
National Semiconductor (Cont'd)				F4511	GE/RCA	CD4511 (2656, 2658)		F4531	(Cont'd)			F681488	National	NS32488		
					Motorola	MC14511 (2946, 2985)			Signetics	HEF4531		F6821	Hitachi	HD6821		
F4078	Signetics	HEF4078	(Cont'd)					F4532	Toshiba	TC4531B (3341)			Motorola	MC6821 (2932)		
	Solitron	CM4078			National	CD4511			GE/RCA	CD4532 (2637)			SGS-Thomson			
F4081	Toshiba	TC4078B (3341)			SGS-Thomson	μPD4511			Motorola	MC14532 (2946)				EF6821		
	GE/RCA	CD4081 (2637)				HCC/HCF4511				HCC/HCF4532		F6840	GoldStar	GL6840 (2713)		
	Motorola	MC14081 (2937)			Signetics	HEF4511			SGS-Thomson	HEF4532			Hitachi	HD6840		
	National	CD4081			Solitron	CM4511		F4539	Motorola	MC14539 (2944)			SGS-Thomson	MC6840 (2932)		
		MM74C08		F4512	Toshiba	TC4511B (3341)			Signetics	HEF4539		F6845	Hitachi	EF6840		
	NEC	μPC4081			GE/RCA	CD4512 (2653)			Toshiba	TC4539B (3341)			Motorola	HD6845	(2932)	
	OKI	MSM4081			Motorola	MC14512 (2944)			SGS-Thomson	HEF4539B (2944)			National	F6845A		
	Sanyo	LC4081			National	CD4512		F4543	GE/RCA	CD4543 (2639, 2653, 2656)			Samsung	KS68C45		
	SGS-Thomson				SGS-Thomson	HCC/HCF4512			Motorola	MC14543 (2946, 2985)			Unicorn	UC6845		
		HCC/HCF4081				Toshiba	TC4512B (3341)			MC14543B (2946, 2985)		F6845A	UMC	UM6845		
	Signetics	HEF4081		F4514	GE/RCA	CD4514 (2637)							VLSI Tech	VL6845		
	Solitron	CM4081			Motorola	MC14514 (2945)			National	CD4543			Hitachi	HD6845		
	Toshiba	TC4081B			National	CD4514			Signetics	HEF4543			Motorola	MC6845 (2932)		
F4082	GE/RCA	CD4082 (2637)			SGS-Thomson	HCC/HCF4514			Toshiba	TC4543B (3341)			National	KS68C45		
	Motorola	MC14082 (2937)			Signetics	HEF4514		F4553	Motorola	MC14553 (2943)			Unicorn	UC6845		
	National	CD4082			Solitron	CM4514			TeledyneP	TP4553			UMC	UM6845		
	NEC	μPC4082		F4515	Toshiba	TC4514B (3341)		F4555	GE/RCA	CD4555 (2637, 2639)		F68456	VLSI Tech	VL6845		
	SGS-Thomson	HCC/HCF4082			GE/RCA	CD4515 (2637)			Motorola	MC14555 (2945)		F6846	National	NS32456		
		HEF4082			Motorola	MC14515 (2945)			SGS-Thomson	HCC/HCF4555		F6850	Hitachi	HD6846		
F4093B	Signetics	HEF4082			National	CD4515				HEF4555			Motorola	HD6850	(2932)	
	Toshiba	TC4082B			SGS-Thomson	HCC/HCF4515			Signetics	HEF4555			SGS-Thomson	MC6850		
	GE/RCA	CD4093B (2637)			Signetics	HEF4515		F4556	Toshiba	TC4555B (3341)		F6852	Motorola	MC6852 (2932)		
	Motorola	MC14093 (2937, 2940)			Solitron	CM4515			GE/RCA	CD4556 (2637, 2639)		F6854	SGS-Thomson			
		MC14093B (2937, 2940)			Toshiba	TC4515B (3341)			Motorola	MC14556 (2945)				EF6854		
	National	CD4093B		F4516	Motorola	MC14516 (2942)			Raytheon	RC4556		F6860	Motorola	MC6860		
	SGS-Thomson	HCC/HCF4093			National	CD4516			SGS-Thomson	HCC/HCF4556		F6862	Motorola	MC6862		
		HCC/HCF4093B			SGS-Thomson	HCC/HCF4516			Signetics	HEF4556		F8804	Mitel	MT8804		
	Signetics	HEF4093			Signetics	HEF4516			Toshiba	TC4556B (3341)		F93419	Plessey	MB8804		
F4097	Toshiba	TC4093 (3341)			Solitron	CM4516		F4557	Motorola	MC14557 (2944)			Fujitsu	MBM93419		
	Motorola	MC14097			Toshiba	TC4516B (3341)			Signetics	HEF4557		F9401	National	93419		
	SGS-Thomson	HCC/HCF4097		F4518	GE/RCA	CD4518 (2638)		F4582	GE/RCA	CD40182 (2639)			Motorola	MC8503		
		HEF4097			Motorola	MC14518 (2942)			Motorola	MC14582 (2947)		F9403	Signetics	9401		
F4116	ITT	ITT4116			National	CD4518			National	MM74C182			HybridSys	HS9403		
	Krueger	4116-120 (2877)			SGS-Thomson	HCC/HCF4518			SGS-Thomson	HCC/HCF40182		GAL16V8	Signetics	9403		
		4116-150 (2877)			Signetics	HEF4518			Motorola	MC14583 (2940)			AMD	AMPAL16H8		
		4116-200 (2877)			Solitron	CM4518		F4583	Toshiba	TC4583B (3341)				AMPAL16L8		
	National	F16K			Toshiba	TC4518B (3341)			Harris	HD4702 (2743)			Cypress	CYPAL16L8		
	OKI	MM5290		F4520	GE/RCA	CD4520 (2638)		F4702	Signetics	HEF4720			Harris	PALC16L8 (4216)		
	SGS-Thomson	MSM3716			Gould/AMI	S4520		F4723	National	CD4723				HPL16LC8-5 (2745)		
		M4116			Motorola	MC14520 (2942)		F4727	Signetics	HEF4724			ICT	PEEL18CV8 (4257)		
	Siemens	HYB4116			National	CD4520		F64K	Harris	HA5104			Lattice	GAL16V8 (4259)		
	Signetics	2690			OKI	MSM4520			Inmos	IMS2600				GAL16V8-25L (4259)		
	STC	STC4116			Sanyo	LC4520			IDT	IDT7164 (2848)			MMI	PAL16L8		
	Toshiba	TMM416			SGS-Thomson	HCC/HCF4520			Intel	M2164A			National	PAL16L8		
	Harris	HA5104			Signetics	HEF4520			Krueger	4164-120 (2877)				16L8A		
	Inmos	IMS2600			Solitron	CM4520				4164-150 (2877)				16P8A		
	IDT	IDT7164 (2848)			Toshiba	TC4520B (3341)				4164-200 (2877)				16P8B		
	Intel	M2164A		F4521	GE/RCA	CD4521B (2638)			MicronTech	MT4264			Samsung	CPL16L8-25 (3031)		
	Krueger	4164-120 (2877)			Gould/AMI	S4521			Motorola	MCM4164				CPL16L8-35 (3031)		
		4164-150 (2877)			Motorola	MC14521 (2946)				MCM4164C				CPL16L8L-35 (3031)		
		4164-200 (2877)			SGS-Thomson	HCC/HCF4045			National	F4164			Signetics	PLHS18P8 (3209, 3227)		
	MicronTech	MT4264			Signetics	HEF4521			OKI	NMC4164				SPL16LC8		
	Motorola	MCM4164			Solitron	CM4045			Panasonic	MSM3764				TIBPAL16H8		
		MCM4164C			Toshiba	TC4521B (3341)				MM4164				TIBPAL16L8		
		MCM6665			GE/RCA	CD4522B (2638)			Samsung	KMA164A (3036)				TIBPAL16L8-20		
	National	F64K		F4522	Motorola	MC14522B (2943)				KMA164B (3036)				CD54AC158 (2642)		
	OKI	NMC4164			National	CD4522			Saratoga	SSM7164				PEEL20CG10		
	Panasonic	MM4164			SGS-Thomson	CD4522B			SGS-Thomson	MKB4564				PEEL20CG10 (4257)		
		MM4864			Toshiba	TC4522B (3341)				MK45H64				GAL20V8		
	Samsung	KMA164A (3036)		F4526	Motorola	MC14526 (2943)				TS4164				Gould/AMI		
		KMA164B (3036)			National	CD4526			Siemens	HYB4164				ICT		
	Saratoga	SSM7164			Signetics	HEF4526			TI	SMJ4164 (3286)				Lattice		
	SGS-Thomson	MKB4564			Toshiba	TC4526B (3341)				SM4164				National	GAL20V8 (4260)	
		MK45H64		F4527	GE/RCA	CD4527 (2639)				TMS4164				54AC158		
		TS4164			Motorola	MC14527 (2947)				TMM4164				F2901A		
	Siemens	HYB4164			National	CD4527				TMM4164A				SGS-Thomson		
	TI	SMJ4164 (3286)			SGS-Thomson	HCC/HCF4527				V51C64				TS2901		
		SM4164			Signetics	HEF4527		F68B10	Vitelc	MC68B10				CY7C909 (2590)		
	Toshiba	TMM4164			Toshiba	TC4527B (3341)		F6800A	Motorola	MC6800 (2931)				IDT39C09		
		TMM4164A		F4528	Motorola	MC14528			SGS-Thomson	EF6800				TS2909		
		V51C64			National	CD4528				HD6800		INS2651	Signetics	SCN2651		
F4510	GE/RCA	CD4510 (2638)			SGS-Thomson	MM74C221				MC6802 (2931)		INS2652	SMC	COM2651		
	Motorola	MC14510 (2942)			Signetics	HCC/HCF4098		F6802	Hitachi	HD6802		INS8035	Signetics	INS2652		
	National	CD4510			Motorola	MC14528B (3341)			SGS-Thomson	EF6802			Intel	8035		
	SGS-Thomson	HCC/HCF4510			Motorola	MC14531 (2947)				MC6808			NEC	μPD8035		
		HEF4510		F4531	SGS-Thomson	HCC/HCF40101				MC6808			Siemens	SAB8031A		
	Signetics	HEF4510						F6808	Motorola	HD6810			Signetics	SCN8035		
	Solitron	CM4510						F6810	Hitachi	MC6810 (2932)			Toshiba	TMP8035		
	Toshiba	TC4510B (3341)							Motorola	MC6810			Intel	8048		
		(Continued)								(Continued)			NEC	μPD8048	(Continued)	

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
National Semiconductor (Cont'd)				LF11201	Harris Maxim	HI201 DG201A MAX331 MP201 LF13201 SW201 Siliconix TeledyneS	(Cont'd)	LF13202	Maxim National PMI Siliconix National	DG202 MAX332 LF11202 SW02 SW202 DG202 LF11333 LF12333		LF156A	SGS-Thomson TI AMD MicroPwr National	(Cont'd)		
INS8048	Signetics Toshiba	SCN8048 TMP8048	(3339)		MicroPwr National PMI Siliconix TeledyneS			LF13333				LF157A	NEC PMI	LF156 TL081 27S29 MP157 LF351 LF353		
INS8049	Intel NEC	8049 μPD8049				TSC4201 TSC4202 DG202 MAX332 LF13202 SW02		LF13508	Burr-Brown Datel	SW06 MPC8S MUX808 MX808	(2600)			μPC157 OP15 PM157 PM157A		
INS8060	SGS-Thomson	Z8060		LF11202	Maxim	MAX332 LF13202 SW02			GE/Intersil	ICL6108 IH6108	(2670)		Raytheon Signetics	29621 PLS157	(3209, 3213)	
INS82C50A	Zilog Calmos Exar Harris National	Z8060 CA82C50A XR16C450 CP82C50A NS16C450 NS16450	(2618)	LF11333	PMI Burr-Brown Datel	SW06 MPC8S MUX808 MX808	(2600)		Harris Maxim	HI508 DG508A MAX358 MAX368	(2670)	LF198	TI	LF351 LF353 LF198		
	Samsung	KS82C250 KS82C50 LD1101		LF11508	MicroPwr Motorola National	MP7508DI MC6108 LF13508	(2970)		MicroPwr National PMI	MP7509DI LF11508 DMX88 MUX08 MUX88	(2970)	LF255	LinearTech Signetics MicroPwr PMI	LF198 MP255 PM155 PM255		
	Silicon Logic SiliconSys UMC VLSI Tech	SS173M450 UM8250A VL16C450 VL82C50 VL82C50A WD82C50A	(3255) (3363) (3395)		GE/Intersil	ICL6108 IH6108	(2670)	LF13509	Siliconix TeledyneP GE/Intersil	DG508A TP4554 ICL6109 IH6208	(2670)	LF256	SGS-Thomson	LM255		
INS8216	Intel	8216			MicroPwr	MP7508DI	(2970)		Harris Maxim	HI509 DG509A MAX359 MAX369		LF298	Solitron Burr-Brown Datel	μA2556 SHC298 SHMLM2	(2556)	
INS8224	National NEC	DP8216 μPB8216			National PMI	LF13508 DMX88 MUX08			MicroPwr National PMI	MAX369 MP7509DI LF11509 MUX24 DG509A		LF347 LF347B LF351	TI AMD MicroPwr National	LF347 27S29 MP157 LF157A LF353		
INS8226	Intel	8226			Siliconix	DG508A		LF155	Siliconix AD	DG509A AD381	(2428, 2462)		NEC PMI	μPC157 OP15 PM157 PM157A		
INS8228	Mitsubishi National NEC	M5L8226 DP8226 μPB8226		LF11509	GE/Intersil	ICL6109 IH6208	(2670)			AD544	(2427, 2462)			OP15 PM157 PM157A		
	AMD	8228			Harris	HI509			Burr-Brown	OPA606	(2540, 2543)		Raytheon Signetics	29621 PLS157	(3209, 3213)	
	Intel	8228			Maxim	DG509A MAX359 MAX369			LinearTech	LF155 LT1022 LT1055 LT1056		LF353	TI	LF351 LF353		
INS8250	Lansdale National	SL8250 INS8250A		LF12333	PMI	MUX24 DG509A			MicroPwr National	MP155 LF353 LF411			AD	AD381	(2428, 2462)	
INS8250A	Raytheon Signetics	RM8250 S8250			Siliconix National	LF11333 LF13333				OP15 MP155 LF353				AD544	(2427, 2462)	
	Lansdale	SL8250		• LF12508	PMI	SW06				LM110 LM210 LM310			Burr-Brown	OPA606	(2540, 2543)	
INS8251	National Raytheon Signetics	INS8250 RM8250 S8250		• LF12508	Burr-Brown Datel	MPC8S MUX808 MX808	(2600)		NEC PMI	μPC811 OP15 OP215			LinearTech	LF155 LT1022 LT1055 LT1056		
	AMD	8251		• LF12508	GE/Intersil	ICL6108 IH6108	(2670)			OP215				OP15		
	Intel	P8251		• LF12508	Harris Maxim	HI508 DG508A MAX358 MAX368				OP42 OP43 PM155			MicroPwr National	MP155 LF155 LF411		
	NEC	μPD8251A		• LF12508		MP7508DI	(2970)		SGS-Thomson	LF155 LF353 LF411				LM110 LM210 LM310		
INS8253	OKI	MSM82C51			MicroPwr	LF11508 LF13508		LF155A	TI	LF155A PM155A LF411			NEC PMI	μPC811 OP15 OP215		
	S-MOS	SMC82C51AC		• LF12508	National	DMX88 MUX08 MUX88		LF156	LinearTech PMI	AD544	(2427, 2462)			OP42 OP43 PM155		
INS8259	SMC	COM8251A	(3339)	• LF12508	Siliconix	DG508A			Burr-Brown	OPA156A	(2540, 2542)					
	Toshiba	TMP8251	(3339)	• LF12509	TeledyneP	TP4554				LF156 TL081 AD544	(2427, 2462)					
	Intel	8253		• LF12509	GE/Intersil	ICL6109 IH6208	(2670)		LinearTech	LF156 LF156A MP156		LF355	SGS-Thomson	LF155 LF353 LF411		
	NEC	μPD8253			Harris Maxim	HI509 DG509A MAX359 MAX369			MicroPwr National	LF156A OPA101 OP16 OP43 PM156 PM156A			LinearTech Motorola PMI	LF355 LF355 OP15 OP43 PM355	(2953)	
	Calmos	CA82C59A		• LF12509	MicroPwr	MP7509DI				SGS-Thomson						
	Fujitsu	MBL8259	(2635)	• LF12509	National	LF11509 LF13509				LF156 TL081 AD544	(2427, 2462)	LF355A	SGS-Thomson	LF355A LF355A PM355A		
	Harris	CP82C59A			PMI	MUX24 DG509A			TI	OP16 OP43 PM156A		LF356	LinearTech Motorola NEC	LF356 LF356 μPC356 μPC813	(2953)	
	Intel	82C59A		• LF12509	Siliconix AD	DG509A ADG201	(2450, 2461, 2470)	LF156A	Burr-Brown	OPA156A	(2540, 2542)			PMI	OP16 PM356	
	MicronTech	MT8259			GE/Intersil	DG201 DG201A IH201			LinearTech	LF156 LF156A MP156						
	Mitsubishi	M5M82C59 M5M82C59AP M5M8259AP		• LF12509	Harris Maxim	HI201 DG201A MAX331			MicroPwr National	LF156 OP16 OP43 PM156 PM156A		LF356A	SGS-Thomson	LF356 LF356A OP16 PM356A	(2540, 2542)	
	NEC	μPD71059 μPD71059C μPD8259A			MicroPwr National	MP201 SW201 DG201A TSC4201 TSC4202			PMI							
	OKI	MSM82C59A			Siliconix											
	S-MOS	SMC82C59AC			GE/Intersil											
	Samsung	KS82C59A	(3339)													
	Toshiba	TMP82C59 TMP8259	(3339)													
	Unicorn	UC82C59A														
	UMC	UM8259A														
	VLSI Tech	VL82C59A														
ISP8A/600	Signetics	ISP8A/600														
JAN101A	National	DM54AS74														
	SiliconG	JAN101A														
	TI	SN54AS74														
LF11201	AD	ADG201	(2450, 2461, 2470)													
	GE/Intersil	DG201 DG201A IH201														
			(Continued)													

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				LF442	SGS-Thomson	TL062		LH0052	GE/RCA	CA3140	(Cont'd) (2647, 2657)	LM104	SGS-Thomson	LM104	
LF357	Motorola	LF357	(2953)		TI	TL062				CA3160		LM105	SiliconG	SG104	
	NEC	μPC357		LH0002	Toshiba	TA75062			PMI	OP41			GE/Intersil	LM105	
	PMI	OP17			Elantec	ELH0002		LH0062	AD	AD528	(2470)		National	μA105	
LF398	LinearTech	PM357				EL2002		LH0063	Maxim	LH0063		LM106	SiliconG	LM105	
	National	LF398			Harris	HA5002	(2765)	LH0101	Apex	PA02	(2480)		TI	LM106	
	PMI	LM298			LinearTech	HY0002			Burr-Brown	PA07	(2480)	LM107	AD	AD741S	(2427, 2462)
	Signetics	SMP10			Micra	LT1010				3571			Burr-Brown	3500	
		LF398				MC0002				3572			LinearTech	LM107	
		NE5537			OEI	MC0021				ELH0101			National	LH741A	
LF411	TI	LF398		LH0003	TeledyneC	LH0002		LH2101	GE/Intersil	LH2101	(3024)		PMI	OP02	
	AD	AD381	(2428, 2462)	LH0004	Micra	MC0003		LH2108	GE/Intersil	LH2108				OP77	
		AD544	(2427, 2462)	LH0021	Elantec	ELH0021			LinearTech	LH2108			Raytheon	RC741	(3024)
		OPA606	(2540, 2543)	LH0022	AD	AD506	(2462, 2470)		PMI	PM2108			SGS-Thomson	LM107	
	Burr-Brown					AD542	(2427, 2462)	LH2108A	GE/Intersil	LH2108A		LM108	SiliconG	SG107	
	LinearTech	LF155			National	LH740A			PMI	PM2108A			TI	SN74154	
		LT1022				LM0052		LH2110	GE/Intersil	LH2110	(3025)		AD	AD108	(2470)
		LT1055			PMI	OP41		LH2208A	GE/Intersil	LH2208A			GE/Intersil	LM108	
		LT1056				OP43			MicroPwr	MP2208A			LinearTech	LM108	
		OP15			TeledyneP	TP1424		LH2308	GE/Intersil	LH2308			MicroPwr	MP108	
	MicroPwr	MP155				TP1425		LH2308A	GE/Intersil	LH2308A			National	LM108	(2952)
	National	LF155		LH0024	Micra	MC0024		LH2310	GE/Intersil	LH2310			Motorola	μA108	
		LF353		LH0032	AD	ADLH0032	(2428, 2461)	LH2311	GE/Intersil	LH2311			National	μA208	
		LM110				HOS050	(2428, 2461)	LH740A	AD	AD506	(2462, 2470)		PMI	OP97	
		LM210				HOS060	(2428, 2461)			AD542	(2427, 2462)			PM1008	
		LM310				MOS050			National	LH0022		LM109	SiliconSys	SSI108	
	NEC	μPC811				SP2542			PMI	LM0052			TI	LM208	
	PMI	OP15			DataLinear	ELH0032				OP41			IPS	IP140-5	
		OP215			Elantec	HA2542	(2763)			OP43			Motorola	LM109	(2959)
		OP42			Harris	MC0032			TeledyneP	TP1424			National	μA109	
		OP43			Micra	LH0032		LH741A	AD	AD741S	(2427, 2462)		SGS-Thomson	LM109	
		PM155			TeledyneC	TP0032				3500		LM11	SiliconG	SFC2109	
	SGS-Thomson	LF155		LH0033	AD	ADLH0033	(2429, 2461)		Burr-Brown	LM107			LinearTech	SG109	
	TI	LF353				HOS100	(2429)		LinearTech	LM107		LM110	Motorola	LM11	(2953)
LF411C	TI	LF411C				OPA633	(2542, 2544)		National	OP02			AD	AD381	(2428, 2462)
LF412	Fujitsu	MB3607			Burr-Brown				PMI	OP77				AD544	(2427, 2462)
	GE/RCA	CA1458	(2647)		Elantec	ELH0033			Raytheon	RC741	(3024)		Burr-Brown	OPA606	(2540, 2543)
	Harris	HA21458				ELH2005			SGS-Thomson	LM107			LinearTech	LF155	
		HA5102				EL2004				SG107				LT1022	
	MicroPwr	MP0P14				EL2005				SN74154				LT1055	
	Motorola	MC1458	(2954, 2989)			EL2033			SiliconG	DG211	(2671)			LT1056	
		μA1458HC				ELH0033			TI	DG211				OP15	
	NEC	μPC1458				MAX460			Siliconix	DG308A				MP155	
		μPC251				MAX460				TSC4201			MicroPwr	LF155	
	PMI	OP14				MC0033			TeledyneS	ALD1502			National	LF353	
		OP215				MP0033			AdvLinear	ALD1504				LF411	
		OP270				MP0033C				ALD555				LM210	
	Raytheon	RC2041				MP2004				ALD555-1				LM310	
	Samsung	MC1458	(3039)			AH001				ICM7555			NEC	μPC811	
	SGS-Thomson	μA1458				LH0033			Sprague	VI7660	(2600)		PMI	OP15	
		MC1458				TP1359			Datel	LTC1044				OP215	
		NE5512				ELH0041			LinearTech	ICL7660				OP42	
		SA1458				MC0041			Maxim	SI7660				OP43	
		SE5512				AD0042			Siliconix	TSC7660				PM155	
		LF412				AD503	(2470)		TeledyneS	AD506	(2462, 2470)		SGS-Thomson	LF155	
	TI	TA75458		LH0041	GE/Intersil	AD503				AD542	(2427, 2462)	LM111	AD	AD111	(2470)
	Toshiba	TA75558				LH0042			National	LH0022			LinearTech	LM111	
		LF4126				OP41			PMI	LH740A			Motorola	LM111	(2958)
LF4126	TI	LF4126				AD0P07	(2427, 2429, 2462)			OP43			National	μA111	
LF441	GE/Intersil	ICL7611	(2673, 2675)			AD707	(2427, 2429)		TeledyneP	TP1424			PMI	PM111	
		ICL8021	(2675)			ICL8008				TP1425			Raytheon	LM111	(3025)
		LM4250				OP07			LinearTech	LM10			SGS-Thomson	LM111	
		HA2720				CA201	(2647)		MCE	MCELM10				LM111	
		HA2725				CA301		LM101	AD	AD101	(2470)			SG111	
		ICL7611				CA307	(2647)		GE/Intersil	AD101				TL111	
	Maxim	MC1776	(2953, 2989)			CA3193	(2647)		LinearTech	LM101		LM112	LinearTech	LT1012	
	Motorola	MC1776	(2953)			CA3493	(2647)		Motorola	μA101	(2952)		MicroPwr	MP0P12	
		μA776				μA207			National	OP77			National	LM212	
		LM4250				OP06			PMI	OP77				LM312	
	NEC	μPC4250				OP77				LM101	(3024)		PMI	OP12	
		μPC812				LM201			SGS-Thomson	LM101				OP97	
	PMI	OP20				RC725	(3024)			LS101				PM1012	
		OP22				RM714				SG101			TI	LT1012	
		OP43				RM725				LM101A		LM113	AD	AD589	(2426, 2462)
	SGS-Thomson	μA776				AD547	(2427, 2429, 2462)			SGS-Thomson				ICL8069	(2677)
		MC1776				OPA121	(2541)			TSC103-1.8			GE/Intersil	LT1004	
		UC4250											LinearTech		
	Solitron	TLC251													
	TI	TLC271													
		TL061													

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				LM137	IPS LinearTech	IP137 LM137 LT137		LM1436	National SiliconG	LM343 SG1436 SG343	(Cont'd)	LM1524	National SGS-Thomson	μA1524	(Cont'd)
LM113	Maxim MicroPwr National Plessey	ICL8069 MP5010 LM313 ZN404 ZN423	(Cont'd)		MCE Motorola SGS-Thomson	MCELM137 LM137 (2962)		LM1458	TeledyneP Exar	TP1332 XR1458 XR4558 (2619) CA1558 (2647) GL4558 (2714)			SiliconG	SG1524 SG1524A UC1524A	
	TeledyneS	TSC04 TSC05 TSC9491 LT1004		LM138	Unitrode IPS	LM137 SG137 SG137A UC137 IP138			Hitachi	HA17458 HA17558		LM1536	Harris Motorola National SiliconG	HA2640 MC1536 (2954) LM143 SG143 SG1536	
LM117	TI IPS	LT1107 IP117			Lambda LinearTech	LLM138 LM138			Motorola	MC1558 (2955) MC4558 (2955, 2990)			Exar	XR1458 XR4558 (2619) CA1558 (2647) GL4558 (2714)	
	Lambda LinearTech	LLM117 LM117		LM139	GE/RCA Motorola	CA139 (2648) LM139 (2958)			National	SE4558 μA1458 μA4558 LM1558		LM1558	GE/RCA GoldStar	HA17458 HA17558 MC1558 (2955) MC4558 (2955, 2990)	
	MCE	MCELM117			National PMI	CMPO4 PM139			NEC	μPC1458 μPC4558			Hitachi	HA17458 HA17558 MC1558 (2955) MC4558 (2955, 2990)	
	Motorola	LM117 (2962)			Raytheon	LM139 (3025)			PMI	OP14 OP270 RC1458 RC4558	(3024)		Raytheon	RC1458 RC4558 RM1558 RM4558 (3024) MC4558 (3039)	
	National	μA117			Signetics	LM139			SGS-Thomson	LS4558 MC4558 MC1458 MC1558 NE4558 SA4558 SE4558 MC1458 MC1558 MC4558C RC4558 RV4558 TL4558 TA75458 TA75558			Signetics	LS4558 MC4558 MC1458 MC1558 NE4558 SA4558 SE4558 MC1458 MC1558 MC4558C RC4558 RV4558 TL4558 TA75458 TA75558	
	SGS-Thomson	LM117		LM139A	GE/RCA Motorola	CA139A (2648) LM139A (2958)			TI	TA75458 TA75558			TI	MC1458 MC1558 MC4558C RC4558 RV4558 TL4558 TA75458 TA75558	
	SiliconG	SG117			PMI	CMPO4 PM139A			Exar	XR146 (2619)			Adv Analog	A158 CA158A (2647)	
	TI	TL117			Signetics	LM339 LM139A			National Raytheon	LM140 LM140-05 LM140-06 LM140-08 LM140-12			GE/RCA LinearTech	LT1013 MAX158 LM158 (2955)	
LM117A	LinearTech	LT117A	(2962)		Motorola	MC1391 (2951) CA139A (2656, 2659) CA1391 (2656, 2659)			Harris	HA4741 LT1014 MP0P11		LM158A	Maxim Motorola PMI	OP200 OP221 RM4139 LM158 LM158 LT1013	
	Motorola	SG117A			TI	LM339 LM139A			LinearTech	LT1014 MP0P11			Raytheon	RM4139 LM158 LM158 LT1013	
LM118	SiliconG	LM118			IPS	IP140-12	(2960)		MicroPwr	LM148 (2957) LM248 (2956) MC33174 (2957, 2990) MC4741 (2956, 2990)			Signetics	MC1596 μA796 SG1596 μA760 CMPO5	(2973)
	PMI	OP42		LM140-05	Exar	SG140-05			Motorola	LM148 (2957) LM248 (2956) MC33174 (2957, 2990) MC4741 (2956, 2990)		LM1596	National SiliconG	DS1611 DS1612 DS1613 DS1614	
LM119	LinearTech	LM119		LM140-06	SiliconG	SG140-06			TI	LM148 LM148		LM160	National PMI	DS1611 DS1612 DS1613 DS1614	
	PMI	PM119		LM140-08	SiliconG	SG140-08			Raytheon	HA14741 HA34741 HA4741 LM148 RM4158 LM148	(3025)	LM1611	National	DS1611 DS1612 DS1613 DS1614	
	Signetics	LM119		LM140-12	IPS	IP140-12			NEC	SL1496 MC1496		LM1612	National	DS1611 DS1612 DS1613 DS1614	
LM120	IPS	IP120-5 IP320-5		LM140-12	Motorola	LM140-12 (2960)			PMI	OP11 OP400 OP421 OP470 PM148 PM248		LM1613	National	DS1611 DS1612 DS1613 DS1614	
	National	μA79M05 LM320-05 LM79M05		LM140-15	Unitrode IPS	SG140-12 IP140-15			Raytheon	HA14741 HA34741 HA4741 LM148 RM4158 LM148		LM1614	National	DS1611 DS1612 DS1613 DS1614	
	SiliconG	SG120-5 SG320-05 SH12005			Motorola	LM140-15 (2960)			TI	SL1496 MC1496		LM163	National	AD521 AD624	(2431, 2462) (2431, 2462) (2545)
	Unitrode	UC320-05		LM140-18	SiliconG	SG140-18			NEC	SL1496 MC1496			Burr-Brown	INA110 DS1603 LM148 AMP05 LM148	
LM120-05	National	LM220-05 LM220-05		LM140-20	SiliconG	SG140-20			PMI	OP11 OP400 OP421 OP470 PM148 PM248		LM1709	Motorola	MC1709 (2952)	
	SiliconG	SG120-05 SG220-05 SG120-08		LM140-24	SiliconG	SG140-24			Raytheon	HA14741 HA34741 HA4741 LM148 RM4158 LM148			National	μPC555 OP06 μA709 μ709	
LM120-08	SiliconG	SG120-08			Toshiba	TA79005 ADDAC-08			TI	SL1496 MC1496			NEC	μPC555 OP06 μA709 μ709	
LM120-12	IPS	IP120-12		LM1408	AD	AD1408 (2471)			LinearTech	LT1014 MP0P11		LM1800	GoldStar	GL1310 (2711) μA705	
	SiliconG	SG120-12			Datel	DAC1C8B (2596) DAC18BC (2596) DAC08B (2596)			MicroPwr	LM148 (2957) LM248 (2956) MC33174 (2957, 2990) MC4741 (2956, 2990)			National	μA705	
LM120-15	IPS	IP120-15		LM1408	Hitachi	HA17008 HA17408			Motorola	LM148 (2957) LM248 (2956) MC33174 (2957, 2990) MC4741 (2956, 2990)					
	SiliconG	SG120-15			Motorola	DAC08 (2971, 2989) DAC08 (2971)			National	μA148 μA248 μPC4741					
LM120-18	Unitrode	UC120-15		LM1408	National	μA0801 μA0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M			NEC	OP11 OP400 OP421 OP470 PM148 PM248					
LM120-20	SiliconG	SG120-18			Hitachi	HA17008 HA17408			PMI	OP11 OP400 OP421 OP470 PM148 PM248					
LM120-5.2	SiliconG	SG120-5.2		LM1408	Motorola	DAC08 (2971, 2989) DAC08 (2971)			Raytheon	HA14741 HA34741 HA4741 LM148 RM4158 LM148					
LM123	IPS	IP123			National	μA0801 μA0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M			TI	SL1496 MC1496					
	Lambda	LA51405		LM1408	NEC	μPC624 DAC1408 DAC1508	(3017)		Motorola	LM148 (2957) LM248 (2956) MC33174 (2957, 2990) MC4741 (2956, 2990)					
	LinearTech	LM123			Hitachi	HA17008 HA17408			TI	SL1496 MC1496					
	Motorola	LM123 (2960) MC78T05 (2959)		LM1408	Motorola	DAC08 (2971, 2989) DAC08 (2971)			Raytheon	HA14741 HA34741 HA4741 LM148 RM4158 LM148					
	National	μA123 μA138 SH123			National	μA0801 μA0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M			TI	SL1496 MC1496					
	SiliconG	SG123 SG123A		LM1408	NEC	μPC624 DAC1408 DAC1508	(3017)		Motorola	LM148 (2957) LM248 (2956) MC33174 (2957, 2990) MC4741 (2956, 2990)					
LM124A	GE/RCA	CA124 (2647)			Hitachi	HA17008 HA17408			TI	SL1496 MC1496					
	LinearTech	LT1014		LM1408	Motorola	DAC08 (2971, 2989) DAC08 (2971)			Raytheon	HA14741 HA34741 HA4741 LM148 RM4158 LM148					
	National	μA124 OP400			National	μA0801 μA0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M			TI	SL1496 MC1496					
	PMI	OP421 SG124		LM1408	NEC	μPC624 DAC1408 DAC1508	(3017)		Motorola	LM148 (2957) LM248 (2956) MC33174 (2957, 2990) MC4741 (2956, 2990)					
	SiliconG	LM124			Hitachi	HA17008 HA17408			TI	SL1496 MC1496					
LM129	LinearTech	LM129		LM1408	Raytheon	DAC08 (3025)			Raytheon	HA14741 HA34741 HA4741 LM148 RM4158 LM148					
LM1303	Exar	XR4739 (2619)			Samsung	KDA0800 KDA0801 KDA0802 KDA0806 KDA0807 KDA0808			TI	SL1496 MC1496					
	National	μA739 μA749			Signetics	DAC08 MC1408 MC1414			Motorola	LM148 (2957) LM248 (2956) MC33174 (2957, 2990) MC4741 (2956, 2990)					
	Raytheon	RC4739		LM1414	Motorola	HA2640 MC1536 (2954)			Unitrode	UC150 MC1514					
	SGS-Thomson	TBA231 SN76131 SN76149		LM143	Harris	HA2640 MC1536 (2954)			Motorola	CS1524 XR1524 (2619)					
LM1310	Exar	XR1310			National	SG143 SG1536			TI	TL514M					
LM133	LinearTech	LT1033		LM1436	Harris	HA2645 MC1436 (2953, 2989)			LinearTech	LT1524 SG1524					
LM134	National	LM333			Motorola	MC1436 (2953, 2989)									
LM136	LinearTech	LM136			Motorola	MC1436 (2953, 2989)									
	PMI	REF43 (3012)			Motorola	MC1436 (2953, 2989)									
LM13600	Exar	XR13600	(Continued)		Motorola	MC1436 (2953, 2989)									

• Discontinued

The manufacturers report their devices can be used as direct replacements.
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VALI. SOURCE DIRECTORY

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				LM301A	National	(Cont'd)		LM308A	Motorola	LM308A	(2952, 2989)	LM317	LinearTech	LM317	(Cont'd)
LM2902	Raytheon	LM2902	(Cont'd)		NEC	μ A301A			National	μ A308A			MCE	MCELM317	
	SGS-Thomson	LM2902			PMI	μ PC301		LM3086	PMI	PM308A	(2650)		Motorola	LM317	(2962, 2989)
	TI	LM2902			Raytheon	μ PC301A	(3024)		GE/RCA	CA3086			National	μ A317	
		LM324			SGS-Thomson	OP77			Sanyo	LA3086			NEC	μ PC317	
LM2903	Toshiba	TA75902				LM301			SGS-Thomson	SFC2086			SGS-Thomson	LM317	
	AD	AD311	(2470)		SiliconG	LM301A				SG3086				TDB0117	
	GE/RCA	CA311	(2648)		TI	SG301		LM309	Sprague	SG3886	(2959)		SiliconG	SG317	
		LM311				μ A301			Motorola	ULN2086			TI	LM317	
	LinearTech	LM311				LM301A			National	μ A309		LM317M	Unitrode	UC317	
	Motorola	LM2903	(2958, 2989)			TA7506			Plessey	ZN447			Motorola	LM317M	(2962, 2989)
		LM311	(2958, 2989)	LM3011	GE/RCA	CA3011	(2657)		SiliconG	SG309		LM318	AD	AD518	(2462, 2470)
		LM311		LM3018	Motorola	MC1590			SiliconSys	SSI6050					
	National	μ A311			GE/RCA	CA3018	(2650)	LM310	AD	AD381	(2428, 2462)		GoldStar	GL317	(2714)
	NEC	μ PC311			SGS-Thomson	SFC2018				AD544	(2427, 2462)		LinearTech	LM318	
	PMI	PM211		LM3019	GE/RCA	CA3019	(2649)		Burr-Brown	OPA606	(2540, 2543)		NEC	μ PC317	
	Raytheon	LM311		LM304	SGS-Thomson	LM304			LinearTech	LF155			PMI	μ PC318	
	SGS-Thomson	LM2903				SG304				LT1022				OP42	
		LM311		LM3045	SiliconG	LA3045				LT1055			SGS-Thomson	OP421	
	Signetics	LM2903			National	SGS-Thomson				LT1056				LM318	
		LM311			Sanyo	OP15			MicroPwr	MP155			Signetics	NE530	
	SiliconG	SG311			SGS-Thomson	LM3045			National	LF155				NE538	
	TI	LM2903		LM3046	Sprague	ULS2045				LF353				SE530	
		LM311			GE/RCA	CA3046	(2650)			LF411				SE531	
		LM311				CA3146	(2650)			LM110				SE538	
	Toshiba	TA75393	(2647)		Motorola	MC3346	(2951, 2990)			LM210		LM319	TI	LM318	
	GE/RCA	CA2904	(2955, 2989)						NEC	μ PC811			National	LM219	
	Motorola	LM2904			National	μ A3046			PMI	OP15			NEC	μ PC319	
					Plessey	SL3046				OP215			PMI	PM219	
	SGS-Thomson	LM2904				SL3086				OP42				PM319	
	TI	LM2904				SL3146				OP43			SGS-Thomson	LM219	
	Toshiba	TA75358				LA3046			SGS-Thomson	PM155			Signetics	LM219	
LM2907	Cherry Semi	CS2907-D14				CA3046				LF155		LM320-05	Signetics	IP120-5	
LM2917	Cherry Semi	CS2917				LM3046			TI	LF353			IPS	IP320-5	
	Exar	XR2917				SFC2046				LF411			National	μ A79M05	
LM293	Motorola	LM293	(2958, 2989)			TBA331		LM311	AD	AD311	(2470)			LM120	
						SG3046			GE/RCA	CA311	(2648)		SiliconG	LM79M05	
	Signetics	LM293			SiliconG	SG3146			LinearTech	LM311				SG120-5	
	TI	LM293				SG3821			Motorola	LM2903	(2958, 2989)	LM320-08	Unitrode	SG320-05	
LM2930	SGS-Thomson	LM2930				ULN2046				LM311	(2958, 2989)	LM320-12	SiliconG	SG320-08	
LM2930A	SGS-Thomson	LM2930A		LM305	Sprague	CA305				LM311	(2958, 2989)		Unitrode	UC320-12	
LM2931	SGS-Thomson	LM2931			National	ZNREF025			National	μ A311		LM320-15	GoldStar	GL7915	(2714)
LM2931A	SGS-Thomson	LM2931A			SiliconG	SG305				LM2903			IPS	IP320-15	
LM2935	SGS-Thomson	LM2935		LM305A	SiliconSys	SSI6505			NEC	PM211			Motorola	MC7915	(2961)
				LM3054	SiliconG	SG305A	(2649, 2655)		PMI	PM211			National	LM320T15	
LM298	LinearTech	LF398			Matra-Harris	HC3054			Raytheon	LM311				LM7915	
	National	LF398			Motorola	CA3054	(2951)		SGS-Thomson	LM2903			NEC	μ PC7915	
	PMI	SMP10			National	μ A3054				LM2903			Samsung	MC7915	
	Signetics	LF398				TP3054				LM311			SGS-Thomson	μ A7915	
		NE5537			SGS-Thomson	SFC2054			Signetics	LM2903				LM7915	
	TI	LF398				ULN2054				LM311				SG320-15	
	AD	AD301			Sprague	ULN3054			SiliconG	SG311				SG7915	
	GE/Intersil	AD301		LM306	TI	LM306			TI	LM2903				SG7915A	
	GE/RCA	CA301A	(2647)	LM3064	GE/RCA	CA3065	(2658)			LM311				μ A7915	
		LM301			GoldStar	GL3201	(2711)	LM312	Toshiba	TA75393			TI	TA79015	
	LinearTech	LM301A			Hitachi	HA1125			LinearTech	LT1012			Toshiba	UC320-15	
		LM301A			Motorola	LSC1008			MicroPwr	MPO12			Unitrode	UC7915	
	Motorola	LM301	(2952, 2989)		NEC	μ PC1382			National	LM112				UC7915	
					TI	SN76666				LM212				UC7915	
	National	μ A301			TI	SN76266			PMI	OP12				UC7915	
		μ A301A				LM307				OP97				UC7915	
		LM301A				LM307				PM1012		LM320-18	SiliconG	SG320-18	
	NEC	μ PC301			LinearTech	ZNREF100			TI	LT1012		LM320-20	SiliconG	SG320-20	
		μ PC301A			PMI	OP02				OP12		LM320-5.2	SiliconG	SG320-5.2	
	PMI	OP77				OP77		LM3126	GE/RCA	CA3126	(2655, 2658)	LM320MP12	GoldStar	GL7912	(2714)
	Raytheon	LM301	(3024)		SiliconG	SG307				LM1829			IPS	IP320-12	
	SGS-Thomson	LM301			TI	LM307			National	AD589	(2426, 2462)			IP7912	
		LM301A				SN76675			AD		(2677)		Motorola	MC7912	(2960)
		LM301A				AD308	(2470)			ICL8069			National	μ A79M12	
		LM301A			Burr-Brown	3500			LinearTech	LT1004				μ A79M12M	
		LM301A				3501			Maxim	ICL8069				μ A7912	
		LM301A			GE/Intersil	AD308			MicroPwr	MP5010				LM79M12	
		LM301A				LM308				LM113				LM7912	
	Toshiba	TA7506			Motorola	LM308	(2952, 2989)		National	LM113				LM7912	
	AD	AD301							Plessey	ZN404			NEC	μ PC7912	
	GE/Intersil	AD301				μ A308				ZN423			Samsung	MC7912	
	GE/RCA	CA301A	(2647)		National	OP97				TSC04			SGS-Thomson	μ A7912	
		LM301			PMI	PM1008			TeledyneS	TSC05				L7912	
		LM301				PM1012				TSC9491				SG320P-12	
	LinearTech	LM301A				PM308				LT1004			SiliconG	SG7912	
		LM301A				LM308				GL317	(2714)			SG7912A	
	Motorola	LM301	(2952, 2989)		Raytheon	AD308A	(2470)	LM317	GoldStar	IP317			TI	μ A79M12M	
					AD	LM308A			IPS	LLM317				μ A7912	
	National	μ A301			LinearTech	LM308A			Lambda						

* Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				LM3302 (Cont'd)				LM340-12 (Cont'd)				LM3401 (Cont'd)			
LM320MP12		(Cont'd)		LM3302	SGS-Thomson	LM2901	(Cont'd)	LM340-12	SiliconG	SG7812A	(Cont'd)	LM3401	TI	LM3900	(Cont'd)
	Toshiba	TA78024			Signetics	MC3302			TI	SG7812AT		LM341-12	Motorola	MC78M12	(2960, 2990)
LM320T15	GoldStar	GL7915	(2714)		SiliconG	LM2901		LM340-15	Toshiba	TA78012	(2714)		National	μA78M12	
	IPS	IP320-15			TI	MC3302			Unitrode	UC340-12				LM342-12	
		IP7915				SG324A				UC7812			NEC	μPC78M12	
	Motorola	MC7915	(2961)			LM2901			GoldStar	GL7815			Samsung	MC78M12	
	National	μA7915		LM331	Toshiba	LM3302			IPS	IP140-15			Sanyo	L78M12	
		LM320-15			National	TA75339				IP340-15			SGS-Thomson	L78M12	
		LM7915				LM231				IP7815				L78M12CV	
	NEC	μPC7915				LM231A			Lambda	IP7815AC			TI	μA78M12	
	Samsung	MC7915			TeledyneP	LM331A			Motorola	LAS1515	(2960)		Toshiba	TA78M12	
	SGS-Thomson	μA7915		LM331A	TeledyneS	TP4781			National	LM340-15	(2961)	LM341-15	Motorola	MC78M15	(2961, 2990)
		L7915				TSC9401				μA7815			National	μA78M15	
	SiliconG	SG320-15				LM231			NEC	μPC7815				LM342-15	
		SG7915				LM231A			Samsung	MC7815			NEC	μPC78M15	
		SG7915A				LM331			SGS-Thomson	μA7815			Samsung	MC78M15	
	TI	μA7915		LM333	TeledyneP	TP4781				SG7815			Sanyo	L78M15	
	Toshiba	TA79015			TeledyneS	TSC9401			SiliconG	SG340-15			SGS-Thomson	L78M15	
	Unitrode	UC79015		LM334	LinearTech	LT1033				SG7815				L78M15CV	
LM323	IPS	IP123-5		LM336	National	LM133			TI	μA7815			TI	μA78M15	
		IP323				LM334				LM340-15			Toshiba	TA78M15	
	Lambda	LAS1405		LM336-2.5	LinearTech	LM336			Toshiba	TA78015			Motorola	MC78M05	(2990)
	LinearTech	LM323				REF03			Unitrode	UC340-15			National	μA78M05	
		LT323			Motorola	LM336-2.5				UC7815				LM342-05	
	Micropac	M78H05			National	LM385-2.5			SiliconG	SG340-18			NEC	μPC78M05	
	Motorola	LM323	(2960)		Plessey	REF25			TI	LM340-18			Samsung	MC78M05	
	National	μA323		LM336-5.0	TeledyneS	TSC05				LM340-20			Sanyo	L78M05	
		μA78H05		LM337	TI	LM385-2.5			LM340-20	SG340-20	(2960)		SGS-Thomson	L78M05	
		SH0323			Plessey	REF50			SiliconG	LM340-24				L78M05CV	
		SH323			IPS	IP337				SG340-24			SiliconG	SG14005	
	SGS-Thomson				LinearTech	LM337			LM340-5	GoldStar	(2714)		TI	SG7805AT	
		LM323			MCE	MC7815	(2962)		IPS	IP7805				μA78M05	
	SiliconG	SG323			Motorola	LM337			Motorola	MC7805	(2959)			LM341-5	
LM323A	SiliconG	SG323A			SGS-Thomson	LM337			National	μA7805			Motorola	MC78M05	(2990)
LM324	Exar	XR3403	(2619)			LM337			NEC	μPC7805			TI	TA78M05	
		XR3503				SG337A			Samsung	MC7805			Toshiba	MC78M05	
	Fujitsu	MB3614			TI	LM337			SGS-Thomson	μA7805			National	LM341-5	
	GE/RCA	CA224	(2647)		Unitrode	UC337				L7805				LM78M05	
		CA324	(2647, 2653, 2658)	LM337HV	SiliconG	SG337HV			SiliconG	SG7805			NEC	μPC78M05	
		LM324	(2647)	LM338	IPS	IP338				SG7805A			Samsung	MC78M05	
	Hitachi	HA17324			Lambda	LLM338			TI	μA7805			Sanyo	L78M05	
	Motorola	LM324	(2956, 2989)		LinearTech	LM338			Toshiba	TA78005			SGS-Thomson	L78M05	
		MC33174	(2957, 2990)			LT338			Unitrode	UC7805	(2960, 2990)			L78M05CV	
					Micropac	MLM338				LM340LA-12			SiliconG	SG14005	
	National	μA324			National	μA338			National	μA78L12				SG14012	
		μA3403		LM339	SiliconG	SG338				LM78L12			TI	SG7805AT	
	NEC	μPC3403			Fujitsu	MB4204				μPC78L12			Toshiba	TA78M05	
	PMI	OP400			GE/RCA	CA339	(2648, 2653)			TA78L012			Motorola	MC78M12	(2960, 2990)
		OP421				CA339A	(2648, 2653)			TA78L015	(2961, 2990)			μA78M12	
	Raytheon	HA14741				LM339				μA78L15			National	LM341-12	
		LM248			GoldStar	GL339	(2714)			LM340T-15				LM78M12	
		LM348	(3025)		Motorola	LM339	(2958, 2989)			LM78L15			NEC	μPC78M12	
	Samsung	LM324	(3039)			μA339			NEC	μPC78L15			Samsung	MC78M12	
	SGS-Thomson				National	μPC137			TI	μA78L15			Sanyo	L78M12	
		LM324			PMI	μPC177				μA78L15			SGS-Thomson	L78M12	
	Signetics	MC3403				μPC339				TA78L015				L78M12CV	
LM324A	SiliconG	SG324	(3039)			CMP04				LM340LA-5	(2990)		TI	μA78M12	
	Samsung	LM324A				PM139				LM340T-15			Motorola	MC78M15	(2961, 2990)
	SGS-Thomson					PM339				TA78L005				μA78M15	
		LM324A			Raytheon	PM339A	(3025)			μA78L05				LM78M15	
LM329	TI	LM324A			SGS-Thomson	LM339				LM78L05A				L78M15CV	
LM3301	LinearTech	LM329				LM339				LM78L05				μA78M12	
	Hitachi	HA17301			TI	TA75339				μPC78L05			National	μA78M15	
	Motorola	LM2900	(2957)		Toshiba	SG340-04				μA78L05A				LM341-15	
		MC3301	(2957)		SiliconG	SG340-08				TA78L005			NEC	μPC78M15	
	National	LM2900				GL7812				μA78L15			Samsung	MC78M15	
	Raytheon	LM2900			GoldStar	IP140-12				LM340T-15	(2961, 2990)		Sanyo	L78M15	
		RC3301			IPS	IP340-12							SGS-Thomson	L78M15	
	TI	LM2900				IP7812								L78M15CV	
LM3302	Cypress	CY7C901	(2590)			IP7812AC							TI	μA78M15	
	IDT	IDT39C01				LM340-12	(2960)						Toshiba	TA78M15	
	Motorola	LM2901	(2958, 2989)			MC7812	(2960)						Harris	HA2645	(2953, 2989)
		MC3302	(2958)			μA7812								LM1436	
	National	μA2901				LM7812							National	SG1436	
		μA3302				μPC7812							SiliconG	SG343	
		LM2901			NEC	μPC7812								TP1332	
	PMI	CMP04			Samsung	MC7812							TeledyneP	LM346	
		PM139			SGS-Thomson	μA7812							SGS-Thomson	LM346	
		PM339				L7812									
	Raytheon	LM2901				SG340-12									
		RC3302				SG7812									
		(Continued)				(Continued)					(Continued)				(Continued)

+ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
LM348	Exar	XR4751		LM3611	Sprague	UDN3611		LM4250	NEC	μPC4250		LM555	NEC	μPC617	
	GE/Intersil	LM348		LM3612	National	DS3612			PMI	μPC812			Raytheon	μPD555	
	GoldStar	GL348			SiliconG	DS3632				OP20				RC555	
	Motorola	LM348	(2956, 2989)		Sprague	SG75472			SGS-Thomson	OP22			Samsung	NE555	(3039)
					TI	UDN3612				OP43			Sanyo	LB8555	
	National	μA348		LM3613	National	DS3613				μA776			SGS-Thomson	NE555	
	PMI	OP11			Sprague	UDN3613			Solitron	MC1776				NE555	
		PM248		LM3614	National	DS3614			TI	UC4250				SE555	
	TI	LM348			SiliconG	SG75474				TLC251				NE555	
LM350	IPS	IP350			Sprague	UDN3614		LM4500	Motorola	TL061				SE555	
	Lambda	LLM350		LM376	National	μA376			Siemens	TCA4500				SE555M	
	LinearTech	LM350		LM377	TI	SN76177			TI	TCA4500				TLC555	(3325)
		LT350		LM380	Sprague	ULN2280			VLSI Tech	VL4500A	(3298)	LM556	Toshiba	TA7555	
	Motorola	LM350	(2962)	LM381	Signetics	NE542		LM55107A	Motorola	MC55107			GoldStar	GLC556	(2713)
	National	μA350		LM382	Signetics	NE542			National	DS55107			NCR	NCR65C00-1	
		μA78HGA		LM383	National	LM2002			TI	SN55107A			NEC	μPC556	
	SiliconG	SG350				LM2002A				SN55107B			Rockwell	RC5C10	(3027)
	TI	LM350			Sprague	LM383A		LM55108A	Motorola	MC55108		LM565	AD	NE566	
	Unitrode	UC350				ULN3701			National	DS55108				AD565A	(2411, 2462)
• LM351	Motorola	MC75453		LM383A	National	ULN3702				55108				AD565J	(2411, 2462)
	National	μA75453				LM2002			TI	SN55108A					
		DS75453				LM2002A		LM5522	Motorola	MC5522			Harris	H1565A	
		LM75453				LM383				MC5523			Maxim	AD565A	
		75453			Sprague	ULN3701		LM5524	Motorola	MC5524			MCE	MCE565	
• LM351	SiliconG	SG75453				ULN3702			National	MC5524			MicroNet	MN565A	
		SG75453A		LM384	Sprague	ULN3784		LM5525	Motorola	MC5525			National	μA565	
		SG75453B		LM385	LinearTech	LM385			TI	SNJ5524			Signetics	SE565	
• LM351	TI	SN75453B			Maxim	ICL8069		LM5528	Motorola	MC5528				SE565	
LM3524	Cherry Semi	CS3524			MicroPwr	MP5010			National	MC5528		LM566	TeledyneP	TP565A	
	Exar	XR3524	(2619)		Motorola	LM385		LM5528	Motorola	MC5528			Signetics	NE566	
	GE/RCA	CA3524	(2651, 2657, 2659)		TeledyneS	TSC04			National	MC5528				SE566	
				LM385-1.2	GE/RCA	CD54AC00	(2642)	LM5529	GoldStar	GL5529	(2712)	LM567	Exar	XRL567	(2619)
	IPS	IP3524			LinearTech	LM385-1.2			Motorola	MC5529				XR2567	(2619)
		IP3524B			National	54AC00		LM5534	National	MC5529			GoldStar	GL567	
	LinearTech	LT3524			Plessey	REF12			Exar	XR5534			MCE	MCE567	
	SGS-Thomson				TeledyneS	TSC04			Motorola	MC5534			Samsung	LM567	(3040)
		SG3524			LinearTech	LM336-2.5			Raytheon	RC5534	(3024)		Signetics	NE567	(3040)
		UC3524A				LM385-2.5		LM5535	Motorola	MC5535				SE567	
	Signetics	SG3524			Motorola	LM385-2.5		LM5539	AD	AD5539	(2428, 2462)	LM709	Motorola	MC1709	(2952)
	SiliconG	SG3524			National	LM336-2.5			Motorola	MC5539			National	μA709	
		SG3524B			Plessey	REF25		• LM55450	Signetics	NE5539	(3141)			LM1709	
	Sprague	SG3524			TeledyneS	TSC05			National	μA5540			NEC	μPC55	
	TI	SG3524			TI	LM385-2.5		• LM55450	Signetics	55450			PMI	OP06	
	Toshiba	TA76524		LM386	MCE	MCE386			SiliconG	SG55450			TI	μA709	
	Unitrode	UC3524		LM387	Signetics	NE542		• LM55451		SG55450B		LM723	Fujitsu	MB3752	
		UC3524A		LM3900	GE/RCA	CA3401	(2647)			SNJ55450				MB723	
LM358	Fujitsu	MB47358			Motorola	MC3401	(2956, 2990)	• LM55451	National	SN55450			GE/Intersil	LM723	
	GE/RCA	CA358A	(2647, 2653)					• LM55451		DS55451			GE/RCA	CA723	(2651, 2657, 2659)
					National	LM3401		• LM55451	Signetics	55451				LM723	
	GoldStar	LM358	(2647)		Raytheon	LM3900	(3025)	• LM55451	SiliconG	SG55451			Hitachi	HA17723	
	Hitachi	HA17358				RC3401		• LM55451		SG55451B			Motorola	MC1723	(2962, 2989)
	Motorola	LM358	(2954, 2989)	LM393	TI	LM3900		• LM55451	TI	SNJ55451			National	μA723	
					GoldStar	GL393	(2714)	• LM55452		SN55451				μA723M	
	National	LM358A			Hitachi	HA17393		• LM55452	National	μA55452				RC723	
	NEC	μPC1251			Motorola	LM393	(2958, 2989)	• LM55452	Signetics	DS55452			Raytheon	RM723	
		μPC358						• LM55452	SiliconG	SG55452			Samsung	LM723	(3039)
	PMI	OP221			NEC	μPC393			TI	SNJ55452			SGS-Thomson	μA723	
	Sanyo	LA6358			Sanyo	μPC393C		• LM55453		55452				LM723	
	SGS-Thomson				SGS-Thomson	LA6393				SG55452				L123	
		LM358				LM393		LM55454	National	SNJ55452				SFC2723	
	Signetics	LM358				LM393		• LM55454		SN55452			Signetics	μA723	
		NE532			Signetics	LM393				DS55453			SiliconG	SG723	
	TI	LM348			Sprague	LM393		• LM55454	National	55453			TI	μA723	
		LM358			TI	LM393				55453				μA723M	
		TA75358			Toshiba	TA75393		• LM55454	Signetics	SG55453				μA725	
LM358A	Fujitsu	MB47358		LM394	MicroPwr	MPT02A			SiliconG	SNJ55453				OP06	
	GE/RCA	CA358A	(2647, 2653)		National	LM194		• LM55454		SN55453		LM725	National	μA725	
						LM3942				DS55454			PMI	OP06	
	GoldStar	GL358	(2647)		PMI	MAT02		• LM55454	National	SG55454				OP77	
	Hitachi	HA17358				LM194			Signetics	SG55454B			Adv Analog	A733	
	Motorola	LM358	(2954, 2989)			LM394			TI	SNJ55454		LM733	GE/Intersil	μA733	
					PMI	MAT02				SN55454				NE592-8	
	National	LM358			MLM396	LM399		LM555	Exar	XR555	(2619)			SE592	
	NEC	μPC1251		LM396	LinearTech	LM399				XR555M	(2619)			HA17733	
		μPC358		LM399	LinearTech	LM399A			GE/Intersil	NE555			Motorola	MC1733	(2953, 2989)
	PMI	OP221		LM399A						SE555				NE592	(2991)
	Sanyo	LA6358		LM4250	GE/Intersil	ICL7611	(2673, 2675)			CA555	(2656)			μA733	
	SGS-Thomson									GLC555	(2713)			NE592	
		LM358				ICL8021	(2675)			GL555	(2713)			SE592	
	Signetics	LM358				LM4250				HA17555				μA733	
		NE532				HA2720				M5E555				NE592	
	TI	LM348				HA2725				M51841				SE592	
		LM358				ICL7611				M51848				SG1401	
		TA75358				MC1776	(2953, 2989)			MC1455	(2989)			μA733	
LM361	Toshiba	NE529	(3179)			MC3476	(2953)			μA555				μA733M	
LM3611	Signetics	DS3611			National	μA776			Motorola	μPC1555					
	National	DS3611				LF441			National						
	SiliconG	SG75471							NEC						

• Discontinued

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				LM7523		(Cont'd)		LM78L09	National	μA78L09 μA78L09A μA78L09 μA78L09A μA78L10 μA78L10A μA78L10 μA78L10A TA78L010		LM78M15	Motorola	MC78M15	(2961, 2990)
LM733	TI	NE592 NE592-8 SE592	(Cont'd)	LM7524	AD	AD7524 (2411, 2460, 2462)		LM78L10	TI	μA78L10 μA78L10A μA78L10 μA78L10A TA78L010		LM78M15	National	μA78M15 LM341-15 LM342-15 μPC78M15	
LM741	AD	AD741	(2427, 2462)		GE/Intersil Maxim MicroPwr Motorola National PMI Signetics TI	AD7524 AD7524 MP7524 MC7524 DS75S24 PM7524 7524 TLC7524 MC7525 7525 PIC7524	(3019)	LM78L12	TI	μA78L12 μA78L12A LM340LA-12 μPC78L12 TA78L12 TA78L012	(2960, 2990)	LM78M15	NEC Samsung Sanyo SGS-Thomson	LM78M15 L78M15CV μA78M15 TA78M15 μA78M18 MC78M18 L78M18	
	National	μA741M		LM7525	Motorola	AD7528	(3325)	LM78L15	Motorola	μA78L15 μA78L15A LM340LA-15 LM340T-15 μPC78L15 μA78L15 μA78L15A TA78L015	(2961, 2990)	LM78M18	TI Toshiba Motorola National Samsung Sanyo SGS-Thomson	L78M18 L78M18 TA78M18 μA78M20 μA78M20 TA78M20 μA78M20 TA78M24 MC78M24 L78M24	(2961)
	NEC	μPC151		LM7528	Motorola	AD7528	(2413, 2461)	LM78L18	TI	μA78L18 μA78L18A LM340LA-15 LM340T-15 μPC78L15 μA78L15 μA78L15A TA78L015	(2961)	LM78M20	TI Toshiba Motorola National SGS-Thomson	L78M20 μA78M18 TA78M18 μA78M20 μA78M20 TA78M20 μA78M20 TA78M24 MC78M24 L78M24	(2961)
	PMI	OP02			Maxim MicroPwr Motorola Plessey PMI Raytheon TI	AD7528 MP7528 MC7528 ZN7528 PM7528 RC7528 TLC7528	(3019)	LM78L20	TI	μA78L18 μA78L18 TA78L018 μA78L20 TA78L20 TA78L024 TA78L20		LM78M24	TI Toshiba Motorola National Samsung Sanyo SGS-Thomson	L78M20 μA78M18 TA78M18 μA78M20 μA78M20 TA78M24 MC78M24 L78M24	(2961)
	Raytheon	RM741	(3039)	LM7529	Unitrode Motorola National	PIC7528 MC7529 7529	(3325)	LM78M05	Motorola	μA78M05 LM341-5 LM342-05 μPC78M05 MC78M05 L78M05	(2990)	LM78M24	TI Toshiba GoldStar IPS	L78M24 L78M24CV μA78M24 TA78M24 GL7805 IP7805	(2961)
	SGS-Thomson	μA741		LM7535	Motorola	SG75450		LM78M06	National	μA78M06 LM341-5 LM342-05 μPC78M05 MC78M05 L78M05		LM7805	Motorola	MC7805 μA7805 LM340-5 μPC7805 MC7805 SGS-Thomson	(2959)
		LM741		LM7538	National	SG75450B		LM78M08	TI	L78M05 L78M05CV SG14005 SG14012 SG7805AT μA78M05 TA78M05 μA78M06 μA78M06 L78M06			National	μA7805 L7805 SG7805 SG7805A μA7805 TA78005 TA79005 UC7805 GL7806 MC7806 μA7806 μPC7806 MC7806	
		LS141		LM7539	Motorola	SN75450		LM78M09	TI	L78M06 L78M06CV μA78M06 TA78M06 μA78M08 μPC78M08 MC78M08 L78M08		LM7806	TI Toshiba Unitrode GoldStar	μA7805 L7805 SG7805 SG7805A μA7805 TA78005 TA79005 UC7805 GL7806 MC7806 μA7806 μPC7806 MC7806	(2714)
		LM741		LM75450	National	SN75451		LM78M10	TI	L78M08 L78M08CV μA78M08 TA78M08 μA78M09		LM7808	Motorola National NEC Samsung SGS-Thomson	MC7806 μA7806 μPC7806 MC7806 μA7808 L7808 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808	(2960)
		OP04		LM75451	TI	DS75451		LM78M12	TI	L78M09 μA78M09 TA78M09 μA78M10		LM7810	TI Toshiba National SGS-Thomson	μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		PM747		LM75451	SiliconG	75451		LM78M15	TI	L78M10 μA78M10 TA78M10 μA78M12 LM341-12 LM342-12 μPC78M12 MC78M12 L78M12		LM7812	TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		RM747	(3024)	LM75451	TI	SN75451			TI	L78M11 μA78M11 LM341-11 LM342-11 μPC78M11 MC78M11 L78M11			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		RC747	(3024)	LM75452	National	SN75451B			TI	L78M12 LM341-12 LM342-12 μPC78M12 MC78M12 L78M12			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		RM747	(3024)	LM75452	TI	SN75451B			TI	L78M13 μA78M13 LM341-13 LM342-13 μPC78M13 MC78M13 L78M13			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		TELEDYNE S		LM75452	TI	SN75451B			TI	L78M14 μA78M14 LM341-14 LM342-14 μPC78M14 MC78M14 L78M14			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		TI		LM75452	TI	SN75451B			TI	L78M15 μA78M15 LM341-15 LM342-15 μPC78M15 MC78M15 L78M15			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
LM748	GE/RCA	CA748	(2647)	LM75452	TI	SN75451B			TI	L78M16 μA78M16 LM341-16 LM342-16 μPC78M16 MC78M16 L78M16			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
	Motorola	LM201	(2952, 2989)	LM75452	TI	SN75451B			TI	L78M17 μA78M17 LM341-17 LM342-17 μPC78M17 MC78M17 L78M17			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
	Motorola	MC1748	(2952)	LM75452	TI	SN75451B			TI	L78M18 μA78M18 LM341-18 LM342-18 μPC78M18 MC78M18 L78M18			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
	National	μA201		LM75452	TI	SN75451B			TI	L78M19 μA78M19 LM341-19 LM342-19 μPC78M19 MC78M19 L78M19			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
	PMI	OP06		LM75452	TI	SN75451B			TI	L78M20 μA78M20 LM341-20 LM342-20 μPC78M20 MC78M20 L78M20			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		OP77		LM75452	TI	SN75451B			TI	L78M21 μA78M21 LM341-21 LM342-21 μPC78M21 MC78M21 L78M21			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
	SGS-Thomson	PM1008		LM75452	TI	SN75451B			TI	L78M22 μA78M22 LM341-22 LM342-22 μPC78M22 MC78M22 L78M22			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		LM201		LM75452	TI	SN75451B			TI	L78M23 μA78M23 LM341-23 LM342-23 μPC78M23 MC78M23 L78M23			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		LM748		LM75452	TI	SN75451B			TI	L78M24 μA78M24 LM341-24 LM342-24 μPC78M24 MC78M24 L78M24			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		LS148		LM75452	TI	SN75451B			TI	L78M25 μA78M25 LM341-25 LM342-25 μPC78M25 MC78M25 L78M25			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		SG201		LM75452	TI	SN75451B			TI	L78M26 μA78M26 LM341-26 LM342-26 μPC78M26 MC78M26 L78M26			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		μA748		LM75452	TI	SN75451B			TI	L78M27 μA78M27 LM341-27 LM342-27 μPC78M27 MC78M27 L78M27			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		LM201		LM75452	TI	SN75451B			TI	L78M28 μA78M28 LM341-28 LM342-28 μPC78M28 MC78M28 L78M28			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		LM748		LM75452	TI	SN75451B			TI	L78M29 μA78M29 LM341-29 LM342-29 μPC78M29 MC78M29 L78M29			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
		SN72748P		LM75452	TI	SN75451B			TI	L78M30 μA78M30 LM341-30 LM342-30 μPC78M30 MC78M30 L78M30			TI Toshiba GoldStar IPS	μA7806 L7806 SG340-6 SG7806 SG7806A μA7806 TA78006 GL7808 HA17808 MC08 MC7808 μA7808 μPC7808 MC7808 μA7808 L7808 SG340-8 SG7808 SG7808A μA7808 TA78008 GL7809 HA17809 MC7809 μA7809 μPC7809 μA7809 TA78009 μA7810	(2714)
LM75107A															

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page				
National Semiconductor (Cont'd)				LM79M05 (Cont'd)				LM7912 (Cont'd)				MA0802M (Cont'd)							
LM7812	IPS	IP340-12	(2960)	LM79M12	National	μA79M05	(2714)	LM7915	Toshiba	TA78024	(2714)	MCA500	Signetics	DAC08	(2619)				
		IP7812				LM120				TA79012				MC1408					
		IP7812AC				LM320-05				GoldStar				MC500					
	Motorola	LM340-12	(2960)		SiliconG	SG120-5			IPS	IP320-15		MC1412	Motorola	XR2002C	(2984)				
		MC7812				SG320-05				IP7915				XR2202					
		MC7812				SH12005				Motorola				M54525					
	National	μA7812	(2960)		Unitrode	UC320-05	(2714)		National	μA7915	(2961)		Mitsubishi	MC1412					
		LM340-12				LM320T15				LM320-15				ULN2002					
		μPC7812			GoldStar	IP320-12			NEC	μPC7915			National	μA9666					
	Samsung	MC7812	(2960)			IP7912	National			SGS-Thomson	(2961)			μPA2002					
		SGS-Thomson				μA79M12				MC7915				LB1232					
		SGS-Thomson				μA79M12M				μA7915				SGS-Thomson					
LM7815	SiliconG	μA7812	(2714)		NEC	L7912	(2959)		SiliconG	L7915	(2944)		SiliconG	ULN2002	(3258)				
		L7812				LM320MP12				SG320-15				SG2002					
		SG340-12				LM7912				SG7915			Sprague	ULN2002					
	TI	SG7812	(2961)		Samsung	μPC7912	(2960)		TI	μA7915	(2961)			ULS2002					
		SG7812A				MC7912				TA79015				ULN2002					
		SG7812AT				μA7912				UC320-15				ULN2002A					
	Toshiba	μA7812	(2961)		SiliconG	L7912	(2960)		Motorola	MC7918	(2944)		Toshiba	TD62002	(2619)				
		TA78012				SG7912				UC7915				XR2003C					
		UC340-12				SG7912A				MC7918			Exar	XR2203					
	Unitrode	UC7812	(2961)		TI	μA79M12M	(2960)		National	μA7918	(2944)			M52523					
		IP140-15				TA78024				SG7918A				MC1413					
LM7818	Lambda	IP340-15	(2960)		Toshiba	TA79012	(2959)		TI	μA7918	(2944)		National	ULN2003	(2989)				
		IP7815				IP7905				TA79018				μA9667					
		IP7815AC			Motorola	MC7905			Toshiba	TA79018	(2944)		Sanyo	LB1233					
	Motorola	LAS1515	(2961)			μA7905	(2959)			μA7920			SGS-Thomson	L203					
		LM340-15				MC7905	National	L7920	ULN2003										
		μA7815	National		MC7905	SG7920		SiliconG	SG2003										
	NEC	LM340-15	(2961)		NEC	μPC7905	(2959)		SiliconG	SG7920A	(2944)		Sprague	ULN2003					
		μPC7815				MC7905				SS1957				ULS2003					
		MC7815				L7905				μA7920				ULN2003					
	Samsung	μA7815	(2961)		SiliconG	SG7905	(2960)		TI	TA79020	(2944)		TI	TD62003	(2619)				
		L7815				SG7905A				GL7924				TD62103					
		SG340-15			TI	SG7905A	(2960)		GoldStar	HD74LS195A	(2944)		Hitachi	XR1488					
LM7820	SiliconG	SG7815	(2961)		Unitrode	UC7905	(2960)		Motorola	MC7924	(2944)		Motorola	XR1489A	(2708)				
		SG7815A				MC7906				MC7924				GD75188					
	TI	LM340-15				μA7906				SN74LS195A			GoldStar	MC1488					
		TA78015	(2961)		National	MC7906	(2960)		National	μA7924	(2944)			MC1488					
		UC340-15			Samsung	MC7906				DM74LS195	National		MC1489A						
	Toshiba	UC7815	(2961)		SGS-Thomson	L7906	(2960)		NEC	74LS195A	(3057)		Hitachi	μA1489	(2989)				
		MC7818				μA7906			Panasonic	μPC7924				μA1489A					
		μPC7818			Toshiba	TA78006	(2960)		SGS-Thomson	DN74LS195A			SGS-Thomson	μA750					
	National	MC7818	(2961)			μA79M08				L7924				μA750					
		SGS-Thomson				MC7908	(2960)		Signetics	T74LS195A	(3057)		TI	DS1488					
		SGS-Thomson				MC7908				μA7924				DS1489					
LM7824	SiliconG	μA7818	(2414, 2462)		Samsung	MC7908	(2960)		TI	SN74LS195A	(3057)		SGS-Thomson	MC1488	(2989)				
		L7818			SiliconG	SG7908	(2960)		Toshiba	TA79024	(2944)			MC1489					
		SG7818			TI	SG7908A	(2960)		Fujitsu	MB47833	(2944)		Signetics	MC1488					
	TI	SG7818A	(2414, 2462)		Toshiba	μA79M08	(2714)		TI	LP111	(2944)		SiliconG	MC1489A	(2619)				
		μA7818			GoldStar	TA79008	(2714)		TI	LP211	(2944)			SG1489					
		TA78018			National	μA7908	(2714)		TI	LP311	(2944)			SG1489A					
	AD	AD7820	(2414, 2462)		NEC	μA7909	(2714)		TI	LP339	(2944)		AD	SG75188	(2983, 2989)				
		MAX150			SGS-Thomson	μPC7909	(2714)		AD	LP365	(2944)		Hitachi	SG75788					
		DS7820			TI	L7909	(2714)		Dacel	ADDAC-08	(2471)		TI	MC1488					
	PMI	PM0820	(2961)		Toshiba	μA7909	(2714)		Dacel	DACIC8B	(2596)		MC1489	SN75188					
		KAD0820			AMD	TA79009	(2714)		Hitachi	DACIC8BC	(2596)		Exar	XR1488					
LM79M05	Samsung	SGS-Thomson	(2961)		National	AM7910	(2714)		Motorola	DAC08B	(2971, 2989)		GoldStar	XR1489A					
		SGS-Thomson			SGS-Thomson	μA7910	(2714)		National	HA17008	(2971, 2989)		Motorola	GD75188					
		SGS-Thomson			TI	EF7910	(2714)		National	HA17408	(2971, 2989)		Motorola	MC1488					
	SiliconG	L7820	(3325)		Toshiba	μA7910	(2714)		National	MC1408	(2971, 2989)		National	MC1489					
		SG7820			GoldStar	TA78020	(2714)		National	μA0801	(2971, 2989)		National	MC1489A					
		SG7820A			Motorola	IP320-12	(2960)		National	μA0802	(2971, 2989)		National	μA1489A					
	Siliconix	SI7820	(2414, 2462)		National	IP7912	(2960)		National	DAC08	(2971, 2989)		National	μA212A					
		μA7820			NEC	LM320MP12	(2960)		NEC	DAC0801	(3017)								
LM79M05	Samsung	SGS-Thomson	(2961)		NEC	LM79M12	(2960)		NEC	μPC624	(3017)		SGS-Thomson	MC1488	(2989)				
		SGS-Thomson				μPC7912				DAC08				MC1489					
		SGS-Thomson			MC7912	DAC1508	MC1488												
	SiliconG	SG7824	(2961)		SiliconG	μA7912	(2960)		Raytheon	DAC08	(3025)		Signetics	MC1489					
		SG7824A				L7912				KDA0800				MC1489					
		TI				μA7824				SG320P-12				KDA0801		MC1489A			
	Toshiba	LM340-24	(2961)		TI	SG7912	(2960)		Samsun	KDA0802	(2960)		SiliconG	SG1489					
		TA78024				SG7912A				KDA0806				SG1489A					
		IP120-5				μA79M12M				KDA0807				SG75188					
	IPS	IP320-5	(2961)		TI	μA7912	(2960)		Samsun	KDA0808	(2960)		SiliconG	SG75788					
		IP320-5				μA7912				KDA0808				SG75788					

WALF. SOURCE DIRECTORY

◆ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				MM54HCT374		(Cont'd)		MM54HC10	GE/RCA	CD54HC10 (2640)		MM54HC157	GE/RCA	CD54HC157 (2640, 2653)	
MM54HCT190	GE/RCA	CD54HCT190 (2640)		Motorola		MC54HCT374		Motorola		MC54HC10 (2937)		Motorola		MC54HC157 (2944)	
MM54HCT191	GE/RCA	CD54HCT191 (2640)		Supertex		54HCT374		TI		SN54HC10		Signetics		54HC157	
MM54HCT193	GE/RCA	CD54HCT193 (2640)		TI		SN54HCT374		MM54HC107	GE/RCA	CD54HC107 (2640)		TI		SN54HC157	
MM54HCT240	CTI	54HCT240		GE/RCA		CD54HCT533 (2641)		Motorola		MC54HC107 (2941)		MM54HC158	GE/RCA	CD54HC158 (2640)	
GE/RCA		CD54HCT240 (2640)		Motorola		MC54HCT533		TI		SN54HC107		Motorola		MC54HC158 (2944)	
Micrel		MC54HCT240		TI		SN54HCT533		MM54HC109	GE/RCA	CD54HC109 (2640)		Signetics		54HC158	
Motorola		MC54HCT240		MM54HCT534		54HCT534		Motorola		MC54HC109 (2941)		TI		SN54HC158	
Signetics		54HCT240		CTI		CD54HCT534 (2641)		TI		SN54HC109		MM54HC160	GE/RCA	CD54HC160 (2640)	
Supertex		54HCT240		GE/RCA		CD54HCT534 (2641)		GE/RCA		CD54HC111 (2640)		Motorola		MC54HC160 (2942)	
TI		SN54HCT240		Motorola		MC54HCT534		Motorola		MC54HC111 (2937)		TI		SN54HC160	
MM54HCT241	CTI	54HCT241		TI		SN54HCT534		MM54HC112	GE/RCA	CD54HC112 (2640)		MM54HC161	GE/RCA	CD54HC161 (2640)	
GE/RCA		CD54HCT241 (2640)		MM54HCT540		54HCT540		Motorola		MC54HC112 (2941)		Motorola		MC54HC161 (2942)	
Krueger		41256-100 (2877)		CTI		54HCT540		TI		SN54HC112		Signetics		54HC161	
		41256-120 (2877)		GE/RCA		CD54HCT541 (2641)		MM54HC113	Motorola	MC54HC113 (2941)		TI		SN54HC161	
		41256-150 (2877)		Motorola		MC54HCT541		MM54HC123	GE/RCA	CD54HC123 (2640)		MM54HC162	GE/RCA	CD54HC162 (2640)	
Micrel		MC54HCT241		Supertex		54HCT541		Motorola		MC54HC123		Motorola		MC54HC162 (2942)	
Mitsubishi		M5M4256A		TI		SN54HCT541		Signetics		54HC123		Motorola		MC54HC163 (2640)	
Motorola		MCM6256B		MM54HCT563		54HCT563		TI		SN54HC123		Motorola		MC54HC163 (2942)	
OKI		MSM37256A		CTI		CD54HCT563 (2641)		GE/RCA		CD54HC125		TI		SH54HC163	
Panasonic		MN41256		GE/RCA		CD54HCT563 (2641)		Motorola		MC54HC125 (2640)		MM54HC164	GE/RCA	CD54HC164 (2640)	
Samsung		KM41256A (3036)		TI		SN54HCT564		National		54HC125		Motorola		MC54HC164 (2943)	
Siemens		HYB41256		MM54HCT564		54HCT564		Signetics		74HC125 (3057)		TI		SN54HC164	
Supertex		54HCT241		CTI		CD54HCT564 (2641)		TI		SN54HC125		MM54HC165	GE/RCA	CD54HC165 (2640)	
TI		SN54HCT241		GE/RCA		CD54HCT564 (2641)		MM54HC126	GE/RCA	CD54HC126 (2640)		Motorola		MC54HC165 (2943)	
Vitellic		V51C256		TI		SN54HCT564		Motorola		MC54HC126 (2939)		TI		SN54HC165	
MM54HCT244	CTI	54HCT244		MM54HCT573		54HCT573		TI		SN54HC126		MM54HC166	GE/RCA	CD54HC166 (2640)	
GE/RCA		CD54HCT244 (2640, 2653)		CTI		CD54HCT573 (2641)		MM54HC132	GE/RCA	CD54HC132 (2640)		Motorola		MC54HC166	
Micrel		MIC54HCT244		Signetics		54HCT573		Motorola		MC54HC132 (2937, 2940)		MM54HC173	GE/RCA	CD54HC173 (2640)	
Motorola		MC54HCT244		TI		SN54HCT573		National		54HC132		Motorola		MC54HC173 (2942)	
Signetics		54HCT244		MM54HCT574		54HCT574		Signetics		54HC132		TI		SN54HC173	
Supertex		54HCT244		CTI		CD54HCT574 (2641)		TI		SN54HC132		MM54HC174	GE/RCA	CD54HC174 (2640)	
TI		SN54HCT244		Signetics		54HCT574		Motorola		MC54HC133 (2937)		Motorola		MC54HC174 (2942)	
MM54HCT245	CTI	54HCT245		TI		SN54HCT574		MM54HC133	Motorola	MC54HC133 (2937)		TI		SN54HC174	
GE/RCA		CD54HCT245 (2640, 2653)		MM54HCT640		54HCT640		TI		SN54HC133		Motorola		MC54HC174 (2942)	
Motorola		MC54HCT245		GE/RCA		CD54HCT640 (2641)		GE/RCA		CD54HC137 (2640)		Signetics		54HC174	
Signetics		54HCT245		Motorola		MC54HCT640		Motorola		MC54HC137 (2945)		TI		SN54HC174	
Supertex		54HCT245		TI		SN54HCT640		TI		SN54HC137		MM54HC175	GE/RCA	CD54HC175 (2640)	
TI		SN54HCT245		MM54HCT643		54HCT643		MM54HC138	GE/RCA	CD54HC138 (2640)		Motorola		MC54HC175 (2942)	
MM54HCT251	GE/RCA	CD54HCT251 (2640)		Motorola		MC54HCT643		Motorola		MC54HC138 (2945)		Signetics		54HC175	
MM54HCT253	GE/RCA	CD54HCT253 (2640)		TI		SN54HCT643		Signetics		54HC138		TI		SN54HC175	
MM54HCT257	GE/RCA	CD54HCT257 (2640, 2653)		MM54HCT688		54HCT688		TI		SN54HC138		MM54HC182	GE/RCA	CD54HC182 (2640)	
Motorola		MC54HCT257		TI		SN54HCT688		MM54HC139	GE/RCA	CD54HC139 (2640)		Motorola		MC54HC182 (2940)	
Signetics		54HCT257		MM54HCT74		54HCT74		Motorola		MC54HC139 (2945)		TI		SN54HC182	
MM54HCT273	GE/RCA	CD54HCT273 (2640)		GE/RCA		CD54HCT74 (2640)		Signetics		54HC139		MM54HC190	GE/RCA	CD54HC190 (2640)	
Signetics		54HCT273		Motorola		MC54HCU04 (2642, 2649)		TI		SN54HC139		Motorola		MC54HC190	
MM54HCT299	GE/RCA	CD54HCT299 (2640)		TI		SN54HCU04		MM54HC14	GE/RCA	CD54HC14 (2640)		TI		SN54HC190	
MM54HCT32	GE/RCA	CD54HCT32 (2640)		MM54HCU04		54HCT04		Motorola		MC54HC14 (2940)		MM54HC192	GE/RCA	CD54HC192 (2640)	
MM54HCT373	CTI	54HCT373		Motorola		MC54HCU04 (2939)		Signetics		54HC14		Motorola		MC54HC193	
GE/RCA		CD54HCT373 (2641, 2653)		TI		SN54HCU04		TI		SN54HC14		TI		SN54HC191	
Micrel		MIC54HCT373		MM54HC00		54HCT00		MM54HC147	GE/RCA	CD54HC147 (2640)		Motorola		MC54HC192	
Motorola		MC54HCT373		GE/RCA		CD54HC00 (2639, 2653)		Motorola		MC54HC147		MM54HC193	GE/RCA	CD54HC193 (2640)	
Signetics		54HCT373		Motorola		MC54HC00 (2937)		Signetics		SN54HC147		Motorola		MC54HC193	
Supertex		54HCT373		TI		SN54HC00		TI		SN54HC147		TI		SN54HC194	
TI		SN54HCT373		MM54HC02		54HCT02		MM54HC151	GE/RCA	CD54HC151 (2640)		MM54HC194	GE/RCA	CD54HC194 (2640)	
MM54HCT374	CTI	54HCT374		GE/RCA		CD54HC02 (2639)		TI		SN54HC151		Motorola		MC54HC194 (2944)	
GE/RCA		CD54HCT374 (2641, 2653)		Motorola		MC54HC02 (2938)		MM54HC153	GE/RCA	CD54HC153 (2640)		TI		SN54HC194	
Micrel		MIC54HCT374		Signetics		54HCT02		Motorola		MC54HC153 (2944)		MM54HC195	GE/RCA	CD54HC195 (2640)	
		MC54HCT374		TI		SN54HC02		TI		SN54HC153		Motorola		MC54HC195 (2944)	
		54HCT373		MM54HC03		54HCT03		MM54HC154	GE/RCA	CD54HC154 (2640)		TI		SN54HC195	
		54HCT373		GE/RCA		CD54HC03 (2639)		Motorola		MC54HC154 (2945)		MM54HC20	GE/RCA	CD54HC20 (2640)	
		54HCT373		Motorola		MC54HC03 (3057)		Signetics		MC54HC154		Motorola		MC54HC20 (2937)	
		SN54HCT373		TI		SN54HC03		TI		SN54HC154		TI		SN54HC20	
		54HCT373		MM54HC04		54HCT04		MM54HC155	GE/RCA	CD54HC155 (2640)					
		54HCT373		GE/RCA		CD54HC04 (2639)		TI		SN54HC155					
		SN54HCT373		Motorola		MC54HC04 (2939)		MM54HC156	GE/RCA	CD54HC156 (2640)					
		54HCT374		Signetics		74HC04 (3057)		TI		SN54HC156					
		54HCT374		TI		SN54HC04		MM54HC157	GE/RCA	CD54HC157 (2640)					
		54HCT374		MM54HC08		54HCT08		Motorola		MC54HC157					
		54HCT374		GE/RCA		CD54HC08 (2639)		TI		SN54HC157					
		54HCT374		Motorola		MC54HC08 (2937)				SN54HC157					
		54HCT374		Signetics		54HCT08				SN54HC157					
		54HCT374		TI		SN54HC08				SN54HC157					

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				MM54HC294	GE/RCA	CD74HC4059 (2641)		MM54HC4020	GE/RCA	CD54HC4020 (2641)		MM54HC4511	GE/RCA	CD54HC4511 (2641)	
MM54HC221	GE/RCA	CD54HC221 (2640)		Motorola	MC54HC294	74HC4059 (3057)		MM54HC4024	GE/RCA	CD54HC4024 (2641)		Motorola	MC54HC4511 (2946)		
MM54HC237	GE/RCA	CD54HC237 (2640)		Motorola	MC54HC298	74HC4510 (3057)		Motorola	MC54HC4024 (2943)			MM54HC4514	TI	SN54HC4511	
Motorola	MC54HC237 (2945)			Signetics	74HC4510 (3057)			GE/RCA	CD54HC404 Motorola	CD54HC404 MC54HC404 SN54HC404		GE/RCA	CD54HC4514 (2641)		
MM54HC240	TI	SN54HC237 CD54HC240 (2640)		Motorola	MC54HC299 (2640)			TI	CD54HC4040 (2641)		Motorola	MC54HC4514 (2945)			
Motorola	MC54HC240 (2939)			TI	SN54HC299 CD54HC30 (2937)			Motorola	MC54HC4040 (2943)		MM54HC4538	TI	SN54HC4514		
Signetics	54HC240 54HC240 SN54HC240			TI	SN54HC30 CD54HC32 (2640)			GE/RCA	CD54HC4046 (2641)		Motorola	MC54HC4538 SN54HC4538 MC54HC51 (2938)			
Supertex	54HC240 54HC240 SN54HC240			Motorola	MC54HC32 (2937)			Motorola	MC54HC4046 (2945)		TI	SN54HC51			
TI	54HC240 54HC240 SN54HC240			Signetics	54HC32 SN54HC32			MM54HC4049	GE/RCA	CD54HC4049 (2641)		GE/RCA	CD54HC533 (2641)		
MM54HC241	GE/RCA	CD54HC241 (2640)		TI	SN54HC32 CD54HC354 (2640)			Motorola	MC54HC4049 (2939)		MM54HC533	TI	SN54HC533 CD54HC534 (2641)		
Motorola	MC54HC241 (2939)			Motorola	MC54HC354 (2945)			Motorola	MC54HC4050 (2641)		Motorola	MC54HC533 (2941)			
Supertex	54HC241 SN54HC241 CD54HC242 (2640)			TI	SN54HC354 CD54HC356 (2640)			MM54HC4050	GE/RCA	CD54HC4050 (2641)		TI	SN54HC533 CD54HC534 (2641)		
TI	54HC241 SN54HC241 CD54HC242			GE/RCA	CD54HC356 (2945)			Motorola	MC54HC4050 (2939)		MM54HC534	GE/RCA	CD54HC534 (2641)		
MM54HC242	GE/RCA	CD54HC242 (2640)		Motorola	MC54HC356 (2945)			Motorola	MC54HC4051 (2641, 2655)		Motorola	MC54HC534 (2942)			
Motorola	MC54HC242 (2939)			TI	SN54HC356 CD54HC365 (2641)			MM54HC4051	GE/RCA	CD54HC4051 (2641, 2655)		TI	SN54HC534 CD54HC540 (2641)		
TI	SN54HC242 CD54HC243 (2640)			GE/RCA	CD54HC365 (2939)			Motorola	MC54HC4051 (2945)		MM54HC540	GE/RCA	CD54HC540 (2641)		
MM54HC243	GE/RCA	CD54HC243 (2640)		Motorola	MC54HC365 (2939)			Motorola	MC54HC4052 (2641, 2655)		Motorola	MC54HC540 (2940)			
Motorola	MC54HC243 (2939)			Signetics	74HC365 (3057)			MM54HC4052	GE/RCA	CD54HC4052 (2641, 2655)		TI	SN54HC540 CD54HC541 (2641)		
National	54HC243 SN54HC243 CD54HC244 (2640, 2653)			TI	SN54HC365 CD54HC366 (2641)			Motorola	MC54HC4052 (2945)		MM54HC541	GE/RCA	CD54HC541 (2641)		
TI	54HC243 SN54HC243 CD54HC244			GE/RCA	CD54HC366 (2939)			Motorola	MC54HC4053 (2641, 2655)		Motorola	MC54HC541 (2940)			
MM54HC244	GE/RCA	CD54HC244 (2640, 2653)		Motorola	MC54HC366 (2939)			MM54HC4053	GE/RCA	CD54HC4053 (2641, 2655)		TI	SN54HC541 CD54HC563 (2641)		
Motorola	MC54HC244 (2939)			TI	SN54HC366 CD54HC367 (2641)			Motorola	MC54HC4053 (2945)		MM54HC563	GE/RCA	CD54HC563 (2641)		
Signetics	54HC244 54HC244 SN54HC244			GE/RCA	CD54HC367 (2939)			Motorola	MC54HC4060 (2641)		Motorola	MC54HC563 SN54HC563 CD54HC564 (2641)			
Supertex	54HC244 54HC244 SN54HC244			Motorola	MC54HC367 (2939)			MM54HC4060	GE/RCA	CD54HC4060 (2641)		Motorola	MC54HC564 (2942)		
TI	54HC244 54HC244 SN54HC244			Signetics	54HC367 SN54HC367 CD54HC368 (2641)			Motorola	MC54HC4060 (2943)		MM54HC564	GE/RCA	CD54HC564 (2641)		
MM54HC245	GE/RCA	CD54HC245 (2640, 2653)		TI	SN54HC367 CD54HC367 (2641)			Motorola	MC54HC4066 (2641)		Motorola	MC54HC564 (2942)			
Motorola	MC54HC245 (2939)			GE/RCA	CD54HC368 (2939)			MM54HC4066	GE/RCA	CD54HC4066 (2641)		TI	SN54HC564 CD54HC573 (2641)		
Signetics	54HC245 SN54HC245 CD54HC251 (2640)			Motorola	MC54HC368 (2939)			Motorola	MC54HC4066 (2945)		MM54HC573	GE/RCA	CD54HC573 (2641)		
TI	54HC245 SN54HC245 CD54HC251			TI	SN54HC368 CD54HC373 (2641, 2653)			Motorola	MC54HC4066 (2945)		Motorola	MC54HC573 (2941)			
MM54HC251	GE/RCA	CD54HC251 (2640)		GE/RCA	CD54HC373 (2641, 2653)			TI	SN54HC4066		Signetics	54HC573 SN54HC573 CD54HC574 (2641)			
Motorola	MC54HC251 (2944)			Motorola	MC54HC373 (2941)			MM54HC4075	GE/RCA	CD54HC4075 (2641)		GE/RCA	CD54HC574 (2641)		
TI	SN54HC251 CD54HC253 (2640)			Signetics	54HC373 54HC373 SN54HC373			Motorola	MC54HC4075 (2937)		Motorola	MC54HC574 (2942)			
MM54HC253	GE/RCA	CD54HC253 (2640)		Supertex	54HC373 54HC373 SN54HC373			TI	SN54HC4075		Signetics	54HC574 SN54HC574 CD74HC583 (2641)			
Motorola	MC54HC253 (2944)			TI	SN54HC373 CD54HC374 (2641, 2653)			MM54HC4078	Motorola	MC54HC4078 (2938)		Motorola	MC54HC58 (3057)		
TI	SN54HC253 CD54HC257 (2640, 2653)			GE/RCA	CD54HC374 (2641, 2653)			Motorola	MC54HC4078 (2945)		MM54HC58	GE/RCA	CD74HC7030 (2641)		
MM54HC257	GE/RCA	CD54HC257 (2640, 2653)		Motorola	MC54HC374 (2942)			TI	SN54HC4078A CD54HC42 (2640)		Motorola	MC54HC589 (2944)			
Motorola	MC54HC257 (2944)			Signetics	54HC374 54HC374 SN54HC374			MM54HC423A	GE/RCA	CD54HC423 CD74HC4516 (2641)		Signetics	74HC7030 (3057)		
Signetics	54HC257 SN54HC257 CD54HC259 (2640)			Supertex	54HC374 54HC374 SN54HC374			TI	SN54HC42		Motorola	MC54HC589 (2944)			
TI	54HC257 SN54HC257 CD54HC259			TI	SN54HC374 CD54HC390 (2641)			Motorola	MC54HC42 (2945)		MM54HC589	GE/RCA	CD74HC7030 (2641)		
MM54HC259	GE/RCA	CD54HC259 (2640)		GE/RCA	CD54HC390 (2641)			MM54HC42	GE/RCA	CD54HC42 (2640)		Motorola	MC54HC589 (2944)		
Motorola	MC54HC259 (2941)			Motorola	MC54HC390 (2942)			TI	SN54HC42		Signetics	74HC7030 (3057)			
TI	SN54HC259 MC54HC266 SN54HC266			TI	SN54HC390 CD54HC393 (2641)			MM54HC423A	GE/RCA	CD54HC423 CD74HC4516 (2641)		Motorola	MC54HC590 SN54HC590A MC54HC595 (2944)		
MM54HC266	Motorola	MC54HC266 (2640)		GE/RCA	CD54HC393 (2641)			Motorola	MC54HC423 74HC4516 (3057)		MM54HC590	TI	SN54HC595 CD54HC597 (2641)		
Motorola	MC54HC266 (2938)			Motorola	MC54HC393 (2942)			Signetics	74HC4516 SN54HC423		MM54HC595	Motorola	MC54HC597 (2641)		
MM54HC27	GE/RCA	CD54HC27 (2640)		Signetics	54HC393 SN54HC393			TI	CD54SN4316 CD74HC93 (2640)		TI	SN54HC595 CD54HC597 (2641)			
Motorola	MC54HC27 (2938)			TI	SN54HC393 CD54HC4002 (2641)			MM54HC4316	GE/RCA	CD54HC4316 (2945)		Motorola	MC54HC597 (2944)		
TI	SN54HC27 54HC273 CD54HC273 (2640)			Motorola	MC54HC4002 (2938)			Motorola	MC54HC4351 (2945)		MM54HC597	GE/RCA	CD54HC597 (2641)		
CTI	54HC273 54HC273 SN54HC273			Signetics	54HC393 SN54HC393			Signetics	74HC93 (3057)		Motorola	MC54HC597 (2944)			
MM54HC273	GE/RCA	CD54HC273 (2640)		TI	SN54HC4002			MM54HC4351	GE/RCA	CD54HC4351 (2945)		Signetics	74HC7038 SN54HC597 CD54HC640 (2641)		
Motorola	MC54HC273 (2942)			Motorola	MC54HC4016 (2945)			TI	CD54HC4352 MC54HC4352 (2945)		MM54HC640	GE/RCA	CD54HC640 (2641)		
Signetics	54HC273 SN54HC273 CD54HC280 (2640)			TI	SN54HC4016 CD54HC4016 (2945)			GE/RCA	CD54HC4352 MC54HC4352 (2945)		Motorola	MC54HC640 (2940)			
TI	54HC273 SN54HC273 CD54HC280			GE/RCA	CD54HC4016 (2641)			Motorola	MC54HC4353 (2945)		MM54HC643	TI	SN54HC640 CD54HC643 (2641)		
MM54HC280	GE/RCA	CD54HC280 (2640)		Motorola	MC54HC4017 (2641)			MM54HC4352	GE/RCA	CD54HC4352 (2945)		Motorola	MC54HC643 SN54HC643 SN54HC645 (2641)		
Motorola	MC54HC280 (2947)			Signetics	54HC4017 SN54HC4017 (2943)			TI	CD54HC4353 MC54HC4353 (2945)		MM54HC645	TI	SN54HC645 (2641)		
TI	SN54HC280 CD54HC283 (2640)			TI	SN54HC4017 (2943)			Motorola	MC54HC4353 (2945)						
MM54HC283	GE/RCA	CD54HC283 (2640)		Motorola	MC54HC4017 (2943)			Motorola	MC54HC4353 (2945)						
Motorola	MC54HC283 CD74HC4015 (2641)			TI	SN54HC4017 (2943)										
MM54HC292	GE/RCA	CD74HC4015 (2641)		Motorola	MC54HC4017 (2943)										
Motorola	MC54HC292 74HC4015 (3057)			TI	SN54HC4017 (2943)										
Signetics	74HC4015 (3057)														

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				MM74C02	SGS-Thomson	(Cont'd)		MM74C182	National	F4582	(Cont'd)	MM74C86	SGS-Thomson	(Cont'd)	
MM54HC646	GE/RCA	CD54HC646	(2641)		HCC/HCF4001				SGS-Thomson	HCC/HCF40182			Signetics	HEF4070	
	Motorola	MC54HC646	(2940)		CM4001			MM74C192	National	MM54C192		MM74C89	Signetics	CM4070	
MM54HC648	GE/RCA	CD54HC648	(2641)	MM74C04	GE/RCA	TC4001B (3341)		MM74C193	GE/RCA	CD40193 (2638)		MM74C920	National	F40089	
	Motorola	MC54HC648	(2940)		Motorola	CD4069 (2637)			National	CD40193		MM74C920	AMD	AM2101	
MM54HC688	GE/RCA	CD54HC688	(2641, 2649)		National	MC14069 (2939)			SGS-Thomson	MM54C193				AM91101	
	Motorola	MC54HC688	(2946)		F4069				Signetics	HCC/HCF40193			Datel	ADC5101 (2595)	
	National	54HC688			MM54C04			MM74C195	Signetics	HEF40193			Harris	HA5101 (2767)	
MM54HC73	GE/RCA	CD54HC73 (2640)			OKI	MSM4069			Toshiba	TC40193B (3341)			Intel	5101	
	Motorola	MC54HC73 (2941)			Sanyo	LC4069			National	CD40195			MicroNet	MM5101	
MM54HC74	GE/RCA	CD54HC74 (2640)		MM74C08	GE/RCA	TC4069UB (3341)		MM74C221	Motorola	MC14528			Mitsubishi	MCMS1101	
	Motorola	MC54HC74 (2941)			Motorola	CD4081 (2937)			National	CD4528			Motorola	MCM145101	
	Signetics	54HC74			National	CD4081			SGS-Thomson	F4528				MNS101	
MM54HC75	GE/RCA	CD54HC75 (2640)			NEC	μPC4081			Signetics	HCC/HCF4098		MM74C929	Panasonic	SHARP	
	Motorola	MC54HC75 (2941)			OKI	MSM4081		MM74C32	Toshiba	TC4528B (3341)			Fujitsu	MB8401	
	Motorola	MC54HC75 (2941)			Sanyo	LC4081			GE/RCA	CD4071 (2637)			GE/Intersil	IM6508-1	
MM54HC76	Motorola	MC54HC76 (2941)			SGS-Thomson	HCC/HCF4081			Motorola	MC14071 (2937)		MM74C930	National	MM2102	
	TI	SN54HC76			Signetics	HEF4081			National	CD4071B		MM74C945	Maxim	MM74C945	
MM54HC85	GE/RCA	CD54HC85 (2640)			Solitron	CM4081			OKI	MSM4071		MM74C947	Maxim	MM74C947	
	Motorola	MC54HC85 (2946)			Toshiba	TC4081B			Sanyo	LC4071		MM74HCT00	GE/RCA	CD74HCT00 (2639, 2653)	
	TI	SN54HC85		MM74C10	GE/RCA	CD4023 (2637)			SGS-Thomson	HCC/HCF4071			Motorola	MC74HCT00	
MM54HC86	GE/RCA	CD54HC86 (2640)			Motorola	MC14023 (2937)			Signetics	HCC/HCF4071B		MM74HCT04	GE/RCA	CD74HCT03 (2639)	
	Motorola	MC54HC86 (2938)			National	CD4023			Solitron	HEF4071		MM74HCT05	Motorola	MC74HCT05	
	Signetics	54HC86			SGS-Thomson	F4023		MM74C42	Toshiba	TC4071B		MM74HCT08	GE/RCA	CD74HCT08 (2639)	
MM54S289	AMD	SN54HC86			HCC/HCF4023				GE/RCA	CD4028 (2637)		MM74HCT109	Signetics	74HCT08 (3057)	
	National	SN5489-1			Signetics	HEF4023			National	MC14028 (2945)			GE/RCA	CD74HCT109	
		DM54S289			CM4023				OKI	F4028			Signetics	74HCT109 (2640)	
MM5451	Lansdale	DM5489			Toshiba	TC4023 (3341)			MSM4028	LC4028		MM74HCT112	GE/RCA	CD74HCT112 (2640)	
	National	ML5451		MM74C14	GE/RCA	CD40106 (2637, 2653)			Sanyo	LC4028			Signetics	74HCT112 (3057)	
	SGS-Thomson	DM5451							SGS-Thomson	HCC/HCF4028		MM74HCT138	CTI	74HCT138	
	TI	M5451			CD4584B				Signetics	HEF4028			GE/RCA	CD74HCT138 (2640)	
MM5453	Lansdale	ML5453			Motorola	MC14106 (2940)			Solitron	CM4028				74HCT138	
		SL5453			MC14584 (2940)			MM74C74	Toshiba	TC4028B (3341)				CD74HCT138	
	National	DM5453			MC14584B (2940)				GE/RCA	CD4013 (2638, 2656)			Plessey	MV74HCT138	
	STC	TEL5453			National	CD40106			Motorola	MC14013			SGS-Thomson	74HCT138 (3057)	
MM5480	SGS-Thomson	SN5453			CD4584				National	CD4013			Signetics	74HCT138 (3057)	
		M5480			CD4584B				OKI	F4013			TI	SN74HCT138	
MM5481	SGS-Thomson	M5481			F400014				MSM4013	LC4013		MM74HCT139	Toshiba	TC74HCT138A	
		HLCD0438			MM54C14				Sanyo	LC4013			CTI	74HCT139	
MM58438	Hughes	AY04381 (2896)			HCC/HCF40106				SGS-Thomson	HCC/HCF4013			GE/RCA	CD74HCT139 (2640)	
MM58538	Hughes	HLCD0538		MM74C164	Signetics	HEF40106			Signetics	HEF4013				74HCT139	
MM58539	Hughes	HLCD0539			Toshiba	TC4584B (3341)		MM74C76	Solitron	CM4013			IDT	IDT74HCT139	
MM58540	Hughes	HC0540			GE/RCA	CD4015 (2638)			GE/RCA	CD4027 (2638)			Plessey	MV74HCT139	
MM72HCT04	GE/RCA	CD74HCT04 (2639)			Motorola	MC14015 (2944)			Motorola	MC14027			Signetics	74HCT139 (3057)	
	Motorola	MC74HCT04			National	CD4015			National	MC14027B			Supertex	74HCT139	
	SGS-Thomson	M74HCT04			F4015				OKI	CD4027		MM74HCT151	GE/RCA	CD74HCT151 (2640)	
	Signetics	74HCT04 (3057)			MSM4015				OKI	CD4027B			Signetics	74HCT151 (3057)	
	TI	SN74HCT04			Sanyo	LC4015			Sanyo	F4027				74HCT151	
MM74C00	GE/RCA	CD4011 (2637)			SGS-Thomson	HCC/HCF4015			SGS-Thomson	MSM4027		MM74HCT153	GE/RCA	CD74HCT153 (2640)	
	Motorola	CD4011UB (2637)			Signetics	HEF4015			Signetics	HCC/HCF4027			Signetics	74HCT153 (3057)	
	Motorola	MC14011 (2937)			Solitron	CM4015			Solitron	HCC/HCF4027B				74HCT153	
	Motorola	MC14011UB (2937)		MM74C173	Toshiba	TC4015B (3341)			Signetics	HEF4027		MM74HCT157	GE/RCA	CD74HCT157 (2640, 2653)	
	National	CD4011			GE/RCA	CD4076 (2638)			Solitron	CM4027			Signetics	74HCT157 (3057)	
	National	CD4011UB			Motorola	MC14076 (2942)			Toshiba	TC4027B (3341)		MM74HCT158	GE/RCA	CD74HCT158 (2640)	
	OKI	CD4011UB			National	CD4076			Motorola	CD4008 (2639)			Signetics	74HCT158 (3057)	
	OKI	F4011			MM54C173			MM74C83	National	MC14008 (2947)			GE/RCA	CD74HCT158	
	Sanyo	MSM4011			SGS-Thomson	HCC/HCF4076			SGS-Thomson	CD4008			Signetics	74HCT158	
	SGS-Thomson	LC4011			Signetics	HEF4076			Signetics	HCC/HCF4008		MM74HCT160	GE/RCA	CD74HCT160 (2640)	
	Signetics	HCC/HCF4011			Solitron	CM4076			Solitron	HEF4008			Signetics	74HCT160 (3057)	
	Solitron	CM4011		MM74C175	GE/RCA	CD40175 (2638)			Toshiba	CM4008				74HCT160	
	Toshiba	TC4011B (3341)			Motorola	MC14175 (2942)			Motorola	TC4008B (3341)		MM74HCT164	GE/RCA	CD74HCT164 (2640)	
	Toshiba	TC4011UB (3341)			National	MC40175			GE/RCA	CD4585 (2639)			Signetics	74HCT164 (3057)	
	Fujitsu	MB4001			National	CD40175		MM74C85	Motorola	MC14585 (2946)				74HCT164	
	GE/RCA	CD4001 (2637)			F40175				National	F40085			Signetics	74HCT164	
	Motorola	CD4001UB (2637)			MM54C175				SGS-Thomson	HCC/HCF4585		MM74HCT190	GE/RCA	CD74HCT190 (2640)	
	Motorola	MC14001 (2938)			Signetics	HEF40175			Signetics	HEF4585			Signetics	74HCT190 (3057)	
	Motorola	MC14001UB (2938)			Toshiba	TC40175B (3341)			Toshiba	TC4585B		MM74HCT191	GE/RCA	CD74HCT191 (2640)	
	National	CD4001			GE/RCA	CD40181 (2639)		MM74C86	GE/RCA	CD4070 (2637, 2639)			Signetics	74HCT191 (3057)	
	National	CD4001UB			Motorola	MC14581 (2947)			Motorola	MC14070 (2938)			GE/RCA	CD74HCT191	
	OKI	F4001			SGS-Thomson	HCC/HCF40181			National	CD4070			Signetics	74HCT191 (3057)	
	OKI	MSM4001								F4070				(Continued)	
	Sanyo	LC4001B			GE/RCA	CD40182 (2639)								(Continued)	
		(Continued)			Motorola	MC14582 (2947)								(Continued)	

• Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				MM74HC154	TI Toshiba	SN74HC154 TC74HC154A	(Cont'd) (3340)	MM74HC165	Signetics TI Toshiba	74HC165 SN74HC165 TC74HC165A	(Cont'd) (3057) (3340)	MM74HC193	SGS-Thomson	M74HC193	(Cont'd)
MM74HC132	TI Toshiba	SN74HC132 TC74HC132A	(Cont'd) (3340)	MM74HC155	Motorola SGS-Thomson	MC74HC155	(3340)	MM74HC166	GE/RCA Motorola SGS-Thomson	CD74HC166 MC74HC166	(2640)	MM74HC194	GE/RCA	CD74HC194	(2640)
MM74HC133	GE/RCA Motorola	CD74HC133 MC74HC133	(2937)		TI Toshiba	MC74HC155 M74HC155 SN74HC155 TC74HC155	(3340)		Motorola SGS-Thomson	MC74HC166			Hitachi Motorola	HD74HC194 MC74HC194	(2944)
	SGS-Thomson			MM74HC157	GE/RCA	CD74HC157	(2640, 2653)		Signetics TI Toshiba	74HC166 SN74HC166 TC74HC166A	(3057) (3340)		SGS-Thomson	M74HC194	
	TI Toshiba	M74HC133 SN74HC133 TC74HC133A	(3340)		Hitachi Motorola	HD74HC157 MC74HC157	(2944)	MM74HC173	GE/RCA	CD74HC173	(2640)		Signetics TI Toshiba	74HC194 SN74HC194 TC74HC194	(3057) (3340)
MM74HC137	GE/RCA	CD74HC137	(2640)		SGS-Thomson	M74HC157			Hitachi Motorola	HD74HC173 MC74HC173	(2942)	MM74HC195	GE/RCA	CD74HC195	(2640)
	Hitachi Motorola	HD74HC137 MC74HC137	(2945)		Signetics TI Toshiba	74HC157 SN74HC157 TC74HC157A	(3057) (3340)		SGS-Thomson	M74HC173			Hitachi Motorola	HD74HC195 MC74HC195	(2944)
	SGS-Thomson	M74HC137		MM74HC158	GE/RCA	CD74HC158	(2640)		Signetics TI Toshiba	74HC173 SN74HC173 TC74HC173	(3057) (3340)		SGS-Thomson	M74HC195	
	Signetics TI Toshiba	74HC137 SN74HC137 TC74HC137A	(3057) (3340)		Hitachi Motorola	HD74HC158 MC74HC158	(2944)	MM74HC174	GE/RCA	CD74HC174	(2640)	MM74HC20	GE/RCA	CD74HC20	(2640)
MM74HC138	GE/RCA	CD74HC138	(2640)		SGS-Thomson	M74HC158			Hitachi Motorola	HD74HC174 MC74HC174	(2942)		Hitachi Motorola	HD74HC20	(2937)
	Hitachi Motorola	HD74HC138 MC74HC138	(2945)		Signetics TI Toshiba	74HC158 SN74HC158 TC74HC158A	(3057) (3340)		SGS-Thomson	M74HC174			SGS-Thomson	M74HC20	
	SGS-Thomson	M74HC138		MM74HC160	GE/RCA	CD74HC160	(2640)		Signetics TI Toshiba	74HC174 SN74HC174 TC74HC174A	(3057) (3340)	MM74HC221	GE/RCA	CD74HC221	(2640)
	Signetics TI Toshiba	74HC138 SN74HC138 TC74HC138A	(3057) (3340)		Motorola	MC74HC160	(2942)	MM74HC175	GE/RCA	CD74HC175	(2640)		Hitachi Motorola National	HD74HC221 MC74HC221A MM74HC221A	
MM74HC139	GE/RCA	CD74HC139	(2640)		SGS-Thomson	M74HC160			Hitachi Motorola	HD74HC175 MC74HC175	(2942)		SGS-Thomson	M74HC221	
	Hitachi Motorola	HD74HC139 MC74HC139	(2945)		Signetics TI Toshiba	74HC160 SN74HC160 TC74HC160A	(3057) (3340)		SGS-Thomson	M74HC175			Signetics TI Toshiba	74HC221 SN74HC221 TC74HC221	(3057) (3340)
	SGS-Thomson	M74HC139		MM74HC161	GE/RCA	CD74HC161	(2640)		Signetics TI Toshiba	74HC175 SN74HC175 TC74HC175A	(3057) (3340)	MM74HC221A	GE/RCA	CD74HC221	(2640)
	Signetics TI Toshiba	74HC139 SN74HC139 TC74HC139A	(3057) (3340)		Hitachi Motorola	HD74HC161 MC74HC161	(2942)	MM74HC181	GE/RCA	CD74HC181	(2640)		Hitachi Motorola National	HD74HC221 MC74HC221A MM74HC221	
MM74HC14	GE/RCA	CD74HC14	(2640)		SGS-Thomson	M74HC161			Motorola SGS-Thomson	MC74HC181			SGS-Thomson	M74HC221	
	Hitachi	HD74HC14			Signetics TI Toshiba	74HC161 SN74HC161 TC74HC161A	(3057) (3340)		Signetics TI Toshiba	74HC181 SN74HC181 TC74HC181	(3057) (3340)		Signetics TI Toshiba	74HC221 SN74HC221 TC74HC221	(3057) (3340)
	Motorola	MC74HC14	(2940)	MM74HC162	GE/RCA	CD74HC162	(2640)	MM74HC182	GE/RCA	CD74HC182	(2640)	MM74HC237	GE/RCA	CD74HC237	(2640)
	SGS-Thomson	M74HC14			Hitachi Motorola	HD74HC162 MC74HC162	(2942)		Motorola SGS-Thomson	MC74HC182			Motorola	MC74HC237	(2945)
	Signetics TI Toshiba	74HC14 SN74HC14 TC74HC14A	(3057) (3340)		SGS-Thomson	M74HC162			Signetics TI Toshiba	74HC182 SN74HC182 TC74HC182	(3057) (3340)		SGS-Thomson	M74HC237	
MM74HC147	GE/RCA	CD74HC147	(2640)		Signetics TI Toshiba	74HC162 SN74HC162 TC74HC162A	(3057) (3340)	MM74HC190	GE/RCA	CD74HC190	(2640)		Signetics TI Toshiba	74HC237 SN74HC237 TC74HC237A	(3057) (3340)
	Hitachi Motorola	HD74HC147 MC74HC147		MM74HC163	GE/RCA	CD74HC163	(2640)		Hitachi Motorola SGS-Thomson	HD74HC190 MC74HC190		MM74HC238	GE/RCA	CD74HC238	(2640)
	SGS-Thomson	M74HC147			Hitachi Motorola	HD74HC163 MC74HC163	(2942)		Signetics TI Toshiba	74HC190 SN74HC190 TC74HC190	(3057) (3340)		Motorola SGS-Thomson	MC74HC238	
	Signetics TI Toshiba	74HC147 SN74HC147 TC74HC147	(3057) (3340)		SGS-Thomson	M74HC163		MM74HC191	GE/RCA	CD74HC191	(2640)		Signetics TI Toshiba	74HC238 SN74HC238 TC74HC238A	(3057) (3340)
MM74HC151	GE/RCA	CD74HC151	(2640)		Signetics TI Toshiba	74HC163 SN74HC163 TC74HC163A	(3057) (3340)		Hitachi Motorola SGS-Thomson	HD74HC191 MC74HC191		MM74HC240	GE/RCA	CD74HC240	(2640)
	Hitachi Motorola	HD74HC151 MC74HC151	(2944)	MM74HC164	GE/RCA	CD74HC164	(2640)		Signetics TI Toshiba	74HC191 SN74HC191 TC74HC191	(3057) (3340)		Hitachi Motorola	HD74HC240 MC74HC240	(2939)
	SGS-Thomson	M74HC151			Hitachi Motorola	HD74HC164 MC74HC164	(2943)	MM74HC192	GE/RCA	CD74HC192	(2640)		SGS-Thomson	M74HC240	
	Signetics TI Toshiba	74HC151 SN74HC151 TC74HC151A	(3057) (3340)		SGS-Thomson	M74HC164			Hitachi Motorola SGS-Thomson	HD74HC192 MC74HC192			Signetics Supertex TI Toshiba	74HC240 SN74HC240 TC74HC240A	(3057) (3340)
MM74HC153	Universal GE/RCA	US74HC151 CD74HC153	(2640)		Signetics TI Toshiba	74HC164 SN74HC164 TC74HC164A	(3057) (3340)		Signetics TI Toshiba	74HC192 SN74HC192 TC74HC192A	(3057) (3340)	MM74HC241	GE/RCA	CD74HC241	(2640)
	Hitachi Motorola	HD74HC153 MC74HC153	(2944)	MM74HC165	GE/RCA	CD74HC165	(2640)		Hitachi Motorola	HD74HC192 MC74HC192			Hitachi Motorola	HD74HC241 MC74HC241	(2939)
	SGS-Thomson	M74HC153			Hitachi Motorola	HD74HC165 MC74HC165	(2943)	MM74HC193	GE/RCA	CD74HC193	(2640)		SGS-Thomson	M74HC241	
	Signetics TI Toshiba	74HC153 SN74HC153 TC74HC153	(3057) (3340)		SGS-Thomson	M74HC165			Hitachi Motorola	HD74HC193 MC74HC193	(Cont'd)		Signetics	74HC241	(3057)
MM74HC154	GE/RCA	CD74HC154	(2640)				(Continued)								(Continued)

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				MM74HC266	Motorola SGS-Thomson	MC74HC266 (Cont'd)		MM74HC354	GE/RCA	CD74HC354 (2640)		MM74HC390	TI Toshiba	SN74HC390 TC74HC390A (3340)	(Cont'd)
MM74HC241	Supertex TI Toshiba	74HC241 SN74HC241 TC74HC241A (3340)	(Cont'd)	MM74HC266	Signetics TI Toshiba	M74HC266 74HC266 SN74HC266 TC74HC266A (3340)		MM74HC354	SGS-Thomson	M74HC354 74HC354 SN74HC354 TC74HC354A (3340)		MM74HC393	GE/RCA	CD74HC393 (2641)	
MM74HC242	GE/RCA	CD74HC242 (2640)		MM74HC267	GE/RCA	CD74HC267 (2640)		MM74HC355	Signetics TI Toshiba	74HC355 (3057) SN74HC355 TC74HC355A (3340)		MM74HC393	Hitachi Motorola	HD74HC393 MC74HC393 (2942)	
	Hitachi Motorola	HD74HC242 MC74HC242 (2939)			Motorola	MC74HC267 (2938)		MM74HC356	GE/RCA	CD74HC356 (2640)			SGS-Thomson	M74HC393 74HC393 (3057) SN74HC393 TC74HC393A (3340)	
	SGS-Thomson	M74HC242 74HC242 (3057) SN74HC242 TC74HC242 (3340)		MM74HC273	GE/RCA	CD74HC273 (2640)		MM74HC356	Hitachi Motorola	HD74HC356 MC74HC356 (2945)		MM74HC4002	GE/RCA	CD74HC4002 (2641)	
MM74HC243	GE/RCA	CD74HC243 (2640)			Hitachi Motorola	HD74HC273 MC74HC273 (2942)		MM74HC356	SGS-Thomson	M74HC356 74HC356 (3057) SN74HC356 TC74HC356A (3340)			Motorola	MC74HC4002 (2938)	
	Hitachi Motorola	HD74HC243 MC74HC243 (2939)			SGS-Thomson	M74HC273 74HC273 (3057) SN74HC273 TC74HC273A (3340)		MM74HC365	GE/RCA	CD74HC365 (2641)			SGS-Thomson	M74HC4002 74HC4002 (3057) SN74HC4002 TC74HC4002A (3340)	
	SGS-Thomson	M74HC243 74HC243 (3057) SN74HC243 TC74HC243 (3340)		MM74HC280	GE/RCA	CD74HC280 (2640)		MM74HC365	Hitachi Motorola	HD74HC365 MC74HC365 (2939)		MM74HC4017	GE/RCA	CD74HC4017 (2641)	
MM74HC244	GE/RCA	CD74HC244 (2640, 2653)			Hitachi Motorola	HD74HC280 MC74HC280 (2947)		MM74HC366	SGS-Thomson	M74HC366 74HC366 (3057) SN74HC366 TC74HC366A (3340)			Motorola	MC74HC4017 (2943)	
	Hitachi Motorola	HD74HC244 MC74HC244 (2939)			SGS-Thomson	M74HC280 74HC280 (3057) SN74HC280 TC74HC280A (3340)		MM74HC366	Hitachi Motorola	HD74HC366 MC74HC366 (2939)			SGS-Thomson	M74HC4017 74HC4017 (3057) SN74HC4017 TC74HC4017 (3340)	
	SGS-Thomson	M74HC244 74HC244 (3057) SN74HC244 TC74HC244A (3340)		MM74HC283	GE/RCA	CD74HC283 (2640)		MM74HC366	SGS-Thomson	M74HC366 74HC366 (3057) SN74HC366 TC74HC366A (3340)		MM74HC4020	GE/RCA	CD74HC4020 (2641)	
MM74HC245	GE/RCA	CD74HC245 (2640, 2653)			Motorola	MC74HC283		MM74HC367	Hitachi Motorola	HD74HC367 MC74HC367 (2939)			Hitachi Motorola	HD74HC4020 MC74HC4020 (2943)	
	Hitachi Motorola	HD74HC245 MC74HC245 (2939)			SGS-Thomson	M74HC283 74HC283 (3057) SN74HC283 TC74HC283A (3340)			SGS-Thomson	M74HC367 74HC367 (3057) SN74HC367 TC74HC367A (3340)			SGS-Thomson	M74HC4020 74HC4020 (3057) SN74HC4020 TC74HC4020 (3340)	
	SGS-Thomson	M74HC245 74HC245 (3057) SN74HC245 TC74HC245A (3340)		MM74HC292	Motorola	MC74HC292		MM74HC368	GE/RCA	CD74HC368 (2641)		MM74HC4024	GE/RCA	CD74HC4024 (2641)	
MM74HC251	GE/RCA	CD74HC251 (2640)			SGS-Thomson	M74HC292			Hitachi Motorola	HD74HC368 MC74HC368 (2939)			Hitachi Motorola	HD74HC4024 MC74HC4024 (2943)	
	Hitachi Motorola	HD74HC251 MC74HC251 (2944)		MM74HC294	Motorola	MC74HC294		MM74HC368	SGS-Thomson	M74HC368 74HC368 (3057) SN74HC368 TC74HC368A (3340)			SGS-Thomson	M74HC4024 74HC4024 (3057) SN74HC4024 TC74HC4024 (3340)	
	SGS-Thomson	M74HC251 74HC251 (3057) SN74HC251 TC74HC251A (3340)		MM74HC298	Hitachi Motorola	HD74HC298 MC74HC298			SGS-Thomson	M74HC368 74HC368 (3057) SN74HC368 TC74HC368A (3340)		MM74HC4040	GE/RCA	CD74HC4040 (2641)	
MM74HC253	GE/RCA	CD74HC253 (2640)			SGS-Thomson	M74HC298 74HC298 (3057) SN74HC298 TC74HC298A (3340)		MM74HC373	GE/RCA	CD74HC373 (2641, 2653)			Hitachi Motorola	HD74HC4040 MC74HC4040 (2943)	
	Hitachi Motorola	HD74HC253 MC74HC253 (2944)		MM74HC299	Hitachi Motorola	HD74HC299 MC74HC299 (2944)			SGS-Thomson	M74HC373 74HC373 (3057) SN74HC373 TC74HC373A (3340)			SGS-Thomson	M74HC4040 74HC4040 (3057) SN74HC4040 TC74HC4040 (3340)	
	SGS-Thomson	M74HC253 74HC253 (3057) SN74HC253 TC74HC253A (3340)			SGS-Thomson	M74HC299 74HC299 (3057) SN74HC299 TC74HC299A (3340)		MM74HC374	GE/RCA	CD74HC374 (2641, 2653)		MM74HC4046	GE/RCA	CD74HC4046 (2641)	
MM74HC257	GE/RCA	CD74HC257 (2640, 2653)		MM74HC30	GE/RCA	CD74HC30 (2640)			Hitachi Motorola	HD74HC374 MC74HC374 (2942)			Motorola	MC74HC4046 (2641)	
	Hitachi Motorola	HD74HC257 MC74HC257 (2944)			Hitachi Motorola	HD74HC30 MC74HC30 (2937)		MM74HC374	SGS-Thomson	M74HC374 74HC374 (3057) SN74HC374 TC74HC374A (3340)		MM74HC4049	GE/RCA	CD74HC4049 (2641)	
	SGS-Thomson	M74HC257 74HC257 (3057) SN74HC257 TC74HC257A (3340)		MM74HC32	GE/RCA	CD74HC32 (2640)			SGS-Thomson	M74HC374 74HC374 (3057) SN74HC374 TC74HC374A (3340)			Motorola	MC74HC4049 (2939)	
MM74HC259	GE/RCA	CD74HC259 (2640)			Hitachi Motorola	HD74HC32 MC74HC32 (2937)		MM74HC390	GE/RCA	CD74HC390 (2641)			SGS-Thomson	M74HC4049 74HC4049 (3057) SN74HC4049 TC74HC4049 (3340)	
	Hitachi Motorola	HD74HC259 MC74HC259 (2941)			SGS-Thomson	M74HC32 74HC32 (3057) SN74HC32 TC74HC32A (3340)			Hitachi Motorola	HD74HC390 MC74HC390 (2942)			SGS-Thomson	M74HC4049 74HC4049 (3057) SN74HC4049 TC74HC4049 (3340)	
	SGS-Thomson	M74HC259 74HC259 (3057) SN74HC259 TC74HC259A (3340)		MM74HC323	SGS-Thomson	M74HC323 74HC323 (3057) SN74HC323 TC74HC323A (3340)			SGS-Thomson	M74HC390 74HC390 (3057)					(Continued)
MM74HC266	GE/RCA	CD74HC266 (2640)			TI	SN74HC323 TC74HC323A (3340)									
	Hitachi	HD74HC266 (Continued)			Toshiba	TC74HC323A (3340)									

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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National Semiconductor (Cont'd)				MM74HC4078 (Cont'd)				MM74HC4543 (Cont'd)				MM74HC574 (Cont'd)				
MM74HC4050	GE/RCA	CD74HC4050	(2641)	MM74HC42	TI	SN74HC4078A	(3340)	MM74HC51	Toshiba	TC74HC4543A	(3340)	MM74HC58	SGS-Thomson	M74HC574	(3057)	
	Motorola	MC74HC4050	(2939)		Toshiba	TC74HC4078	(3340)		VLSI Tech	VT20C72	(3343, 3345, 3351)		Signetics	74HC574	(3057)	
		MC84HC4050			Hitachi	HD74HC42	(2945)		GE/RCA	CD74HC51			TI	SN74HC574	(3340)	
	SGS-Thomson				Motorola	MC74HC42	(2945)		Hitachi	HD74HC51			Toshiba	TC74HC574A	(3340)	
		M74HC4050			SGS-Thomson				Motorola	MC74HC51	(2938)		Motorola	MC74HC58	(2938)	
MM74HC4051	Signetics	74HC4050	(3057)	MM74HC423A	Signetics	M74HC42	(3057)	MM74HC533	SGS-Thomson	MC74HC51		MM74HC589	TI	SN74HC58	(2944)	
	Toshiba	TC74HC4050	(3340)		TI	SN74HC42	(3340)		Signetics	74HC51			Hitachi	SN74HC589		
					Toshiba	TC74HC42A	(3340)		TI	SN74HC51			Motorola	HD74HC590		
					Hitachi	HD74HC423			Toshiba	TC74HC51A	(3340)		SGS-Thomson	MC74HC590		
					TI	SN74HC423			GE/RCA	CD74HC533	(2641)					
MM74HC4052	Motorola	MC74HC4051	(2641, 2655)	MM74HC4316	Toshiba	TC74HC423		MM74HC534	Hitachi	HD74HC533		MM74HC592	TI	M74HC590		
			(2945)		GE/RCA	CD74HC4316			Motorola	MC74HC533	(2941)		Toshiba	SN74HC590	(3340)	
	SGS-Thomson				Motorola	MC74HC4316	(2945)						Hitachi	HD74HC592		
		M74HC4051			Signetics	74HC4316			SGS-Thomson	M74HC533			Motorola	MC74HC592		
	Signetics	74HC4051	(3057)	MM74HC4351					Signetics	74HC533	(3057)		MM74HC593	TI	SN74HC592	
MM74HC4053	TI	SN74HC4051			GE/RCA	CD74HC4351		TI	SN74HC533		Toshiba	TC74HC592		(3340)		
	Toshiba	TC74HC4051A	(3340)		Motorola	MC74HC4351	(2945)	Toshiba	TC74HC533A	(3340)	Hitachi	HD74HC593				
					Signetics	74HC4351		GE/RCA	CD74HC534	(2641)	Motorola	MC74HC593				
					GE/RCA	CD74HC4352		Hitachi	HD74HC534		TI	SN74HC593				
					Motorola	MC74HC4352	(2945)	SGS-Thomson	M74HC534		MM74HC595	Toshiba	TC74HC593	(3340)		
MM74HC4054	Signetics	74HC4052	(3057)	MM74HC4352				MM74HC540	Hitachi	HD74HC534			Cypress	CY7C164	(2580)	
	TI	SN74HC4052			GE/RCA	CD74HC4352			Motorola	MC74HC534		(2942)	Hitachi	HD74HC595		
	Toshiba	TC74HC4052A	(3340)		Motorola	MC10H119	(2938)		SGS-Thomson	M74HC534			Inmos	IMS1620	(2794)	
					Motorola	MC74HC4352	(2945)		TI	SN74HC534			MicronTech	MT5C6404		
					Signetics	74HC4352			TI	SN74HC534			Motorola	MC74HC595	(2944)	
MM74HC4055	SGS-Thomson	M74HC4052		MM74HC4353	GE/RCA	CD74HC4352		MM74HC540	SGS-Thomson	M74HC534		MM74HC597	Performance	P4C188		
	Signetics	74HC4052	(3057)		Motorola	MC10H119	(2938)		Signetics	74HC534	(3057)		SGS-Thomson			
	TI	SN74HC4052			Motorola	MC74HC4352	(2945)		TI	SN74HC534			TI	M74HC595		
	Toshiba	TC74HC4052A	(3340)		Signetics	74HC4352			Toshiba	TC74HC534A	(3340)		TI	SMJ64C64	SN74HC595	
					GE/RCA	CD74HC4353			Hitachi	HD74HC540	(2641)		Toshiba	TC74HC595A	(3340)	
MM74HC4056	Motorola	MC74HC4053	(2641, 2655)	MM74HC4353	Signetics	74HC4353		MM74HC541	Hitachi	HD74HC540		MM74HC620	Vitellic	V61C62		
			(2945)		Sprague	LM393			Motorola	MC74HC540	(2940)		VLSI Tech	CT64KS4		
	SGS-Thomson			MM74HC4511	GE/RCA	CD74HC4511	(2641)		SGS-Thomson	M74HC540			MM74HC597	GE/RCA	CD74HC597	(2641)
	Signetics	74HC4053	(3057)		Motorola	MC74HC4511	(2946)		Signetics	74HC540	(3057)			Hitachi	HD74HC597	
	TI	SN74HC4053			SGS-Thomson				TI	SN74HC540				Motorola	MC74HC597	(2944)
MM74HC4060	Toshiba	TC74HC4053A	(3340)	MM74HC4514	SGS-Thomson	M74HC4511		MM74HC541	Toshiba	TC74HC540A	(3340)	MM74HC623		SGS-Thomson	M74HC597	
	GE/RCA	CD74HC4060	(2641)		Signetics	74HC4511	(3057)		Hitachi	HD74HC541	(2641)		Signetics	74HC597	(3057)	
	Motorola	MC74HC4060	(2943)		TI	SN74HC4511			Motorola	MC74HC541	(2940)		TI	SN74HC597		
	SGS-Thomson				Toshiba	TC74HC4511	(3340)		SGS-Thomson	M74HC541			Toshiba	TC74HC597A	(3340)	
	Signetics	74HC4060	(3057)		MM74HC4514	GE/RCA	CD74HC4514		(2641)	SGS-Thomson	M74HC541			MM74HC620	Hitachi	HD74HC620
MM74HC4066	TI	SN74HC4060		MM74HC4514	Hitachi	HD74HC4514		Signetics	74HC541	(3057)	Motorola		MC74HC620			
	Toshiba	TC74HC4060A	(3340)	MM74HC4514	Motorola	MC74HC4514	(2945)	TI	SN74HC541		SGS-Thomson					
				SGS-Thomson			TI	SN74HC541		TI	M74HC620					
	GE/RCA	CD74HC4066	(2641)	MM74HC4514	Signetics	74HC4514	(3057)	MM74HC563	GE/RCA	CD74HC563	(2641)	Toshiba	TC74HC620	(3340)		
	Motorola	MC74HC4066	(2945)	MM74HC4514	TI	SN74HC4514		MM74HC563	Hitachi	HD74HC563		Hitachi	HD74HC623			
MM74HC4066	SGS-Thomson			MM74HC4514	Toshiba	TC74HC4514A	(3340)	MM74HC563	Motorola	MC74HC563		SGS-Thomson				
	Signetics	74HC4066	(3057)	MM74HC4515	GE/RCA	CD74HC4515	(2641)	MM74HC563	SGS-Thomson	M74HC563		TI	M74HC623			
	TI	SN74HC4066		MM74HC4515	Motorola	MC74HC4515	(2945)	MM74HC563	Signetics	74HC563	(3057)	MM74HC640	Toshiba	SN74HC623	(3340)	
	Toshiba	TC74HC4066A	(3340)	MM74HC4515	SGS-Thomson	M74HC4515		MM74HC563	TI	SN74HC563			GE/RCA	CD74HC640	(2641)	
				MM74HC4515	Motorola	MC74HC4515A	(3340)	MM74HC563	Toshiba	TC74HC563A	(3340)	Hitachi	HD74HC640			
MM74HC4075	SGS-Thomson			MM74HC4515	Signetics	74HC4515		MM74HC563	Hitachi	HD74HC563		SGS-Thomson				
	Cypress	CY7C167	(2580)	MM74HC4538	TI	SN74HC4515		MM74HC563	Motorola	MC74HC563		TI	M74HC623			
	GE/RCA	CDM5167		MM74HC4538	Toshiba	TC74HC4515A	(3340)	MM74HC563	SGS-Thomson	M74HC564		Toshiba	SN74HC623	(3340)		
		CD74HC4075	(2641)	MM74HC4538	GE/RCA	CD74HC4538	(2641)	MM74HC563	Signetics	74HC564	(3057)	GE/RCA	CD74HC640	(2641)		
	Inmos	IMS1400		MM74HC4538	Motorola	MC74HC4538		MM74HC563	TI	SN74HC564		Hitachi	HD74HC640			
Matra-Harris	HM65263		MM74HC4538	SGS-Thomson			MM74HC563	Toshiba	TC74HC564A	(3340)	Motorola	MC74HC640	(2940)			
Motorola	MC74HC4075	(2937)	MM74HC4538	Signetics	74HC4538	(3057)	MM74HC563	Hitachi	HD74HC564		SGS-Thomson					
MM74HC4075	Panasonic	MN74HC4075		MM74HC4538	TI	SN74HC4538		MM74HC563	SGS-Thomson	M74HC564		MM74HC643	Signetics	74HC640	(3057)	
	SGS-Thomson			MM74HC4538	Toshiba	TC74HC4538A	(3340)	MM74HC563	TI	SN74HC564			TI	SN74HC640		
		M74HC4075		MM74HC4543	GE/RCA	CD74HC4543	(2641, 2653)	MM74HC563	Toshiba	TC74HC564A	(3340)		Toshiba	TC74HC640A	(3340)	
	Sharp	LH5167		MM74HC4543	SGS-Thomson	M74HC4538		MM74HC563	Hitachi	HD74HC564			SGS-Thomson			
	Signetics	STC2167		MM74HC4543	TI	SN74HC4538		MM74HC563	Signetics	74HC564	(3057)		TI	SN74HC643		
MM74HC4078	TI	SMJ61CD16		MM74HC4543	Motorola	MC74HC4543	(2946)	MM74HC563	TI	SN74HC564		MM74HC645	GE/RCA	CD74HC645		
	Toshiba	TC74HC4075A	(3340)	MM74HC4543	IDT	IDT71682		MM74HC563	Toshiba	TC74HC573A	(3340)		TI	SN74HC645		
	VLSI Tech	VT20C68	(3343, 3345, 3350)	MM74HC4543	MicronTech	MT5C1607		MM74HC563	Hitachi	HD74HC573			GE/RCA	CD74HC646		
				MM74HC4543	Motorola	MC74HC4543	(2946)	MM74HC563	Motorola	MC74HC573	(2941)		MM74HC646	Hitachi	HD74HC646	
				MM74HC4543	Performance	P4C1682		MM74HC563	Hitachi	HD74HC574	(2641)		Motorola	MC74HC646	(2940)	
MM74HC4078	Motorola	MC74HC4078	(2938)	MM74HC4543	Saratoga	SSM6172		MM74HC563	Motorola	MC74HC574	(2942)	MM74HC646	SGS-Thomson	M74HC646		
	SGS-Thomson			MM74HC4543	SGS-Thomson			MM74HC563	Hitachi	HD74HC574						
		M74HC4078		MM74HC4543	Signetics	74HC4543	(3057)	MM74HC563	Motorola	MC74HC574	(2942)					
				MM74HC4543				MM74HC563								
				MM74HC4543				MM74HC563								

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National Semiconductor (Cont'd)				MM74HC86	TI	SN74HC86	(Cont'd)	NMC2116	Mitsubishi	M5M5117	(Cont'd)	NMC2532	Krueger	2532-350	(2877)		
				MM74HC942	Toshiba	TC74HC86	(3340)								2532-450	(2877)	
MM74HC646	Signetics	74HC646	(3057)	MM74HC943	Sierra	SC11002										MM2532	
				MM74HC943	Sierra	SC11003		NMC2116	Motorola	M58275					TDA2530		
				MM74S289	National	DM74S289									TDA2532		
															TDA2530		
MM74HC648	GE/RCA	CD74HC648	(2641)	MM74S289	National	DM74S289									SG2532		
															2564-450	(2877)	
															VT2366		
															AM27C010		
															AM27010		
															AT27C010		
															HN27C010G		
															HN27C101		
															HN27C101G		
															HN27C301G		
															27010		
															27210		
															M5M23C1000		
															M5M27C101K		
															M5M27C102		
															M5M27C102K		
															μPDC1024		
															μPD23C1010		
															MSM271000		
															MSM271024		
															SMM63100		
															TI	2527C010 (3326)	
															TI	2527C210 (3326)	
															TMX27C210		
															TC541000		
															TC571024		
															WaferScale	2527C010 (3390)	
															WS27C210L		
															AM27C1024		
															AT27C1024		
															MBM27C1024		
															HN27C1024		
															HN27C1024G		
															27C1024		
															μPD27C1024		
															μPD27C1024		
															MSM27C1024		
															M27C1024		
															VT27C1024		
															AM27C256		
															AT27C256		
															MBM27C256A	(2628)	
															HN27C256		
															M27C256		
															27C256		
															27C256-200		
															27C256-250		
															27C256-300		
															RO9256		
															27C256	(2913)	
															M5L27256		
															μPD27C256A		
															MSM27C256		
															SEEQ	27C256	
															SGS-Thomson		
															TS27C256		
															27C256		
															CKX54256P		
															SMJ27C256	(3286)	
															TI	2527C256 (3326)	
															TI	2527PC256 (3326)	
															2527PC256	(3326)	
															Toshiba	TC54256	
															TC57256		
															VLSI Tech	VT27C256	
															WaferScale	2527C256 (3390)	
															WS57C256	(3390)	
															WS57C256F	(3390)	
															AM2732		
															M2732		
															2732A		
															2732-250	(2877)	
															2732-300	(2877)	
															2732-350	(2877)	
															2732-450	(2877)	
															2732A-250	(2877)	
															2732A-300	(2877)	
															2732A-350	(2877)	
															2732A-450	(2877)	
															MM2732		
															MSM2732		
															M2732A		
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National Semiconductor (Cont'd)				NMC6164	Matra-Harris	(Cont'd)		NMC93C56	Sierra	SC22056		NM2147	Intel	(Cont'd)			
NMC2732		(Cont'd)				HM62641		NMC93C66	Sierra	SC22057				2147			
	TI	TMS2732A (3326)				HM65641		NMC9306	National	COP494			Krueger	2147H			
NMC2816	Toshiba	TMM324C			MicroLinear	ML8464			Sierra	SC22001				2147-35 (2877)			
	EXEL	XL2816 (2621)			MicronTech	MT5C6404			Xicor	X2444 (3408, 3445)				2147-45 (2877)			
	Harris	HM6617 (2752)			Mitsubishi	AM99C88		NMC9346	Catalyst	CAT93C46				2147-55 (2877)			
	IDT	IDT78C16A				M5M165			EXEL	XL93C46			Motorola	MCM6147			
	Intel	2816B				M5M5164			Gould/AMI	S93C46			National	MM2147			
	Microchip	28C16A (2916)				M5M5165			Hyundai	HY93C45 (2778)				NMC2141			
	National	NMC9816A				M5M5178			ICT	93C46 (2876)				NMC2147H			
	Samsung	KM2816A (3038)				M5M5164			Microchip	ER5911				SGS-Thomson			
	SEEQ	M2816A				M5M5165			National	COP495				ET2147			
		2816A				M5M5178				NMC93C46				STC			
	Xicor	X2816 (3411, 3451)				M5M5188			NCR	NCR59308				Toshiba			
		X2816A (3411, 3451)								NCR59346				AMD			
		X2816AM (3411, 3451)								SGS-Thomson				Cypress			
										M9346				CY2148			
NMC4164	Harris	HA5104				DP8464				TS93C46				CY7C148 (2580)			
	Inmos	IMS2600				μPD4364				SC22011				CY7C149 (2580)			
	IDT	IDT7164 (2848)				MSM5164				SC22304				Hitachi			
	Intel	M2164A				MSM5165				SC22300				HM6148H			
	Krueger	4164-120 (2877)				MSM5188				AM2864A				HM6148HL			
		4164-150 (2877)				P4C164				AM9864				2148H			
		4164-200 (2877)				P4C188				AT28C64				Intel			
						SRM2064				XL2864A				Krueger			
	MicronTech	MT4264				SRM2264				XL2864A (2621)					2148-35 (2877)		
	Motorola	MCM4164								Fujitsu	MBM28C64				2148-45 (2877)		
		MCM4164C								Hitachi	HM58064				2148-70 (2877)		
		MCM6665								IDT	HM58064				NMC2148		
	National	F4164								Intel	IDT7M7864				P4C149		
		F64K								Microchip	I2864A				SSM2148		
	OKI	MSM3764								Mitsubishi	28C64A (2918)				SGS-Thomson		
	Panasonic	MN4164								NEC	M5M28C64				ET2148		
		MN4864								Samsung	μPD28C64				UM2148		
	Samsung	KM4164A (3036)								SEEQ	KM28C64 (3038)				AM99C328		
		KM4164B (3036)									KM2864A				CY7C197 (2580)		
	Saratoga	SSM7164									DQ2864				CY7C199 (2580)		
	SGS-Thomson										DQ2864H				DPS412S88		
		MKB4564									DQ52B33				GE/RCA		
		MK45H64									28C64				GoldStar		
		TS4164									2864				Hitachi		
		HYB4164									X2864A (3412, 3452)				HM64456		
	Siemens	SMJ4164 (3286)									X2864B (3412, 3452)				HY62C256		
	TI	SM4164									X2864H (3412, 3452)				IMS1830		
		TMS4164									NMC9816A				S32K8 (2807)		
		TMM4164									EXEL	XL2816 (2621)				IDT7M856S	
		TMM4164A									Harris	XL2816A (2621)				IDT71256L (2837)	
	Vitellic	V51C64									IDT	HM6617 (2752)				IDT71256S (2837)	
NMC5257A	AMD	AM9044									Intel	IDT78C16A				IDT8M824 (2872)	
NMC5295	Fujitsu	MBM100422									Microchip	2816B				Lattice	
		MBM100422A									National	2816A				MicronTech	
		MB8118									Samsung	NMC2816				Mitsubishi	
	Krueger	2118-120 (2877)									SEEQ	KM2816A (3038)				MS62256	
		2118-150 (2877)										M2816A				Motorola	
		MCM100422										2816				MCM61256	
	Motorola	DM100422										2816A				MCM6206	
	National	F100422										X2816 (3411, 3451)				NEC	
		μPB100422										X2816A (3411, 3451)				μPD43256A	
	NEC	CY7C185 (2580)										X2816AM (3411, 3451)				SRM20256	
	Cypress	CY7C186 (2580)														S-MOS	
	Dense-Pac	XR8464 (2620)														SRM20256C	
	Exar	MB88464														Samsung	
	Fujitsu	MB81C78A														Sharp	
		MB8464															KM62256 (3036)
		MB8464A															LH52256
	GE/RCA	CDM6264 (2644, 2653)															LH52259 (3054)
	GoldStar	GM76C88 (2696, 2703)															Sony
		HM65642 (2747)															CMX58255
	Harris	HM6264															CMX58256
		HM6464															TC55257
		MB6264															TC55274
	Hyundai	HY6264 (2778)															TC55328
	Inmos	IMS1630 (2796)															V62C256
	IDT	IDT7165															MPS2332
	Krueger	6264-100 (2877)															P51C69
		6264-120 (2877)															P51C69
		6264-150 (2877)															UM2168
		6264LP-100 (2877)															51C69
		6264LP-120 (2877)															RO9432
		6264LP-150 (2877)															M58333
																	F3532
																	NCR2332
																	PN2332
																	LH2332
																	SAB8332
																	SAB8332
																	2332
																	2632A
																	SG3532
																	CM3200
																	23SC32
																	D51C69
																	P51C69
																	TMM333P
																	VT2332
																	(Continued)
																	(Continued)

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The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				OPA101			(Cont'd)	PAL14L8	Cypress		(Cont'd)	PAL16L8			(Cont'd)
NM52264	Gould/AMI	S2364			SGS-Thomson	LF156				CYPALC22V10L-25			Samsung	CPL16L8-25	
	Microchip	RO39365			TI	TL081			Gould/AMI	CYPALC22V10L-35				CPL16L8-35	(3031)
	Mitsubishi	RO9864		PAL10H8	ICT	PEEL18CV8	(4257)		ICT	PEEL22CV10	(4242)			CPL16L8L-35	(3031)
		M5M23C64			Lattice	GAL16V8-25L	(4259)			PEEL22CV10	(4257)			PLHS18P8	(3209, 3227)
		M5M2364			MMI	PAL10H8			Lattice	GAL16V8-25L	(4259)			Sprague	SPL16LC8
	National	M5M2365				PAL16A4				GAL20V8-25L	(4260)			TI	TIBPAL16H8
		F3568			National	PAL16A4			MMI	PALC22V10				TIBPAL16L8	
		F3569			Signetics	PLC153				PALC22V10H-25				TIBPAL16L8-20	
		F3570				PLHS153				PALC22V10H-35				AMPAL16L8A	
		MM52264				PLHS18P8	(3209, 3227)			PAL14L8				GALL16V8-25L	(4259)
	OKI	MSM3864				PLS153	(3209, 3223)		Samsung	CPL20L8-35	(3031)			MMI	PAL16L8A
	Panasonic	MN2364				PEEL253	(4242)			CPL22V10-25				National	16P8B2
	SGS-Thomson			PAL10L8	Gould/AMI	PEEL153	(4257)			CPL22V10L-35				TI	TIBPAL16L8-30
					ICT	PEEL18CV8	(4257)			CPL22V10L-25					TIBPAL16L8A
					Lattice	PEEL253	(4257)			CPL22V10L-35					AMPAL16L8B
						GAL16V8-25L	(4259)			PLS173	(3209, 3226)			AMD	GALL16V8-15L
					MMI	PAL10L8			Signetics					Lattice	(4259)
					Signetics	PLC153			TI	TIBPAL22V10	(3304)			MMI	PAL16L8B
						PLHS153				TIBPAL22V10A	(3283, 3304)			National	F16L8B
						PLHS18P8	(3209, 3227)			PEEL18CV8	(4257)			Lattice	GALL16V8-25Q
						PLS153	(3209, 3223)			GAL16V8-25L	(4259)			Samsung	CPL16L8L-35
						PEEL18CV8	(4257)								(3031)
						GAL16V8-25L	(4259)							ICT	PEEL18CV8
														National	(4257)
														TI	TIBPAL16P8
														ICT	PEEL18CV8
														ICT	(4257)
														AMD	AMPAL16R4
														Cypress	CYPALC16R4
															CYPAL16R4
															GM231024
															HPL16R4
															PEEL18CV8
															(4257)
															PALC16R4Q-25
															PAL16R4
															PAL16R4D-4
															CPL16R4L-25
															(3031)
															TC53100
															AMPAL16R4A
															GALL16V8-25L
															(4259)
															PAL16R4A
															16RP4A
															16RP4B2
															16R4A
															CPL16R4-25
															(3031)
															TIBPAL16R4A
															AMPAL16R4B
															GALL16V8-15L
															(4259)
															PAL16R4B
															F16R4B
															GALL16V8-25Q
															(4259)
															PAL16R4B4
															National
															Samsung
															PAL16R6B4
															CPL16R4L-35
															(3031)
															CPL16R6-35
															(3031)
															CPL16R6L-35
															(3031)
															AMPAL16R6
															CYPAL16R6
															HPL16RC6
															(2745)
															HPL16RC6-5
															(2745)
															HPL16R6
															PEEL18CV8
															(4257)
															GALL16V8
															(4259)
															GALL16V8-25L
															(4259)
															PAL16R6
															CPL16R6-35
															(3031)
															CPL16R6L-35
															(3031)
															TIBPAL16R6
															TIBPAL16R6-20
															TIBPAL16R6-30
															AMPAL16R6A
															GALL16V8-25L
															(4259)
															PAL16R6A
															16P8A
															16P8B
															(Continued)

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				PAL18L4	MMI	(Cont'd)		PAL20L8	TI	TIBPAL20L8 TIBPAL20L8-20 (3283)		PAL20X10	MMI	PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL20X10 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL20X10-25 (3283) TIBPAL22V10 (3304) TIBPAL22V10A (3283, 3304)	
PAL16R6A	National	16RP6B2 16R6A CPL16R6-25 (3031)			Samsung	CPL20L8-35 (3031)		PAL20L8A	VLSI Tech AMD Lattice	VT64KS4 AMPAL20L8A GAL20V8-25L (4260)			Samsung		
PAL16R6B	TI	TIBPAL16R6A			TI	CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL18L4 TIBPAL22V10 (3304) TIBPAL22V10A (3283, 3304)			MMI	PAL20L8A PAL20L8B-2 CPL20L8-25 (3031) CPL20L8-35 (3031)			TI		
PAL16R6B4	AMD National Lattice	AMPAL16R6B GAL16V8-15L (4259)		PAL20C1	AMD	AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL20C1 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL22V10 (3304) TIBPAL22V10A (3283, 3304)		PAL20R10	Cypress	TIBPAL20L8A PLDC20R10 PAL20R10 CPL20R10A CD54AC174 (2642) PEEL20CG10 PEEL20CG10 (4257) GAL20V8 54AC174 CPL20R4-35 (3031)		PAL20X4	AMD	AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL20X4 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL20X4-25 (3283) TIBPAL22V10 (3304) TIBPAL22V10A (3283, 3304)	
PAL16R8	AMD Cypress	AMPAL16R8 CYPALC16R8 CYPAL16R8 HPL16RC8 (2745) HPL16RC8-5 (2745)			Cypress	PEEL20CG10 PEEL20CG10 (4257)		PAL20R4	GE/RCA Gould/AMI ICT	PEEL20CG10 PEEL20CG10 (4257) GAL20V8 54AC174 CPL20R4-35 (3031)			MMI		
	Harris	HPL16R8 PEEL18CV8 (4257) GAL16V8 (4259) GAL16V8-25L (4259)			Samsung	PEEL20CG10 PEEL20CG10 (4257)		PAL20R4A	AMD Lattice	AMPAL20R4A GAL20V8-25L (4260)			Samsung		
	ICT Lattice				TI	PEEL20CG10 PEEL20CG10 (4257)			MMI	PAL20R4A PAL20R4B-2 TIBPAL20R4-25 (3303)			TI		
	MMI Samsung	PAL16R8 CPL16R8-35 (3031) CPL16R8L-35 (3031)		PAL20L10	AMD	AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10 (4257)		PAL20R6	Cypress Gould/AMI ICT	TIBPAL20R4A CYPLDC20G10 PEEL20CG10 PEEL20CG10 (4257)		PAL20X8	AMD	AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL20X8 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL20X8-25 (3283) TIBPAL22V10 (3304) TIBPAL22V10A (3283, 3304)	
PAL16R8A	AMD Lattice	SN74PAL16R8A TIBPAL16R8-20 TIBPAL16R8-30 AMPAL16R8A GAL16V8-25L (4259)			MMI	PAL12L10 PAL20L10 PAL12L10 CPL20L10-35 (3031)			MMI National Signetics TI	PAL20R6 F100170 100170 (3074) TIBPAL20R6 TIBPAL20R6-20 (3283)			MMI		
	MMI National	PAL16R8A 16RP8A 16RP8B2 16R8A CPL16R8-25 (3031)		PAL20L2	AMD	PEEL173 TIBPAL12L10 TIBPAL20L10 TIBPAL20L10A-2 AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PEEL20CG10 PEEL20CG10 (4257) GAL20V8-25L (4260)		PAL20R6A	AMD Lattice	AMPAL20R6A GAL20V8-25L (4260)			Samsung		
	Samsung	TIBPAL16R8A AMPAL16R8B GAL16V8-15L (4259)			Cypress	PEEL20CG10 PEEL20CG10 (4257)			MMI Samsung	PAL20R6A CPL20R6-25 (3031) TIBPAL20R6-25 (3303)			TI		
PAL16R8B	TI	TIBPAL16R8A			Gould/AMI ICT	PEEL20CG10 PEEL20CG10 (4257)		PAL20R8	Cypress Gould/AMI ICT	TIBPAL20R6A CYPLDC20G10 PEEL20CG10 PEEL20CG10 (4257)		PAL26L6	AMD	AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL20X8 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL20X8-25 (3283) TIBPAL22V10 (3304) TIBPAL22V10A (3283, 3304)	
PAL16R8B4	MMI National Lattice	PAL16R8B F16R8B GAL16V8-25Q (4259)			MMI	PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL20L2 CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35 TIBPAL20L2 TIBPAL22V10 (3304) TIBPAL22V10A (3283, 3304)			TI	TIBPAL20R8 TIBPAL20R8-20 (3283)			MMI		
	Samsung	CPL16R8L-35 (3031)			Samsung	PEEL20CG10 PEEL20CG10 (4257)		PAL20R8A	AMD Lattice	AMPAL20R8A GAL20V8-25L (4260)			Samsung		
PAL16R8C	ICT Lattice	PEEL18CV8 (4257) GAL16V8-25L (4259)			TI	PEEL20CG10 PEEL20CG10 (4257)			MMI	PAL20R8A PAL20R8B-2 CPL20R8-25 (3031) TIBPAL20R8-25 (3303)			TI		
	MMI Samsung	PAL16R8A-2 CPL16R8-35 (3031)		PAL20L8	Cypress	CYPLDC20G10 MB81C88 PEEL20CG10 HM7688HP HY62C88 PEEL20CG10 (4257)		PAL20V8-15L	Lattice	TIBPAL20R8A GAL20V8-15L (4260)		SCX6224	National	SCX6225	
PAL16V8-15L	Lattice	TIBPAL16R8A-2 GAL16V8-15L (4259)			Fujitsu	PEEL20CG10 PEEL20CG10 (4257)		PAL20V8-25L	Lattice	GAL20V8-25L (4260)		SCX6225	National	SCX6224	
PAL16V8-20L	Lattice	GAL16V8-20L (4259)			Gould/AMI	PEEL20CG10 PEEL20CG10 (4257)		PAL20V8-25Q	Lattice	GAL20V8-25Q (4260)		SCX6306	Motorola	HCA6306	
PAL16V8-25L	Lattice	GAL16V8-25L (4259)			Hyundai	PEEL20CG10 PEEL20CG10 (4257)		PAL20V8-30Q	Lattice	GAL20V8-30Q (4260)		SCX6312	Motorola	HCA6312	
PAL16V8-25Q	Lattice	GAL16V8-25Q (4259)			ICT	PEEL20CG10 PEEL20CG10 (4257)				GAL20V8-25Q (4260)		SCX6324	Motorola	HCA6324	
PAL16V8-30L	Lattice	GAL16V8-30L (4259)			MicronTech	MT5C6404 M5M5188 M5M5188AP PAL20L8 F100165 μPD4362C MSM5188A CPL20L8-35 (3031)		PAL20V8-35L	Lattice	GAL20V8-35L (4260)		SCX6325	Motorola	HCA6324	
PAL16V8-30Q	Lattice	GAL16V8-30Q (4259)			Mitsubishi	PEEL20CG10 PEEL20CG10 (4257)		PAL20V8-35Q	Lattice	GAL20V8-35Q (4260)		SCX6348	Motorola	HCA6348	
PAL16X4	MMI	PAL16X4			National	PEEL20CG10 PEEL20CG10 (4257)				GAL20V8-25Q (4260)		SG75464	Motorola	MC75404	
PAL18L4	AMD	AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 PEEL20CG10 PEEL20CG10 (4257)			NEC	PEEL20CG10 PEEL20CG10 (4257)		PAL20X10	AMD	AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 CYPALC22V10L-35 CYPALC22V10L-35 (Continued)		SH0323	Motorola	IP123-5 IP323 LAS1405 LM323 LT323 M78H05 LM323 (2960) (Continued)	
	Cypress	PEEL20CG10 PEEL20CG10 (4257)			OKI	MSM5188A CPL20L8-35 (3031)			Cypress	AMPAL22V10 AMPAL22V10A CYPALC22V10 CYPALC22V10-25 CYPALC22V10-35 CYPALC22V10L-25 CYPALC22V10L-35 CYPALC22V10L-35 (Continued)			Lambda LinearTech		
	Gould/AMI ICT	PEEL20CG10 PEEL20CG10 (4257)			Sharp	LH5262 100165 CXK5464AP (Continued)							Micropac		
	Lattice	GAL20V8-25L (4260)			Signetics	100165 (3074)							Motorola		
	MMI	PALC22V10 (Continued)			Sony	CXK5464AP (Continued)									

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				54ACT151	GE/RCA	CD54ACT151 (2642)		54AC32	GE/RCA	CD54AC32 (2642)		54F245	Motorola	MC54F245 (2939)	
				54ACT157	GE/RCA	CD54ACT157 (2642)		54AC323	GE/RCA	CD54AC323 (2643)			Signetics	54F245	
				54ACT158	GE/RCA	CD54ACT158 (2642)		54AC373	GE/RCA	CD54AC373 (2643)			TI	SN54F245	
				54ACT161	GE/RCA	CD54ACT161 (2642)		54AC374	GE/RCA	CD54AC374 (2643)		54F253	TI	SN54F253	
				54ACT163	GE/RCA	CD54ACT163 (2642)		54AC540	GE/RCA	CD54AC540 (2643)		54F257	Motorola	MC54F257 (2944)	
				54ACT174	GE/RCA	CD54ACT174 (2642)		54AC541	GE/RCA	CD54AC541 (2643)			Signetics	54F257	
				54ACT175	GE/RCA	CD54ACT175 (2642)		54AC563	GE/RCA	CD54AC563 (2643)			TI	SN54F257	
				54ACT240	GE/RCA	CD54ACT240 (2642)		54AC564	GE/RCA	CD54AC564 (2643)		54F258	Motorola	MC54F258 (2944)	
				54ACT244	GE/RCA	CD54ACT244 (2642)		54AC573	GE/RCA	CD54AC573 (2643)			Signetics	54F258	
				54ACT245	GE/RCA	CD54ACT245 (2642)		54AC574	GE/RCA	CD54AC574 (2643)		54F27	TI	SN54F258	
				54ACT251	GE/RCA	CD54ACT251 (2642)		54AC646	GE/RCA	CD54AC646 (2643)		54F280	Motorola	MC54F280 (2947)	
				54ACT253	GE/RCA	CD54ACT252 (2642)		54AC648	GE/RCA	CD54AC648 (2643)			Signetics	54F280	
				54ACT257	GE/RCA	CD54ACT257 (2642)		54AC74	GE/RCA	CD54AC74 (2642)		54F283	Motorola	MC54F283 (2947)	
				54ACT258	GE/RCA	CD54ACT258 (2642)		54AC86	GE/RCA	CD54AC86 (2642)			TI	SN54F283	
				54ACT273	GE/RCA	CD54ACT273 (2643)		54F00	Motorola	MC54F00 (2937)		54F299	TI	SN54F299	
				54ACT299	GE/RCA	CD54ACT299 (2643)			Signetics	54F00		54F30	TI	SN54F30	
				54ACT32	GE/RCA	CD54ACT32 (2642)		54F02	Motorola	MC54F02 (2938)		54F32	Motorola	MC54F32 (2937)	
				54ACT323	GE/RCA	CD54ACT323 (2643)			Signetics	54F02			Signetics	54F32	
				54ACT373	GE/RCA	CD54ACT373 (2643)		54F04	Motorola	MC54F04 (2939)			TI	SN54F32	
				54ACT374	GE/RCA	CD54ACT374 (2643)			Signetics	54F04		54F350	Motorola	MC54F350 (2947)	
				54ACT533	GE/RCA	CD54ACT533 (2643)		54F08	Motorola	MC54F08 (2937)			TI	SN54F350	
				54ACT534	GE/RCA	CD54ACT534 (2643)			Signetics	54F08		54F352	Motorola	MC54F352 (2944)	
				54ACT563	GE/RCA	CD54ACT563 (2643)		54F10	Motorola	MC54F10 (2937)			TI	SN54F352	
				54ACT564	GE/RCA	CD54ACT564 (2643)			Signetics	54F10		54F373	Motorola	MC54F373 (2941)	
				54ACT573	GE/RCA	CD54ACT573 (2643)		54F109	Motorola	MC54F109 (2941)			Signetics	54F373	
				54ACT574	GE/RCA	CD54ACT574 (2642)			Signetics	54F109		54F374	Motorola	MC54F374 (2942)	
				54ACT774	GE/RCA	CD54ACT774 (2642)		54F11	Motorola	MC54F11 (2937)			TI	SN54F374	
				54AC00	LinearTech	LM385-1.2			Signetics	54F11		54F381	Motorola	MC54F381 (2947)	
					National	LM385-1.2		54F112	Motorola	MC54F112 (2945)			TI	SN54F381	
					Plessey	REF12		54F138	Motorola	MC54F138 (2945)		54F382	Motorola	MC54F382 (2947)	
					TeledyneS	TSC04			Signetics	54F138			TI	SN54F382	
				54AC02	GE/RCA	CD54AC02 (2642)		54F139	Motorola	MC54F139 (2945)		54F521	Motorola	MC54F521 (2946)	
				54AC04	GE/RCA	CD54AC04 (2642)			Signetics	54F139			Signetics	54F521	
				54AC08	GE/RCA	CD54AC08 (2642)		54F153	Motorola	MC54F153 (2944)		54F533	Motorola	MC54F533 (2941)	
				54AC109	GE/RCA	CD54AC109 (2642)			Signetics	54F153			TI	SN54F533	
				54AC138	GE/RCA	CD54AC138 (2642)		54F157	Motorola	MC54F157 (2944)		54F534	Motorola	MC54F534 (2942)	
				54AC139	GE/RCA	CD54AC139 (2642)			Signetics	54F157			TI	SN54F534	
				54AC14	GE/RCA	CD54AC14 (2642)		54F158	Motorola	MC54F158 (2944)		54F543	TI	SN54F543	
				54AC151	GE/RCA	CD54AC151 (2642)			Signetics	54F158		54F544	TI	SN54F544	
				54AC153	GE/RCA	CD54AC153 (2642)		54F189	AMD	AM27LS03		54F557	AMD	AM25S557	
				54AC157	GE/RCA	CD54AC157 (2642)			Cypress	AM27S03			LogicDev	LMU557	
				54AC158	GE/RCA	CD54AC158 (2642)			TI	SN74S189			MMI	SN54S557	
					Gould/AMI	PEEL20CG10		54F189	Motorola	MC54F189 (2944)		54F573	TI	SN74S557	
					ICT	PEEL20CG10			Signetics	54F189		54F620	Motorola	MC54F620	
					Lattice	GAL20V8			TI	SN54F189			Signetics	54F620	
					National	GAL20V8		54F20	Motorola	MC54F20 (2937)		54F621	TI	SN54F620	
					GE/RCA	CD54AC161 (2642)			Signetics	54F20		54F623	Motorola	MC54F623	
					Lattice	GAL20V8		54F219	AMD	AM27S07			TI	SN54F623	
					GE/RCA	CD54AC163 (2642)			Cypress	CY27S07		54F74	Motorola	MC54F74 (2941)	
					Lattice	GAL20V8			National	CY7C190			GE/RCA	CD54HCT04 (2639)	
					GE/RCA	CD54AC174 (2642)			TI	DM75S07		54HCT04	Motorola	MC54HCT04	
					ICT	PEEL20CG10				DM75S07			National	MM54HCT04	
					Lattice	GAL20V8				74F219		54HC125	GE/RCA	CD54HCT04	
					National	PAL20R4				SN54LS219A			TI	SN54HCT04	
					Samsung	CPL20R4-35				SN54HC189			Signetics	SN54HCT04	
										SN74HCT189			TI	SN54HCT04	
										MC54F240			GE/RCA	CD54HCT125	
										SN54F240					
										54F240					
										TI					
										SN54F240					
										MC54F241 (2939)					
										54F241					
										TI					
										SN54F241					
										MC54F242 (2939)					
										54F242					
										TI					
										SN54F242					
										MC54F243 (2939)					
										54F243					
										TI					
										SN54F243					
										MC54F244 (2939)					
										54F244					
										TI					
										SN54F244					
										MC54F244 (2939)					
										54F244					
										TI					
										SN54F244					

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				54LS136	Signetics	54LS136	(Cont'd)	54LS162A	SGS-Thomson	(Cont'd)	54LS240	Motorola	SN54LS240	(2939)	
54LS00	SGS-Thomson	T54LS00	(Cont'd)	54LS138	Motorola	SN54LS138	(2945)	54LS163A	Signetics	T54LS162	54LS241	TI	T54LS240		
54LS02	TI	SN54LS02	(2938)	54LS139	Motorola	SN54LS139	(2945)	54LS164	TI	SN54LS162A	54LS244	Motorola	SN54LS241	(2939)	
54LS03	Motorola	SN54LS03	(2937)	54LS14	Motorola	SN54LS14	(2940)	54LS165	SGS-Thomson	SN54LS163A	54LS245	TI	T54LS241		
54LS04	Motorola	SN54LS04	(2939)	54LS15	Motorola	SN54LS15	(2937)	54LS166	TI	DM54LS163	54LS247	Motorola	SN54LS244	(2939)	
54LS05	Motorola	SN54LS05	(2939)	54LS151	Motorola	SN54LS151	(2944)	54LS168	SGS-Thomson	DM54LS163A	54LS248	TI	T54LS244		
54LS08	Motorola	SN54LS08	(2937)	54LS152	Cypress	CY7C166	(2580)	54LS169	TI	T54LS163	54LS251	Motorola	SN54LS245	(2939)	
54LS09	Motorola	SN54LS09	(2937)	54LS153	Motorola	SN54LS153		54LS170	TI	SN54LS163A	54LS253	TI	SN54LS245		
54LS10	Motorola	SN54LS10	(2937)	54LS155	Motorola	SN54LS155	(2945)	54LS173	SGS-Thomson	SN54LS164	54LS256	Motorola	SN54LS247	(2945)	
54LS109	Motorola	SN54LS109	(2941)	54LS156	Motorola	SN54LS156	(2945)	54LS174	TI	SN54LS164	54LS257A	Motorola	SN54LS248	(2945)	
54LS11	Motorola	SN54LS11	(2937)	54LS157	Motorola	SN54LS157	(2944)	54LS175	TI	SN54LS165A	54LS258A	Motorola	SN54LS249		
54LS112	SGS-Thomson	T54LS112		54LS158	Motorola	SN54LS158	(2944)	54LS176	SGS-Thomson	SN54LS166	54LS259	Motorola	SN54LS250		
54LS113	SGS-Thomson	T54LS113		54LS160A	Motorola	SN54LS160A	(2942)	54LS177	TI	SN54LS166A	54LS260	Motorola	SN54LS251		
54LS114	SGS-Thomson	T54LS114		54LS161A	Motorola	SN54LS161A	(2942)	54LS178	SGS-Thomson	SN54LS167	54LS266	Motorola	SN54LS252	(2944)	
54LS125A	Motorola	SN54LS125A	(2939)	54LS162A	Motorola	SN54LS162A	(2942)	54LS179	TI	SN54LS167A	54LS267	Motorola	SN54LS253	(2944)	
54LS126	Motorola	SN54LS126	(2939)	54LS163A	Motorola	SN54LS163A	(2942)	54LS180	SGS-Thomson	SN54LS168	54LS268	Motorola	SN54LS254	(2944)	
54LS126	Motorola	SN54LS126	(2939)	54LS164	Motorola	SN54LS164	(2943)	54LS181	TI	SN54LS168A	54LS269	Motorola	SN54LS255	(2944)	
54LS126	Motorola	SN54LS126	(2939)	54LS165	Motorola	SN54LS165	(2943)	54LS182	SGS-Thomson	SN54LS169	54LS270	Motorola	SN54LS256	(2944)	
54LS126	Motorola	SN54LS126	(2939)	54LS166	Motorola	SN54LS166	(2943)	54LS183	TI	SN54LS169A	54LS271	Motorola	SN54LS257	(2944)	
54LS126	Motorola	SN54LS126	(2939)	54LS167	Motorola	SN54LS167	(2943)	54LS184	SGS-Thomson	SN54LS170	54LS272	Motorola	SN54LS258	(2944)	
54LS126	Motorola	SN54LS126	(2939)	54LS168	Motorola	SN54LS168	(2943)	54LS185	TI	SN54LS170A	54LS273	Motorola	SN54LS259	(2941)	
54LS126	Motorola	SN54LS126	(2939)	54LS169	Motorola	SN54LS169	(2943)	54LS186	SGS-Thomson	SN54LS171	54LS274	Motorola	SN54LS260	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS170	Motorola	SN54LS170	(2943)	54LS187	TI	SN54LS171A	54LS275	Motorola	SN54LS261	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS171	Motorola	SN54LS171	(2943)	54LS188	SGS-Thomson	SN54LS172	54LS276	Motorola	SN54LS262	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS172	Motorola	SN54LS172	(2943)	54LS189	TI	SN54LS172A	54LS277	Motorola	SN54LS263	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS173	Motorola	SN54LS173	(2943)	54LS190	SGS-Thomson	SN54LS173A	54LS278	Motorola	SN54LS264	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS174	Motorola	SN54LS174	(2942)	54LS191	TI	SN54LS173A	54LS279	Motorola	SN54LS265	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS175	Motorola	SN54LS175	(2942)	54LS192	SGS-Thomson	SN54LS174	54LS280	Motorola	SN54LS266	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS176	Motorola	SN54LS176	(2942)	54LS193	TI	SN54LS174A	54LS281	Motorola	SN54LS267	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS177	Motorola	SN54LS177	(2942)	54LS194	SGS-Thomson	SN54LS175	54LS282	Motorola	SN54LS268	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS178	Motorola	SN54LS178	(2942)	54LS195	TI	SN54LS175A	54LS283	Motorola	SN54LS269	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS179	Motorola	SN54LS179	(2942)	54LS196	SGS-Thomson	SN54LS176	54LS284	Motorola	SN54LS270	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS180	Motorola	SN54LS180	(2942)	54LS197	TI	SN54LS176A	54LS285	Motorola	SN54LS271	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS181	Motorola	SN54LS181	(2942)	54LS198	SGS-Thomson	SN54LS177	54LS286	Motorola	SN54LS272	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS182	Motorola	SN54LS182	(2942)	54LS199	TI	SN54LS177A	54LS287	Motorola	SN54LS273	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS183	Motorola	SN54LS183	(2942)	54LS200	SGS-Thomson	SN54LS178	54LS288	Motorola	SN54LS274	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS184	Motorola	SN54LS184	(2942)	54LS201	TI	SN54LS178A	54LS289	Motorola	SN54LS275	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS185	Motorola	SN54LS185	(2942)	54LS202	SGS-Thomson	SN54LS179	54LS290	Motorola	SN54LS276	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS186	Motorola	SN54LS186	(2942)	54LS203	TI	SN54LS179A	54LS291	Motorola	SN54LS277	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS187	Motorola	SN54LS187	(2942)	54LS204	SGS-Thomson	SN54LS180	54LS292	Motorola	SN54LS278	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS188	Motorola	SN54LS188	(2942)	54LS205	TI	SN54LS180A	54LS293	Motorola	SN54LS279	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS189	Motorola	SN54LS189	(2942)	54LS206	SGS-Thomson	SN54LS181	54LS294	Motorola	SN54LS280	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS190	Motorola	SN54LS190	(2942)	54LS207	TI	SN54LS181A	54LS295	Motorola	SN54LS281	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS191	Motorola	SN54LS191	(2942)	54LS208	SGS-Thomson	SN54LS182	54LS296	Motorola	SN54LS282	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS192	Motorola	SN54LS192	(2942)	54LS209	TI	SN54LS182A	54LS297	Motorola	SN54LS283	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS193	Motorola	SN54LS193	(2942)	54LS210	SGS-Thomson	SN54LS183	54LS298	Motorola	SN54LS284	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS194	Motorola	SN54LS194	(2942)	54LS211	TI	SN54LS183A	54LS299	Motorola	SN54LS285	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS195	Motorola	SN54LS195	(2942)	54LS212	SGS-Thomson	SN54LS184	54LS300	Motorola	SN54LS286	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS196	Motorola	SN54LS196	(2942)	54LS213	TI	SN54LS184A	54LS301	Motorola	SN54LS287	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS197	Motorola	SN54LS197	(2942)	54LS214	SGS-Thomson	SN54LS185	54LS302	Motorola	SN54LS288	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS198	Motorola	SN54LS198	(2942)	54LS215	TI	SN54LS185A	54LS303	Motorola	SN54LS289	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS199	Motorola	SN54LS199	(2942)	54LS216	SGS-Thomson	SN54LS186	54LS304	Motorola	SN54LS290	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS200	Motorola	SN54LS200	(2942)	54LS217	TI	SN54LS186A	54LS305	Motorola	SN54LS291	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS201	Motorola	SN54LS201	(2942)	54LS218	SGS-Thomson	SN54LS187	54LS306	Motorola	SN54LS292	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS202	Motorola	SN54LS202	(2942)	54LS219	TI	SN54LS187A	54LS307	Motorola	SN54LS293	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS203	Motorola	SN54LS203	(2942)	54LS220	SGS-Thomson	SN54LS188	54LS308	Motorola	SN54LS294	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS204	Motorola	SN54LS204	(2942)	54LS221	TI	SN54LS188A	54LS309	Motorola	SN54LS295	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS205	Motorola	SN54LS205	(2942)	54LS222	SGS-Thomson	SN54LS189	54LS310	Motorola	SN54LS296	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS206	Motorola	SN54LS206	(2942)	54LS223	TI	SN54LS189A	54LS311	Motorola	SN54LS297	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS207	Motorola	SN54LS207	(2942)	54LS224	SGS-Thomson	SN54LS190	54LS312	Motorola	SN54LS298	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS208	Motorola	SN54LS208	(2942)	54LS225	TI	SN54LS190A	54LS313	Motorola	SN54LS299	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS209	Motorola	SN54LS209	(2942)	54LS226	SGS-Thomson	SN54LS191	54LS314	Motorola	SN54LS300	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS210	Motorola	SN54LS210	(2942)	54LS227	TI	SN54LS191A	54LS315	Motorola	SN54LS301	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS211	Motorola	SN54LS211	(2942)	54LS228	SGS-Thomson	SN54LS192	54LS316	Motorola	SN54LS302	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS212	Motorola	SN54LS212	(2942)	54LS229	TI	SN54LS192A	54LS317	Motorola	SN54LS303	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS213	Motorola	SN54LS213	(2942)	54LS230	SGS-Thomson	SN54LS193	54LS318	Motorola	SN54LS304	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS214	Motorola	SN54LS214	(2942)	54LS231	TI	SN54LS193A	54LS319	Motorola	SN54LS305	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS215	Motorola	SN54LS215	(2942)	54LS232	SGS-Thomson	SN54LS194	54LS320	Motorola	SN54LS306	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS216	Motorola	SN54LS216	(2942)	54LS233	TI	SN54LS194A	54LS321	Motorola	SN54LS307	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS217	Motorola	SN54LS217	(2942)	54LS234	SGS-Thomson	SN54LS195	54LS322	Motorola	SN54LS308	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS218	Motorola	SN54LS218	(2942)	54LS235	TI	SN54LS195A	54LS323	Motorola	SN54LS309	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS219	Motorola	SN54LS219	(2942)	54LS236	SGS-Thomson	SN54LS196	54LS324	Motorola	SN54LS310	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS220	Motorola	SN54LS220	(2942)	54LS237	TI	SN54LS196A	54LS325	Motorola	SN54LS311	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS221	Motorola	SN54LS221	(2942)	54LS238	SGS-Thomson	SN54LS197	54LS326	Motorola	SN54LS312	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS222	Motorola	SN54LS222	(2942)	54LS239	TI	SN54LS197A	54LS327	Motorola	SN54LS313	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS223	Motorola	SN54LS223	(2942)	54LS240	SGS-Thomson	SN54LS198	54LS328	Motorola	SN54LS314	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS224	Motorola	SN54LS224	(2942)	54LS241	TI	SN54LS198A	54LS329	Motorola	SN54LS315	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS225	Motorola	SN54LS225	(2942)	54LS242	SGS-Thomson	SN54LS199	54LS330	Motorola	SN54LS316	(2938)	
54LS126	Motorola	SN54LS126	(2939)	54LS226	Motorola	SN54LS226	(2942)	54LS243	TI	SN54LS199A	54LS331	Motorola	SN54LS317	(2938)	
54LS126	Motorola	SN54LS126	(2939)												

ALTERNATE SOURCE DIRECTORY (Cont'd)

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				54LS375	Motorola	SN54LS375 (2941)		54LS958	Motorola	SN54LS958 (2944)		54121	Signetics	54121	(Cont'd)
54LS283	Signetics	54LS283		54LS377	Motorola	SN54LS377 (2942)			National	DM54LS958			Signetics	54121	
	TI	SN54LS283			SGS-Thomson	T54LS377			SGS-Thomson	T54LS958		54122	TI	SN54121	
54LS295A	Motorola	SN54LS295A			Signetics	54LS377		54S10	National	DM54S10			Lansdale	ML54122	
	SGS-Thomson	T54LS295		54LS378	Motorola	SN54LS378 (2942)			Signetics	54S10		54123	TI	SN54122	
	TI	SN54LS295B			SGS-Thomson	T54LS378		54S114	TI	SN54S114			Lansdale	ML54123	
54LS298	Motorola	SN54LS298 (2944)			Signetics	54LS378		54S132	TI	SN54S132			Mitsubishi	M54123	
	National	DM54LS298		54LS379	Motorola	SN54LS379 (2942)		54S133	National	DM54S133			National	DM54123	
	SGS-Thomson	T54LS298			SGS-Thomson	T54LS379			Signetics	54S133		54125	Signetics	54123	
	Signetics	54LS298			TI	SN54LS379		54S134	National	DM54S134			TI	SN54123	
54LS299	Motorola	SN54LS299		54LS38	Motorola	SN54LS38 (2937)			Signetics	54S134			National	DM54125	
	TI	SN54LS299			National	DM54LS38		54S135	National	DM54S135		5414	TI	DM7093	
54LS30	Motorola	SN54LS30 (2937)			SGS-Thomson	T54LS38			Signetics	54S135			Signetics	SN54125	
	National	DM54LS30		54LS395	Motorola	SN54LS395 (2944)		54S138	National	DM54S138		54151A	TI	SN54125	
	SGS-Thomson	T54LS30			SGS-Thomson	T54LS395			Signetics	54S138			Lansdale	ML5414	
	Signetics	54LS30			Signetics	54LS395		54S139	National	DM54S139			National	DM5414	
54LS32	Motorola	SN54LS32 (2937)		54LS40	Motorola	SN54LS40 (2937)			Signetics	54S139		54150	Signetics	5414	
	National	DM54LS32			National	DM54LS40		54S151	National	DM54S151			TI	SN5414	
	SGS-Thomson	T54LS32			SGS-Thomson	T54LS40			Signetics	54S151			Lansdale	ML54150	
	Signetics	54LS32		54LS42	Motorola	SN54LS42 (2945)		54S153	National	DM54S153			National	DM54150	
54LS322	TI	SN54LS322A			National	DM54LS42			Signetics	54S153		54151A	TI	SN54150	
54LS323	Motorola	SN74LS323 (2944)			SGS-Thomson	T54LS42		54S157	National	DM54S157			Lansdale	ML54151	
	National	74LS323			Signetics	54LS42			Signetics	54S157		54153	National	DM54151	
	TI	SN54LS323		54LS47	Motorola	SN54LS47 (2945)		54S158	National	DM54S158			Signetics	54151	
54LS33	Motorola	SN54LS33 (2938)			National	DM54LS47			Signetics	54S158		54157	TI	SN54151	
	SGS-Thomson	T54LS33		54LS48	Motorola	SN54LS48 (2945)		54S175	National	DM54S175			National	DM54157	
	TI	SN54LS33			National	DM54LS48			Signetics	54S175		54161	Signetics	54157	
54LS352	Motorola	SN54LS352		54LS49	Motorola	SN54LS49		54S194	National	DM54S194			TI	SN54157	
	National	DM54LS352			National	DM54LS49		54S20	National	DM54S20		54166	Lansdale	ML54161	
	SGS-Thomson	T54LS352		54LS490	Motorola	SN54LS490 (2942)			Signetics	54S20			National	DM54161	
54LS353	Motorola	SN54LS353			SGS-Thomson	T54LS490		54S258	National	DM54S258		54173	Signetics	54161	
	National	DM54LS353		54LS51	Motorola	SN54LS51 (2938)			Signetics	54S258			TI	SN54161	
	SGS-Thomson	T54LS353			National	DM54LS51		54S280	National	DM54S280			TI	DM54164	
	TI	T54LS354			SGS-Thomson	T54LS51			Signetics	54S280		54164	National	DM7570	
54LS365A	Motorola	SN54LS365A (2939)		54LS54	Motorola	SN54LS54 (2938)		54S30	National	DM54S30			Signetics	54164	
	SGS-Thomson	T54LS365			National	DM54LS54			Signetics	54S30		54165	TI	SN54164	
	Signetics	54LS365			Signetics	54LS54		54S40	National	DM54S40			Lansdale	ML54165	
	TI	SN54LS365A		54LS54	Motorola	SN54LS54 (2938)			Signetics	54S40		54165	National	DM54165	
54LS366A	Motorola	SN54LS366A (2939)			SGS-Thomson	T54LS54		54S51	National	DM54S51			Signetics	54165	
	National	DM54LS366			TI	SN54LS54			Signetics	54S51		54170	TI	SN54170	
	SGS-Thomson	T54LS366		54LS541	Motorola	SN54LS541 (2940)		54S64	National	DM54S64		54173	National	DM54173	
	Signetics	54LS366A			Signetics	54LS541			Signetics	54S64			Raytheon	DM7551	
54LS367A	Motorola	SN54LS367A (2939)		54LS55	Motorola	SN54LS55 (2938)		54S65	National	DM54S65		54174	TI	RM8T10	
	National	DM54LS367			National	DM54LS55			Signetics	54S65			TI	SN54173	
	SGS-Thomson	T54LS367			SGS-Thomson	T54LS55		54S74	Signetics	54S74			Lansdale	ML54174	
	Signetics	54LS367A		54LS670	Motorola	SN54LS670 (2943)			Signetics	54S74		54175	National	ML54175	
	TI	SN54LS367A			National	DM54LS670		54S400	Lansdale	ML5400			National	DM54175	
54LS368A	Motorola	SN54LS368A (2939)		54LS74	Motorola	SN54LS74A (2941)			Signetics	54S400		54191	Signetics	54175	
	National	DM54LS368			National	DM54LS74A		54S51	National	DM54S51			TI	SN54175	
	SGS-Thomson	T54LS368			SGS-Thomson	T54LS74			Signetics	54S51		54197	Lansdale	ML54191	
	Signetics	54LS368A			Signetics	54LS74		54S64	National	DM54S64			National	DM54191	
	TI	SN54LS368A		54LS83A	Motorola	SN54LS83A (2947)			Signetics	54S64		54197	TI	SN54191	
54LS37	Motorola	SN54LS37 (2937)			National	DM54LS83A		54S65	National	DM54S65			TI	DM54197	
	National	DM54LS37			SGS-Thomson	T54LS83			Signetics	54S65		5420	Lansdale	ML5420	
	SGS-Thomson	T54LS37			Signetics	54LS83		54S74	Signetics	54S74			National	LSI Logic	
	Signetics	54LS37		54LS85	Motorola	SN54LS85 (2946)			Signetics	54S74			TI	DM5420	
54LS374	Motorola	SN54LS374 (2942)			National	DM54LS85		5400	Lansdale	ML5400		5422	TI	CA5422	
	National	DM54LS374			Signetics	54LS85			National	DM5400			TI	SN5422	
	SGS-Thomson	T54LS374			TI	SN54LS85		5404	AMD	AM9016		5425	Lansdale	ML5425	
	TI	SN54LS374			Signetics	54LS85			Lansdale	ML5404			National	DM5425	
	(Continued)				(Continued)				National	DM9016C		54279	Signetics	54279	
									Signetics	9016			TI	SN54279	
									Signetics	54S408		54283	TI	SN54283	
									Signetics	54S408		54298	Lansdale	ML54298	
									Signetics	54S408			TI	SN54298	
									Signetics	54S408		5430	Lansdale	ML5430	
									Signetics	54S408			National	DM5430	
									Signetics	54S408		5432	TI	SN5430	
									Signetics	54S408			National	DM5432	
									Signetics	54S408		5437	Signetics	5432	
									Signetics	54S408			TI	SN5432	
									Signetics	54S408			Lansdale	ML5437	
									Signetics	54S408		5440	National	DM5437	
									Signetics	54S408			TI	SN5437	
									Signetics	54S408			Lansdale	ML5440	
									Signetics	54S408		5442A	National	DM5440	
									Signetics	54S408			TI	SN5440	
									Signetics	54S408			Lansdale	ML5442	
									Signetics	54S408			National	DM5442	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				• 55454	National	DS55454		• 74AC1010	Weitek	(Cont'd)		74F161	Motorola	MC74F161 (2942)	
5442A		(Cont'd)		55454	Signetics	55454		74AC109	WTL2044			74F162	Motorola	MC74F162 (2942)	
	Signetics	5442		SG55454	SiliconG	SG55454		74AC138	WTL2245			74F163	Motorola	MC74F163 (2942)	
5446	TI	SN5442A		55454B		55454B		74AC139	GE/RC	CD74AC109 (2642)		74F164	Motorola	MC74F164 (3077)	
	National	DM5446		SNJ55454	TI	SNJ55454		74AC151	GE/RC	CD74AC138 (2642)		74F168	Motorola	MC74F168 (2943)	
5448	TI	SN5446A		55454		55454		74AC153	GE/RC	CD74AC139 (2642)		74F169	Motorola	MC74F169 (3077)	
	National	DM5448		CD74ACT00 (2642)	GE/RC	CD74ACT00 (2642)		74AC157	GE/RC	CD74AC151 (2642)		74F174	Motorola	MC74F174 (2942)	
• 5451	TI	SN5448		CD74ACT04 (2642)	GE/RC	CD74ACT04 (2642)		74AC158	GE/RC	CD74AC153 (2642)		74F175	Motorola	MC74F175 (2942)	
	Lansdale	ML5451		CD74ACT08 (2642)	GE/RC	CD74ACT08 (2642)		74AC161	GE/RC	CD74AC157 (2642)		74F181	Motorola	MC74F181 (2947)	
	National	DM5451		CD74ACT109 (2642)	GE/RC	CD74ACT109 (2642)		74AC163	GE/RC	CD74AC158 (2642)		74F182	Motorola	MC74F182 (2947)	
• 5451	SGS-Thomson	MM5451		74ACT175	National	74ACT175		74AC174	GE/RC	CD74AC161 (2642)		74F189	Cypress	CY7C189 (2580)	
	TI	M5451		CD74ACT138 (2642)	GE/RC	CD74ACT138 (2642)		74AC175	GE/RC	CD74AC163 (2642)		74F190	Motorola	MC74F190 (2942)	
5473	Lansdale	ML5473		74ACT139	GE/RC	CD74ACT139 (2642)		74AC191	GE/RC	CD74AC174 (2642)		74F191	Motorola	MC74F191 (2942)	
	National	DM5473		74ACT151	GE/RC	CD74ACT151 (2642)		74AC20	GE/RC	CD74AC175 (2642)		74F192	Motorola	MC74F192 (2942)	
	Signetics	5473		74ACT153	Motorola	MC74F653		74AC20	GE/RC	CD74AC191 (2642)		74F193	Motorola	MC74F193 (2942)	
5474	TI	SN5473		74ACT157	National	74F653		74AC244	GE/RC	CD74AC20 (2642)		74F194	Motorola	MC74F194 (2944)	
	Lansdale	ML5474		74ACT158	TI	SN74F653		74AC251	GE/RC	CD74AC244 (2642)		74F195	Motorola	MC74F195 (2944)	
	National	DM5474		74ACT161	GE/RC	CD74ACT153 (2642)		74AC253	GE/RC	CD74AC251 (2642)		74F20	Motorola	MC74F20 (3077)	
	Signetics	5474		74ACT163	GE/RC	CD74ACT157 (2642)		74AC257	GE/RC	CD74AC253 (2642)		74F219	AMD	AM27S07	
5475	TI	SN5474		74ACT173	GE/RC	CD74ACT161 (2642)		74AC258	GE/RC	CD74AC257 (2642)			Cypress	CY7C190 (2580)	
	Lansdale	ML5475		74ACT175	GE/RC	CD74ACT163 (2642)		74AC273	GE/RC	CD74AC258 (2642)		74F240	Motorola	MC74F240 (3077)	
	National	DM5475		74ACT173	GE/RC	CD74ACT173		74AC299	GE/RC	CD74AC273 (2643)		74F241	Motorola	MC74F241 (2939)	
5476	TI	SN5475		74ACT175	GE/RC	CD74ACT175		74AC32	GE/RC	CD74AC299 (2643)		74F242	Motorola	MC74F242 (2939)	
	Lansdale	ML5476		74ACT240	National	74ACT109		74AC323	GE/RC	CD74AC32 (2642)		74F243	Motorola	MC74F243 (2939)	
	National	DM5476		74ACT241	GE/RC	CD74ACT240 (2642)		74AC373	GE/RC	CD74AC323 (2643)		74F244	Motorola	MC74F244 (2939)	
	Signetics	5476		74ACT244	GE/RC	CD74ACT241 (2642)		74AC374	GE/RC	CD74AC373 (2643)			Motorola	MC74F245 (3077)	
5483A	TI	SN5483A		74ACT245	GE/RC	CD74ACT245 (2642)		74AC386	GE/RC	CD74AC374 (2643)		74F251	Motorola	MC74F251 (2944)	
5485	Lansdale	ML5485		74ACT257	GE/RC	CD74ACT257 (2642)		74AC400	Motorola	MC74AC386 (2642)		74F253	Motorola	MC74F253 (2944)	
	National	DM5485		74ACT258	GE/RC	CD74ACT258 (2642)		74F00	Signetics	MC74F00 (2937)		74F256	Motorola	MC74F256 (3077)	
	Signetics	5485		74ACT273	GE/RC	CD74ACT273 (2643)		74F02	Motorola	MC74F02 (2938)		74F257	Motorola	MC74F257 (2944)	
5486	Lansdale	ML5486		74ACT299	GE/RC	CD74ACT299 (2643)		74F04	Signetics	MC74F04 (2939)		74F258	Motorola	MC74F258 (2944)	
	National	DM5486		74ACT32	GE/RC	CD74ACT32 (2642)		74F08	Motorola	MC74F08 (2937)			Motorola	MC74F259 (3077)	
	SGS-Thomson	M5486		74ACT323	GE/RC	CD74ACT323 (2643)		74F10	Signetics	MC74F10 (2937)			Motorola	MC74F260 (3077)	
	Signetics	5486		74ACT373	GE/RC	CD74ACT373 (2643)		74F109	Motorola	MC74F109 (2941)			Motorola	MC74F261 (3077)	
5491	Lansdale	ML5491A		74ACT374	GE/RC	CD74ACT374		74F11	Signetics	MC74F11 (2937)			Motorola	MC74F262 (3077)	
	Motorola	MC5491		74ACT533	GE/RC	CD74ACT533 (2643)		74F112	Motorola	MC74F112 (3077)			Motorola	MC74F263 (3077)	
	National	SN5491		74ACT534	GE/RC	CD74ACT534 (2643)		74F113	Motorola	MC74F113 (3077)			Motorola	MC74F264 (3077)	
	Signetics	5491		74ACT563	GE/RC	CD74ACT563 (2643)		74F114	Motorola	MC74F114 (3077)			Motorola	MC74F265 (3077)	
5492	TI	SN5491A		74ACT564	GE/RC	CD74ACT564 (2643)		74F125	Signetics	74F125 (3077)			Motorola	MC74F266 (3077)	
	National	DM5492		74ACT573	GE/RC	CD74ACT573 (2643)		74F126	Signetics	74F126 (3077)			Motorola	MC74F267 (3077)	
	TI	SN5492A		74ACT574	GE/RC	CD74ACT574 (2643)		74F13	Signetics	74F13 (3077)			Motorola	MC74F268 (3077)	
5495	National	DM5495		74ACT574	GE/RC	CD74ACT574 (2643)		74F132	Signetics	74F132 (3077)			Motorola	MC74F269 (3077)	
	Signetics	5495		74ACT574	GE/RC	CD74ACT574 (2643)		74F138	Motorola	MC74F138 (2945)			Motorola	MC74F270 (3077)	
5497	Lansdale	ML5497		74ACT574	GE/RC	CD74ACT574 (2643)			Signetics	74F138 (3077)			Motorola	MC74F271 (3077)	
	TI	SN5497		74ACT574	GE/RC	CD74ACT574 (2643)			TI	SN74F138			Motorola	MC74F272 (3077)	
• 55107	Motorola	MC55107		74ACT574	GE/RC	CD74ACT574 (2643)			Signetics	74F14			Motorola	MC74F273 (3077)	
	National	DS55107		74ACT574	GE/RC	CD74ACT574 (2643)			TI	74F148			Motorola	MC74F274 (3077)	
• 55107	TI	SN55107A		74ACT574	GE/RC	CD74ACT574 (2643)			Motorola	MC74F148 (2946)			Motorola	MC74F275 (3077)	
	Motorola	SN55107B		74ACT574	GE/RC	CD74ACT574 (2643)			Signetics	74F151			Motorola	MC74F276 (3077)	
55108	National	MC55108		74ACT574	GE/RC	CD74ACT574 (2643)			Motorola	MC74F151 (3077)			Motorola	MC74F277 (3077)	
	TI	DS55108		74ACT574	GE/RC	CD74ACT574 (2643)			Signetics	74F153			Motorola	MC74F278 (3077)	
	TI	SN55108A		74ACT574	GE/RC	CD74ACT574 (2643)			Motorola	MC74F153 (2944)			Motorola	MC74F279 (3077)	
• 55110	TI	SN55110A		74ACT574	GE/RC	CD74ACT574 (2643)			Signetics	74F157			Motorola	MC74F280 (3077)	
55157	TI	SN55157		74ACT574	GE/RC	CD74ACT574 (2643)			Motorola	MC74F157 (2944)			Motorola	MC74F281 (3077)	
• 55450	National	μA55450		74ACT574	GE/RC	CD74ACT574 (2643)			Signetics	74F158			Motorola	MC74F282 (3077)	
	Signetics	55450		74ACT574	GE/RC	CD74ACT574 (2643)			Motorola	MC74F158 (2944)			Motorola	MC74F283 (3077)	
	SiliconG	SG55450		74ACT574	GE/RC	CD74ACT574 (2643)			Signetics	74F160			Motorola	MC74F284 (3077)	
• 55450	TI	SG55450B		74ACT574	GE/RC	CD74ACT574 (2643)			Motorola	MC74F160 (2942)			Motorola	MC74F285 (3077)	
	TI	SNJ55450		74ACT574	GE/RC	CD74ACT574 (2643)			Signetics	74F160			Motorola	MC74F286 (3077)	
55451	National	DS55451		74ACT574	GE/RC	CD74ACT574 (2643)			TI	SN74F160			Motorola	MC74F287 (3077)	
	Signetics	55451		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F288 (3077)	
	SiliconG	SG55451B		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F289 (3077)	
• 55452	National	μA55452		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F290 (3077)	
	Signetics	DS55452		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F291 (3077)	
• 55452	TI	SNJ55452		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F292 (3077)	
	Signetics	SG55452		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F293 (3077)	
	TI	SNJ55452		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F294 (3077)	
55453	National	DS55453		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F295 (3077)	
	Signetics	LM55453		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F296 (3077)	
	Signetics	55453		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F297 (3077)	
	SiliconG	SG55453		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F298 (3077)	
	TI	SNJ55453		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F299 (3077)	
		SN55453		74ACT574	GE/RC	CD74ACT574 (2643)							Motorola	MC74F300 (3077)	

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
National Semiconductor (Cont'd)				74F456	Signetics	74F456		74F653	GE/RCA	C07A4CT151		74LS09	SGS-Thomson		(Cont'd)
				74F521	Motorola	MC74F521 (2946)					(2642)				
74F259	Motorola	MC74F259 (2941)			Signetics	74F521 (3078)			Motorola	MC74F653		74LS10	TI	T74LS09	
74F269	Signetics	74F259 (3077)		74F524	TI	SN74F521		74F655	National	74A4CT151			Hitachi	SN74LS09	
	Signetics	74F269 (3077, 3092)		74F533	Motorola	MC74F533 (2941)		74F656	TI	SN74F653			Motorola	SN74LS10 (2937)	
74F27	Signetics	74F27			Signetics	74F533 (3078)		74F657	Signetics	74F656			National	DM74LS10	
74F273	TI	SN74F27			TI	SN74BCT533	(3317)			74F657	(3078, 3088)		Panasonic	DN74LS10	
74F280	Signetics	74F273 (3077)		74F534		SN74F533		74F673	Signetics	74F673 (3078)			SGS-Thomson	T74LS10	
74F280	Motorola	MC74F280 (2947)			Motorola	MC74F534 (2942)		74F674	Signetics	74F674 (3078)		74LS109	Signetics	74LS10 (3057)	
	Signetics	74F280 (3077)			Signetics	74F534 (3078)		74F675	Signetics	74F675			TI	SN74LS10	
74F283	Motorola	MC74F283 (2947)			TI	SN74BCT534	(3317)	74F676	Signetics	74F676 (3078)			Hitachi	HD74LS109	
	Signetics	74F283 (3077)		74F537		SN74F534		74F74	Motorola	MC74F74 (2941)			Motorola	SN74LS109 (2941)	
74F298	Signetics	74F298 (3077)			Signetics	74F537 (3078)			Signetics	74F74			National	DM74LS109	
74F299	Signetics	74F299 (3077)		74F538	TI	SN74F537		74F779	TI	SN74F74			Panasonic	DN74LS109	
74F30	Signetics	74F30 (3077)			Signetics	74F538 (3078)			Signetics	74F779 (3078, 3095)			SGS-Thomson	T74LS109	
74F30244	Signetics	74F30244 (3077)		74F539	TI	SN74F538		74F821	Signetics	74F821 (3079)		74LS11	Signetics	74LS109 (3057)	
74F3037	Signetics	74F3037 (3077, 3097)			Signetics	74F539 (3078)		74F823	Signetics	74F823 (3079)			TI	SN74LS109A	
74F3040	Signetics	74F3040 (3077)		74F540	Signetics	74F539 (3078)		74F825	Signetics	74F825 (3079)			Hitachi	HD74LS11	
74F32	Motorola	MC74F32 (2937)		74F541	Signetics	74F541 (3078)		74F827	Signetics	74F827 (3079)			Motorola	SN74LS11 (2937)	
74F322	Signetics	74F322 (3077)		74F543	Signetics	74F543 (3078)		74F841	Signetics	74F841 (3079)			National	DM74LS11	
74F323	Motorola	MC74F323 (2944)			TI	SN74BCT543	(3317)	74F843	Signetics	74F843 (3079)			Panasonic	DN74LS11	
	Signetics	74F323 (3077)		74F544		SN74F543		74F845	Signetics	74F845 (3079)			SGS-Thomson	T74LS11	
74F350	Motorola	MC74F350 (2947)			Signetics	74F544 (3078)		74F85	Signetics	74F85		74LS112	Signetics	74LS11 (3057)	
	Signetics	74F350 (3077)		74F545	Signetics	74F545 (3078)		74F86	Signetics	74F86			TI	SN74LS11	
74F352	Motorola	MC74F352 (2944)		74F547	Signetics	74F547 (3078)		74H01	National	DM74H01			Hitachi	HD74LS112	
	Signetics	74F352 (3077)		74F548	Signetics	74F548 (3078)		74H08	National	DM74H08			Motorola	SN74LS112A	(2941)
74F353	Motorola	MC74F353 (2944)		74F550	Signetics	74F550 (3078)		74H10	National	DM74H10			National	DM74LS112	
	Signetics	74F353 (3077)		74F551	Signetics	74F551 (3078)		74LS00	Hitachi	DM74H10			Panasonic	DN74LS112	
74F365	Signetics	74F365 (3077)		74F552	Signetics	74F552			Hitachi	DM74LS00			SGS-Thomson	T74LS112	
74F366	Signetics	74F366 (3077)		74F558	AMD	AM25S557			Motorola	SN74LS00 (2937)		74LS113	Signetics	74LS112 (3057)	
74F367	Signetics	74F367 (3077)			LogicDev	AM25S558			National	DM74LS00			TI	SN74LS112A	
74F368	Signetics	74F368 (3077)		74F558	MMI	LMU558			Panasonic	DN74LS00			Hitachi	HD74LS113	
74F37	Signetics	74F37 (3077)		74F563	Signetics	74F563 (3078)			SGS-Thomson	T74LS00			Motorola	SN74LS113A	(2941)
74F373	Motorola	MC74F373 (2941)			TI	SN74F563		74LS01	Hitachi	DM74LS01			National	DM74LS113	
	Signetics	74F373 (3077)		74F564	Signetics	74F564 (3078)			Motorola	SN74LS01			Panasonic	DN74LS113	
	TI	SN74BCT373	(3317)	74F568	Signetics	74F568 (3078)			Hitachi	DM74LS01			SGS-Thomson	T74LS113	
74F374	Motorola	MC74F374 (2942)		74F569	Signetics	74F569 (3078)			TI	SN74LS01			Signetics	74LS113 (3057)	
	Signetics	74F374 (3077)			TI	SN74F569		74LS02	Hitachi	DM74LS02			TI	SN74LS113A	
	TI	SN74BCT374	(3317)	74F573	Signetics	74F573 (3078)			Motorola	SN74LS02 (2938)		74LS114	Hitachi	HD74LS114	
74F377	Signetics	74F377 (3077)			TI	SN74F573			National	DM74LS02			Motorola	SN74LS114A	(2942)
74F378	Motorola	MC74F378 (2942)		74F574	Signetics	74F574			Panasonic	DN74LS02			National	DM74LS114	
	Signetics	74F378 (3077)		74F579	Signetics	74F579 (3078, 3093)			SGS-Thomson	T74LS02		74LS125A	TI	SN74LS114A	
74F379	Motorola	MC74F379 (2942)		74F582	Signetics	74F582				74LS02			Motorola	SN74LS125A	(2939)
	Signetics	74F379 (3077)		74F583	Signetics	74F583 (3078)			Signetics	74LS02 (3057)			National	DM74LS125	
74F38	Signetics	74F38		74F588	Signetics	74F588 (3078)		74LS03	TI	SN74LS02			Panasonic	DN74LS125A	
74F381	Motorola	MC74F381 (2947)		74F595	Signetics	74F595 (3078)			Hitachi	DM74LS03			SGS-Thomson	T74LS125	
	Signetics	74F381 (3078)		74F597	Intel	8237-5			Motorola	SN74LS03 (2937)		74LS126	Signetics	74LS125A (3057)	
74F382	Motorola	MC74F382 (2947)			Signetics	74F597 (3078)			National	DM74LS03			TI	SN74LS125A	
	Signetics	74F382 (3078)		74F598	Signetics	74F598 (3078)			Panasonic	DN74LS03			Motorola	SN74LS126A	(2939)
74F385	Signetics	74F385 (3078)		74F604	Signetics	74F604 (3078)			SGS-Thomson	T74LS03			National	DM74LS126	
74F398	Motorola	MC74F398 (2944)		74F605	Signetics	74F605 (3078)		74LS04	TI	SN74LS03			SGS-Thomson	T74LS126	
	Signetics	74F398 (3078)		74F620	Motorola	MC74F620			Hitachi	DM74LS04			Signetics	74LS126A (3057)	
74F399	Motorola	MC74F399 (2944)			TI	SN74BCT620	(3317)		Motorola	SN74LS04 (2939)		74LS13	TI	SN74LS126A	
	Signetics	74F399 (3078)		74F621	Signetics	74F621 (3078)			National	DM74LS04			Hitachi	HD74LS13	
74F40	Signetics	74F40			TI	SN74F621			Panasonic	DN74LS04			Motorola	SN74LS13 (2940)	
74F407	Signetics	74F407		74F622	Signetics	74F622 (3078)			SGS-Thomson	T74LS04			National	DM74LS13	
74F410	Signetics	74F410			TI	SN74F622		74LS05	Hitachi	DM74LS04			Panasonic	DN74LS13	
74F412	Signetics	74F412 (3078)		74F623	Motorola	MC74F623			Motorola	SN74LS05 (2939)		74LS132	Signetics	74LS13 (3057)	
74F413	Cypress	CYT74C401 (2587)			Signetics	SN74BCT623	(3317)		National	DM74LS05			TI	SN74LS13	
	IDT	IDT72401		74F630	Signetics	74F630			Panasonic	DN74LS05			Hitachi	HD74LS132	
	MMI	C57L401		74F631	Signetics	74F631			SGS-Thomson	T74LS05			Motorola	SN74LS132 (2937, 2940)	
		C57401		74F64	Signetics	74F64 (3078)		74LS08	Hitachi	DM74LS08			National	DM74LS132	
		67C401			TI	SN74F64			Motorola	SN74LS08 (2937)		74LS133	Panasonic	DN74LS132	
		DM77S401		74F640	Signetics	74F640 (3078)			National	DM74LS08			SGS-Thomson	T74LS132	
	TI	SN74ALS236	(3300)	74F646	Signetics	74F646 (3078, 3084)			Panasonic	DN74LS08			Signetics	74LS132 (3057)	
74F432	Signetics	74F432 (3078)		74F648	Signetics	74F648 (3078, 3084)			SGS-Thomson	T74LS08			TI	SN74LS132	
74F455	Signetics	74F455							Signetics	74LS08 (3057)			Motorola	SN74LS133 (2937)	
			(Continued)	74F651	Signetics	74F651		74LS09	Hitachi	DM74LS09			SGS-Thomson	TL74LS133	
					TI	SN74BCT646	(3317)		TI	SN74LS09		74LS136	Hitachi	T74LS133	
				74F652	Signetics	74F652			Motorola	SN74LS09 (2937)			Motorola	SN74LS136 (2938)	
					TI	SN74BCT651	(3317)		National	DM74LS09			National	DM74LS136	
									Panasonic	DN74LS09			Panasonic	DN74LS136	

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The manufacturers report their devices can be used as direct replacements.
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National Semiconductor (Cont'd)				74LS323	Motorola	SN74LS323 (2944)		74LS379	Motorola	SN74LS379 (2942)		74LS55	Hitachi	HD74LS55	
74LS26	SGS-Thomson	T74LS26	(Cont'd)	74LS33	Motorola	SN74LS33 (2938)		74LS38	Hitachi	HD74LS38		74LS55	Motorola	SN74LS55 (2938)	
74LS260	Motorola	SN74LS260 (2938)		74LS352	Motorola	SN74LS352 (2944)		74LS390	Motorola	SN74LS390 (2942)		74LS670	Motorola	SN74LS670 (2943)	
74LS266	Motorola	SN74LS266 (2938)		74LS353	Motorola	SN74LS353 (2944)		74LS393	Motorola	SN74LS393 (2942)		74LS74	Hitachi	HD74LS74A	
74LS27	Hitachi	HD74LS27		74LS365A	Motorola	SN74LS365A (2939)		74LS395	Motorola	SN74LS395 (2942)		74LS83A	Hitachi	HD74LS83A	
74LS273	Motorola	SN74LS273 (2942)		74LS366A	Motorola	SN74LS366A (2939)		74LS40	Motorola	SN74LS40 (2937)		74LS85	Hitachi	HD74LS85	
74LS279	Hitachi	HD74LS279		74LS367A	Motorola	SN74LS367A (2939)		74LS42	Motorola	SN74LS42 (2945)		74LS86	Hitachi	HD74LS86	
74LS28	Motorola	SN74LS28 (2938)		74LS368A	Motorola	SN74LS368A (2939)		74LS47	Motorola	SN74LS47 (2945)		74LS89	Hitachi	HD74LS89	
74LS283	Hitachi	HD74LS283		74LS37	Motorola	SN74LS37 (2937)		74LS49	Motorola	SN74LS49 (2942)		74LS92	Hitachi	HD74LS92	
74LS290	Hitachi	HD74LS290		74LS373	Motorola	SN74LS373 (2941)		74LS51	Hitachi	HD74LS51		74LS93	Hitachi	HD74LS93	
74LS293	Hitachi	HD74LS293		74LS374	Motorola	SN74LS374 (2942)		74LS534	Hitachi	HD74LS534		74LS95B	Hitachi	HD74LS95B	
74LS295A	Motorola	SN74LS295A		74LS375	Motorola	SN74LS375 (2941)		74LS54	Hitachi	HD74LS54		74S00	National	DM74S00	
74LS298	Hitachi	HD74LS298		74LS377	Motorola	SN74LS377 (2942)		74LS540	Motorola	SN74LS540 (2940)		74S02	National	DM74S02	
74LS299	Motorola	SN74LS299 (2944)		74LS378	Motorola	SN74LS378 (2942)		74LS541	Motorola	SN74LS541 (2940)		74S03	National	DM74S03	
74LS30	Hitachi	HD74LS30		74LS379	Motorola	SN74LS379 (2944)		74LS541	Motorola	SN74LS541 (2940)		74S04	National	DM74S04	
74LS322	Motorola	SN74LS322		74LS38	Hitachi	HD74LS38		74LS541	Motorola	SN74LS541 (2940)		74S05	National	DM74S05	
	Motorola	SN74LS322A	(Continued)	74LS390	Motorola	SN74LS390 (2942)		74LS541	Motorola	SN74LS541 (2940)		74S08	National	DM74S08	
	Motorola	SN74LS322A	(Continued)	74LS393	Motorola	SN74LS393 (2942)		74LS541	Motorola	SN74LS541 (2940)					(Continued)

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National Semiconductor (Cont'd)				7404	TI	SN7404	(Cont'd)	74163	National Signetics	DM74163 74163	(3057)	7426	National	μA75451 DM7426 DM8810	
74S10	National Signetics	DM74S10 74S10	(3057)	7405	Toshiba	TC7404UB		74165	National	DM74165		7426	Signetics	7426	(3057)
74S11	National Signetics	DM74S11 74S11	(3057)	7406	National	DM7406	(3057)	74166	National	DM74166	(3057)	7427	National	DM7427	(3057)
74S112	Motorola National Signetics	SN74S112 DM74S112 74S112	(3057)	7407	National	DM7407	(3057)	7417	National	DM7417	(3057)	74279	Signetics	74279	(3057)
74S113	National Signetics	DM74S113 74S113	(3057)	7408	National	DM7408	(3057)	74170	National	DM74170	(3057)	74283	TI	SN74279 SN74283	
74S132	TI	SN74S132		7409	National	DM7409		74173	National	DM74173		74298	Signetics	74298	(3057)
74S133	National Signetics	DM74S133 74S133	(3057)	7410	Saratoga	SSL7409		74176	Raytheon	RC8T10		7430	National	DM7430	(3057)
74S135	National Signetics	DM74S135 74S135	(3057)	7410	National	DM7410	(3057)	74177	Signetics	N8T10	(3076)	7432	National	DM7432	(3057)
74S138	National Signetics	DM74S138 74S138	(3057)	74107	National	DM74107	(3057)	74177	Signetics	DM74177		7437	National	DM7437	(3057)
74S140	National Signetics	DM74S140 74S140	(3057)	7411	National	DM7411	(3057)	74179	National	DM74179		7438	National	DM7438	(3057)
74S15	National TI	SN74S15 SN74S15		74121	National	DM74121	(3057)	74175	National	DM74175		7439	Signetics	7439	(3057)
74S182	National Signetics	DM74S182 74S182	(3057)	74122	National	DM74122		74176	Lansdale	RL8280		7440	National	DM7440	(3057)
74S189	AMD	AM27LS03		74122	Raytheon	RF8601		74176	National	DM74176		7442	National	DM7442	
74S189	Cypress	CY27LS03M (2580)		74122	Signetics	N8T22		74177	Signetics	DM74177		7442	Signetics	7442	(3057)
74S189	National	DM74S189		74122	TI	S8T22		74177	Raytheon	RC8281		7445	GoldStar	GL7445	(2713)
74S189	TI	SN54HCT189		74123	National	DM74123	(3057)	74177	Signetics	DM74177		7450	Signetics	7450	(3057)
74S20	National Signetics	DM74S20 74S20	(3057)	74125	National	DM74125		74179	Signetics	DM74179		7451	National	DM7451	(3057)
74S22	National	DM74S22		74126	Signetics	74126	(3057)	74180	National	DM74180	(3057)	7454	National	DM7454	
74S30	National	DM74S30		7413	National	DM7413	(3057)	74180	National	DM74180		7470	National	DM7470	
74S32	Signetics	74S32	(3057)	74132	National	DM74132	(3057)	74190	National	DM74190	(3057)	7473	National	DM7473	(3057)
74S40	National Signetics	DM74S40 74S40	(3057)	74136	TI	SN74136		74191	National	DM74191	(3057)	7474	National	DM7474	(3057)
74S51	National Signetics	DM74S51 74S51	(3057)	7414	National	DM7414	(3057)	74192	National	DM74192		7475	National	DM7475	(3057)
74S65	National TI	DM74S65 DM74S65		74141	National	DM74141		74192	Raytheon	RC9360	(3057)	7476	National	DM7476	(3057)
74S74	National Signetics	DM74S74 74S74	(3057)	74141	Signetics	74141		74194	National	DM74194	(3057)	7485	National	DM7485	(3057)
74S86	National Signetics	DM74S86 74S86	(3057)	74145	National	DM74145	(3057)	74195	National	DM74195	(3057)	7486	National	DM7486	(3057)
7400	National Signetics	DM7400 7400	(3057)	74150	National	DM74150	(3057)	74196	National	DM74196		7489	National	DM7489	
7401	GoldStar	GL7401	(2713)	74153	National	DM74153	(3057)	74197	Raytheon	RC8290		7496	Signetics	7496	(3057)
7402	National Signetics	DM7402 7402	(3057)	74155	National	DM74155	(3057)	74198	National	DM74198		7497	TI	SN7497	
7403	National Signetics	DM7403 7403	(3057)	74156	National	DM74156	(3057)	74199	National	DM74199	(3057)	75S24	AD	AD7524	(2411, 2460, 2462)
7404	National Signetics	DM7404 7404	(3057)	74159	TI	SN74159		7420	LSI Logic	LL7420		75107	Motorola	LM75107A	(3019)
				7416	National	DM7416	(3057)	7425	National	DM7425		75108	Motorola	DS75108	
				74160	National	DM74160	(3057)								
				74161	National	DM74161	(3057)								
				74162	National	DM74162									

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National Semiconductor (Cont'd)				93475	Krueger	2148-45 2148-70 NMC2148	(Cont'd) (2877) (2877)	9933	Motorola	MC933	NCR23256	Toshiba	TC53257	(Cont'd)	
932511	National	DM77S191 DM87S191 DM87S291 DM87S291A DM87S291B 93Z510 93Z511 93Z512 82S191 N82S191 N82S191A 82S191 TI TBP38L166 TMS27C291	(Cont'd)	93475	National	ET2148 UMC UM2148 Signetics N82S212 AMD AM27S49 27S49		9935	National	MC935 MC935 9135 MC936 DM936 936	NCR23257	Dense-Pac Gould/AMI Mitsubishi NCR OKI Panasonic	TC53257 VT23256 VT23257 DPS92256 (2609) S23256 M5M23256 NCR23256 MSM38256 MN23256 MN23257 SMM23256 SMM6325 SMM6326		
	Signetics	N82S191 N82S191A 82S191		93479	UMC	UM2148		9937	Motorola	MC837 MC937 DM937 937		S-MOS	MM23256 SMM6325 SMM6326		
	TI	TBP38L166 TMS27C291		93565	Cypress	CY7C264 MB7143 MB7144 MB7144H	(2585)	9941	Motorola	MC941 RM941		Signetics	23256 23256A		
	Waferscale	WS57C191 (3390) WS57C291 (3390) CY7C291 (2585)		93565	Harris	HM76641 HM76641A 27CX641	(2875)	9944	Motorola	MC944 DM944 944	NCR2332	Toshiba VLSI Tech	TC53257 VT23256 VT23257		
932511M	Cypress	EXEL XL46C16 GE/Intersil IM6716 Harris HM6617 (2752) DM77S291 DM77S291A 29681 29681A 29683 29683A		93565	ICT	National		9945	Motorola	MC945 DM945 945		Commodore	MP52332 P51C69 P51C69 UM2168 51C69		
	Raytheon	29681 29681A 29683 29683A		93565	Raytheon	Signetics Waferscale		9946	Motorola	MC946 DM946 946		Hitachi	P51C69		
	Waferscale	WS57C191 (3390) WS57C291 (3390)		936	Motorola	MC936 DM936 9936		9948	Motorola	MC948 DM948 948		Intel	UM2168 51C69		
9334	TI	SN74259		937	Motorola	MC837 MC937 DM937 9937		9950	Motorola	MC950 MC851 MC852 MC951		Microchip	R09432 M58333 F3532		
93405	AMD	AM27LS03 AM27S03 SN74S189		9374	Signetics	N8T74		9951	Motorola	MC951 RM951 MC961		Sharp	LH2332 SAB8332 SAB8332		
93405	Cypress	CY27LS03M (2580) CY27S03 CY7C189 (2580) CY74S189 DM74S189 DM7599 DM8599 54F189		937510	AMD	AM27S190 HN25168 DM77S190 DM87S190		9961	Motorola	MC961 DM961 MC962		Siemens	2332 2632A		
93405	National	DM74S189 DM7599 DM8599 54F189		937510	Hitachi	HN25168 DM77S190 DM87S190		9962	Motorola	MC962 DM962 962		Supertex	SG3532 CM3200 23SC32 D51C69 P51C69		
93405	TI	SN54HCT189 SN54HCT189 SN74HCT189 SN74HCT189		944	Waferscale	WS57C291 (3390) Motorola MC944 National DM944 9944	(3390)	9963	Motorola	MC963 National DM963 OEI 9963 Raytheon RM963		TI	D51C69 P51C69		
93415	AMD	AM685 AD AD9685 (2426) LinearTech LT685 MCM93415		945	Motorola	MC945 DM945 9945					NCR2364	Toshiba VLSI Tech Gould/AMI OKI	TMM333P VT2332 S2364 MSM3864		
93419	Motorola	PMI Fujitsu MBM93419 F93419		946	Motorola	MC946 DM946 9946						Plessey	SL2364C S-MOS SMM2364		
93422	Motorola	EDH0008		948	Motorola	MC948 DM948 9948					NCR2365	Sharp	LH2364A Signetics 2364		
93425	Elantec	EDH0008		949	Motorola	MC949 DM949 RM949						TI	TMS2364 VLSI Tech VT2364		
93451	AMD	AM27S181		95H90	Plessey	SP8640 SP8647						Weitek	SC8164 S-MOS SMM2365		
	Cypress	CY7C282M (2585) Gould/AMI S25089 Hitachi HN25089 MMI 63S881		9601	National	DM8601 DM9601					NCR52004	Sharp	LH2364A Signetics 2364		
	Hitachi	HN25089			Raytheon	RF8601 RF9601						TI	TMS2364 VLSI Tech VT2364		
	MMI	63S881			Signetics	N8T22 S8T22						VLSI Tech	SC8164 S-MOS SMM2365		
	National	DM77LS181 DM77S181 DM77S281 DM87S181 DM87S281 93Z451 93Z451 29631 29631AM 29632		9602	TI	SN74122 DM8602 DM9602					NCR52210	Toshiba VLSI Tech VT2365	VT2365 2004 X2004 (3407, 3444)		
93451	Raytheon	29631 29631AM 29632		96114	TI	SN55114 SN75114 SN55115 SN75115						Intel	2004 X2004 (3407, 3444)		
93451	Signetics	N82S181 S82S181		96115	TI	SN55115 SN75115					NCR52212	Xicor	X2210 (3405, 3441)		
93451	TI	28586-60		96176	Lansdale	RL8280						Xicor	X2212 (3405, 3442)		
93452	AMD	AM27S32			National	DM74176 DM8280					NCR5264	EXEL Hitachi Samsung	XL2865A HN58C65 KM28C65 (3038) KM2865A KM2865AH		
93453	AMD	DM54S572			Raytheon	RC8280 RM8280						Microchip	ER59256		
	AMD	AM27S33			Signetics	S8280 74176 SN74176					NCR52801	SEEQ	52B23		
	Fujitsu	MB7122			TI	SN74176					NCR52832	AMD	AM53C80		
	MMI	63S441			Motorola	MC962 DM962					NCR53C80	LogicDev	L53C80		
93459	Signetics	DM74S573 DM82S100 S82S100		962	National	DM962						Samsung	K553C80 V8580		
93475	AMD	AM2148		9930	Motorola	MC830 MC930					NCR5380	Zilog	Z0538010		
	Cypress	CY21L49 CY2148 CY7C148 (2580) CY7C149 (2580)			National	MC930 930						AMD	AM5380		
93475	Hitachi	HM6148 HM6148H HM6148HL		9932	Raytheon	RM930						LogicDev	L5380		
93475	Intel	2148H			Motorola	MC932 DM932						National	TP5380		
	Krueger	2148-35 (2877)			Raytheon	RM932						NCR	NMOS5380		
		(Continued)										Samsung	K553C80		
												SGS-Thomson	M9306		
												Catalyst	CAT93C46		
												EXEL	XL93C46		
												Gould/AMI	S93C46		
												Hyundai	HY93C46 (2778)		
												ICT	93C46 (2876)		
												Microchip	ER5911		
												COP495			
												NMC93C46			
												NCR59346			
												SGS-Thomson	M9346		
												TS93C46	(Continued)		

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NCR Microelectronics (Cont'd)				μPB100480	AMD	AM100480		μPB8284	(Cont'd)	μPC137	(Cont'd)				
NCR59308		(Cont'd)		μPB100484	Fujitsu	MB100480		Mitsubishi	M5L8284A	National	μA339				
NCR59346	Sierra	SC22011		μPB10422	Saratoga	SSM100480		NEC	M5L8284AP	NEC	LM339				
	Catalyst	CAT93C46			Fujitsu	MBM100484			μPB8284A		μPC177				
	EXEL	XL93C46			National	DM10422			μPD71084	PMI	μPC339				
	Gould/AMI	S93C46		μPB10470	Fujitsu	MBM10470A		OKI	μPD71084C		CMF04				
	Hyundai	HY93C46	(2778)			MB10470		Samsung	MSM82C84		PM139				
	ICT	93C46	(2876)		Motorola	MCM10470		Unicorn	UC82C84A		PM339				
		93C46C	(2876)		National	DM10470		UMC	UM82C84A	Raytheon	LM339	(3025)			
	Microchip	ER5911		μPB10474	Saratoga	SSM10470			UM8284A	SGS-Thomson	LM339				
	National	COP495			AMD	AM10474		VLSI Tech	VL82C84A		LM339				
		NMC93C46			Fujitsu	MBM10474A	(2625)	Calmos	CA82C84A		TI	LM339			
		NMC9346						Fujitsu	MBL8284	(2635)	Toshiba	TA75339			
	NCR	NCR59308			Motorola	MB10474		Harris	CP82C84A		GoldStar	GL1130	(2711)		
	SGS-Thomson				National	MCM10474		Intel	82C84A		GoldStar	GL3201	(2711)		
		M9346				F10474			8284A		Hitachi	HA1125			
		TS93C46			NEC	μPB10474A		Mitsubishi	M5L8284A		Motorola	LSC1008			
NCR65C00-1	GoldStar	GLC556	(2713)	μPB10474A	Saratoga	SSM10474		NEC	M5L8284AP		National	LM3064			
	National	LM556			AMD	AM10474			μPB8284		TI	SN76666			
	NEC	μPC556			Fujitsu	MBM10474A	(2625)		μPD71084		GoldStar	GL3813	(2711)		
	Rockwell	R65C10	(3027)					OKI	μPD71084C		Atmel	AT27HC64			
	TI	NE556				MB10474			MSM82C84		GoldStar	GL3320	(2711)		
NCR6500-12	Motorola	MC3373	(2951)		Motorola	MCM10474			UC82C84A		ICT	GM57HC64			
	Rockwell	R650012			National	DM10474		Samsung	UC82C84A		Microchip	27HC64	(2875)		
		R650013				F10474		Unicorn	UM82C84A		Raytheon	39VP864	(2907)		
		R650015			NEC	μPB10474		UMC	UM82C84A		Sharp	LH5763			
NCR6500/1	Rockwell	R6500/1	(3027)		Saratoga	SSM10474		VLSI Tech	VL82C84A		Toshiba	TA7644BP			
NCR6500/11	Rockwell	R6500/11	(3027)		AMD	AM10480		AMD	DP8304		Waferscale	W55C49			
NCR8386	Western	WD5386		μPB10480	Fujitsu	MBM10480		Fujitsu	MBL8286	(2635)		W55C49B			
NCR8489	Microchip	AY38913			Inova	S32K8	(2807)	Harris	CP82C86H		μPC1418	CA747	(2647)		
	TI	SN76489		μPB10484	National	F10480		Intel	82C86		GE/RCA	HA17747			
		SN76489A			Fujitsu	MBM10484	(2626)		8286		Hitachi	MP0P04			
NMOS5380	AMD	AM5380				MB10484		National	DP8304		MicroPwr	MC1747	(2954, 2989)		
	LogicDev	L5380		• μPB426	National	F10484		NEC	μPD71086		Motorola				
	National	TP5380			Saratoga	SSM10484		OKI	MSM82C86		National	μA747			
	NCR	NCR5380	(2994)		AMD	AM27S33		AMD	D82C88			LM747			
	Samsung	KS53C80			Fujitsu	MB7122		Calmos	CA82C88		PMI	OP04			
77C171	Inmos	IMS6171	(2797)		MMI	63S441		Fujitsu	MBL8288	(2635)		PM747			
	National	DAC0630		• μPB429	National	DM74S573		Harris	CP82C88		Raytheon	RC747	(3024)		
	Silicon Logic	LD1104			AMD	AM27S191		Intel	82C88			RM747	(3024)		
						AM27S291			8288		Signetics	TSCT47			
						AM27S291A		Mitsubishi	M5L8288		TeledyneS	TSCT47			
				• μPB429	Cypress	CY7C291	(2585)	NEC	μPD71088		TI	μA747			
					Fujitsu	MB7138			μPD71088C		μPC1458	μA747M			
						MB7138E		OKI	MSM82C88		Fujitsu	MB3607			
				• μPB429	MMI	MB7138H		Samsung	KS82C88		GE/RCA	CA1458	(2647)		
						63S1681		Unicorn	UC82C88		Harris	HA21458			
				• μPB429	Motorola	63S1681A		UMC	UM82C88			HA5102			
						MCM76			UM8288		MicroPwr	MP0P14			
				• μPB429		DM878291		VLSI Tech	VL82C88	(2635)	Motorola	MC1458	(2954, 2989)		
					Raytheon	932511		Fujitsu	VL82C88		National	μA1458HC			
					TI	29683A		Harris	CP82C89			LF412			
				• μPB429		TBP38A166		Intel	8289		NEC	μPC251			
						TBP38S166		Mitsubishi	M5152L		PMI	OP14			
				• μPB429	Waferscale	WS57C191	(3390)	ROHM	BA328			OP215			
						WS57C291	(3390)	Sanyo	LA3161			OP270			
						AM8212		Toshiba	TA7325P		Raytheon	RC2041			
				μPB8212	AMD	ICL8212	(2677)	Hitachi	HA17524		Samsung	MC1458	(3039)		
					Calmos	CA82C12		GoldStar	GL5835		SGS-Thomson				
					GE/Intersil	8212		Sanyo	LA1135		Signetics	μA1458			
					Intel	MAX8212			MB47358			SE5512			
				μPB8216	Maxim	MSM82C12		Fujitsu	CA358A	(2647, 2653)		SA1458			
					OKI	8216			LM358	(2647)		SE5512			
					National	DP8216		GoldStar	GL358	(2714)		LF412			
				μPB8226		INS8216		Hitachi	HA17358		TI	TA75458			
					Intel	8226		Motorola	LM358	(2954, 2989)	Toshiba	TA75558			
					Mitsubishi	MSL8226						AD741	(2427, 2462)		
					National	DP8226		National	LM358						
				μPB8228		INS8226		NEC	LM358A						
					AMD	8228		PMI	μPC358						
					Intel	8228		Sanyo	OP221						
					National	DP8228		SGS-Thomson	LA6358						
						INS8228			LM358						
				μPB8282	Calmos	CA82C52		Signetics	LM358						
					Fujitsu	MBL8282	(2635)	TI	NE532						
					Harris	CP82C82			LM348						
						82C52	(2739)		LM358						
					Intel	82C82		Toshiba	TA75358						
					NEC	μPD71082		Fujitsu	MB4204						
				μPB8284	OKI	MSM82C82			CA339	(2648, 2653)					
					Samsung	KS82C52			CA339A	(2648, 2653)					
					Calmos	CA82C84A			LM339						
					Fujitsu	MBL8284	(2635)		LM339						
					Harris	CP82C84A		GoldStar	GL339	(2714)					
					Intel	82C84A		Motorola	LM339	(2958, 2989)					
						8284A									

NEC Electronics				(Continued)			
μPA2002	Exar	XR2002C	(2619)	• μPB429	Cypress	CY7C291	(2585)
		XR2022	(2619)		Fujitsu	MB7138	
	Mitsubishi	M54525				MB7138E	
	Motorola	MC1412	(2984)	• μPB429	MMI	MB7138H	
		ULN2002				63S1681	
	National	μA9666				63S1681A	
		MC1412		• μPB429	Motorola	MCM76	
	Sanyo	LB1232			National	DM878291	
	SGS-Thomson					932511	
		L202		• μPB429	Raytheon	29683A	
		ULN2002			TI	TBP38A166	
	SiliconG	SG2002				TBP38S166	
	Sprague	ULN2002	(3258)	• μPB429	Waferscale	WS57C191	(3390)
		ULS2002				WS57C291	(3390)
	TI	ULN2002				AM8212	
		ULN2002A				CA82C12	
	Toshiba	TD62002			Calmos	ICL8212	(2677)
μPB100422	Fujitsu	MBM1004422			Intel	8212	
		MBM100422A				MAX8212	
		MB8118			Maxim	MSM82C12	
	Krueger	2118-120	(2877)	μPB8216	Intel	8216	
		2118-150	(2877)		National	DP8216	
	Motorola	MCM1004422				INS8216	
	National	DM100422		μPB8226	Intel	8226	
		F100422			Mitsubishi	MSL8226	
		NMC5295			National	DP8226	
μPB100470	Fujitsu	MBM100470A				INS8226	
		MB100470		μPB8228	AMD	8228	
	Inmos	IMS2800			Intel	8228	
		IMS2801			National	DP8228	
	Vitelc	V51C256				INS8228	
		V51C257			TI	SN745428	
μPB100474	AMD	AM100474		μPB8282	Calmos	TIM8228	
	Fujitsu	MBM100474				CA82C52	
		MBM100474A			Fujitsu	MBL8282	(2635)
		MB100474			Harris	CP82C82	
	National	F100474				82C52	(2739)
	NEC	μPB100474A			Intel	82C82	
	Saratoga	SSM100474				8282	
μPB100474A	AMD	AM100474			NEC	μPD71082	
	Fujitsu	MBM100474A			OKI	MSM82C82	
		MB100474			Samsung	KS82C52	
		MBM100474A		μPB8284	Calmos	CA82C84A	
		MB100474			Fujitsu	MBL8284	(2635)
	National	F100474				CP82C84A	
	NEC	μPB100474			Harris	82C84A	
	Saratoga	SSM100474			Intel	8284A	

(Continued)				(Continued)			

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
NEC Electronics (Cont'd)				μPC4558	TI	MC4558C RC4558 RM4558 RV4558 TL4558 TA75458 TA75558 OP270 RC4559 RC4559 XR4560 RC4560 TC4560B OPA404	(Cont'd)	μPC617	Raytheon Samsung Sanyo SGS-Thomson Signetics TI Toshiba AD	RC555 RM555 NE555 LB8555 NE555 SE555 NE555 SE555 SE555M TL555 TA7555 ADDAC-08 AD1408 DACIC88B DACIC88C DAC088B HA17008 HA17408 DAC08 MC1408 μA0801 μA0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M DAC08 DAC1408 DAC1508 DAC08 KDA0800 KDA0801 KDA0802 KDA0806 KDA0807 KDA0808 DAC08 MC1408 AD741	(Cont'd)	μPC78L12	TI Toshiba Motorola National TI Toshiba Motorola National Samsung Sanyo SGS-Thomson SiliconG TI Toshiba Motorola National Samsung Sanyo SGS-Thomson TI Toshiba Motorola National Samsung Sanyo SGS-Thomson TI Toshiba GoldStar IPS Motorola National Samsung SGS-Thomson TI Toshiba Unitrode Motorola National TI Toshiba Motorola National 		

• Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
NEC Electronics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
μPC7808	GoldStar	GL7808	(2714)	μPC7824	TI	μA7824	(2714)	μPC811	National	LF353	(2714)	μPD2147	AMD	AM2147	(2580)
	Hitachi	HA17808			Toshiba	LM340-24				LF411			Cypress	CY2147	
	Motorola	MC08	(2960)	μPC7905	IPS	IP7905	(2959)			LM110		μPD2147	Fujitsu	MBM2147	
	National	μA7808			Motorola	MC7905				LM210			Intel	M2147H	
	Samsung	LM7808			National	μA7905				LM310		μPD2147		2147	
	SGS-Thomson	MC7808				LM7905				OP15				2147H	
		μA7808				MC7905				OP215		μPD2147	Krueger	2147-35	(2877)
		L7808				SGS-Thomson				OP42				2147-45	(2877)
	SiliconG	SG340-8				SGS-Thomson				OP43		μPD2147	Motorola	2147-55	(2877)
		SG7808				SGS-Thomson				PM155			National	2147-70	(2877)
		SG7808A				SGS-Thomson								MCM6147	
	TI	μA7808				SGS-Thomson						μPD2147		MM2147	
	Toshiba	TA78008				SGS-Thomson								NMC2141	
μPC7809	GoldStar	GL7809	(2714)	μPC7909	GoldStar	GL7909	(2714)	μPC812	GE/Intersil	ICL7611	(2673, 2675)	μPD2147	SGS-Thomson	NMC2147H	
	Hitachi	HA17809			National	μA7909				ICL8021	(2675)			NM2147	
	Motorola	MC7809				LM7909				LM4250				ET2147	
	National	μA7809				SGS-Thomson				HA2720		μPD2167	STC	STC2147	
		LM7809				SGS-Thomson				HA2725			Toshiba	TMM3150	
	TI	μA7809				SGS-Thomson				ICL7611			AMD	AM2167	
	Toshiba	TA78009				SGS-Thomson				MC1776	(2953, 2959)		Cypress	CY7C167	(2580)
μPC7812	GoldStar	GL7812		μPC7912	GoldStar	GL7912	(2714)			MC3476	(2953)		Fujitsu	MB8164A	
	IPS	IP140-12			IPS	IP320-12				μA776			GE/RCA	CDM5167	
		IP340-12				IP7912				LF441			Immos	IMS1400	
		IP7812				MC7912	(2960)			LM4250		μPD2167	Intel	51C66	
		IP7812AC				MC7912				μPC4250				51C67	
	Motorola	LM340-12	(2960)			LM320MP12				OP20			Matra-Harris	HM65263	
		MC7812	(2960)			LM79M12				OP22			MicronTech	MT5C1601	
	National	μA7812				LM7912				OP43			Motorola	MCM2167	
		LM340-12				MC7912							NEC	μPD4311	
		LM7812				SGS-Thomson							SGS-Thomson	MK41H66	
	Samsung	MC7812				SGS-Thomson								LH5167	
	SGS-Thomson	μA7812				SGS-Thomson							Sharp	STC2167	
		L7812				SGS-Thomson							STC	SMU61CD16	
	SiliconG	SG340-12				SGS-Thomson							TI	V61C67	
		SG7812				SGS-Thomson							Vitelc	VT20C68	(3343, 3345, 3350)
		SG7812A				SGS-Thomson							VLSI Tech	VT20C68	
		SG7812AT				SGS-Thomson								MB831000	
	TI	μA7812				SGS-Thomson						μPD23C1000	Fujitsu	MB831124	
	Toshiba	TA78012				SGS-Thomson								HM62301	
	Unitrode	UC340-12				SGS-Thomson								NCR23C1000	
μPC7815	GoldStar	GL7815	(2714)	μPC7915	GoldStar	GL7915	(2714)	μPC813	LinearTech	LF356	(2953)	μPD23C1000	Hitachi	μPD23C1000A	
	IPS	IP140-15			IPS	IP320-15				LF356			NCR	μPD23C1000A	
		IP340-15				IP7915				OP16			NEC	μPD23C1010	
		IP7815				MC7915	(2961)			PM356		μPD23C1000	Toshiba	TC531000	
		IP7815AC				MC7915							VLSI Tech	VT23C1024	
	Lambda	LAS1515				MC7915						μPD23C1000A	Fujitsu	MB831000	
	Motorola	LM340-15	(2960)			MC7915								MB831124	
		MC7815	(2961)			MC7915								HM62301	
	National	μA7815				MC7915								NCR23C1000	
		LM340-15				MC7915								μPD23C1010	
		LM7815				MC7915								TC531000	
	Samsung	MC7815				MC7915						μPD23C1010	AMD	VT23C1024	
	SGS-Thomson	μA7815				MC7915								AM27C010	
		L7815				MC7915							Atmel	AT27C010	
	SiliconG	SG340-15				MC7915							Hitachi	HN27C010G	
		SG7815				MC7915								HN27C101	
		SG7815A				MC7915								HN27C101G	
	TI	μA7815				MC7915								HN27C301G	
	Toshiba	TA78015				MC7915								27010	
	Unitrode	UC340-15				MC7915								27210	
μPC7818	Motorola	MC7818	(2961)	μPC7924	GoldStar	GL7924	(2961)	μPDC1024	AMD	AM27C010		μPD23C1010	Fujitsu	MB831000	
	National	μA7818			Hitachi	HD74LS195A	(2944)			AM27010				MB831124	
		LM7818			Motorola	MC719924				AT27C010				HM62301	
	Samsung	MC7818				MC719924				HN27C010G				NCR23C1000	
	SGS-Thomson	μA7818				MC719924				HN27C101G				μPD23C1010	
		L7818				MC719924				HN27C301G				TC531000	
	SiliconG	SG340-15				MC719924				27010		μPD23C1010	AMD	VT23C1024	
		SG7815				MC719924				27210				AM27C010	
		SG7815A				MC719924				M5M23C1000			Atmel	AT27C010	
	TI	μA7815				MC719924				M5M27C101K			Hitachi	HN27C010G	
	Toshiba	TA78015				MC719924				M5M27C102K				HN27C101	
	Unitrode	UC340-15				MC719924				M5M27C102K				HN27C101G	
μPC7824	AD	AD7824	(2414, 2416, 2462)	μPC811	GoldStar	GL7924	(2427, 2462)			μPD23C1010			Intel	HN27C301G	
	GoldStar	GL7824	(2961)		Hitachi	HD74LS195A				MSM271000				27010	
	Maxim	AD7824			Motorola	MC719924				MSM271024				27210	
	Motorola	MC7824				MC719924				SMM63100				M5M23C1000	
	National	μA7824				MC719924				TI				M5M27C101K	
		LM7824				MC719924				TMS27C010 (3326)				M5M27C102	
	Samsung	MC7824				MC719924				TMS27C210 (3326)				M5M27C102K	
	SGS-Thomson	μA7824				MC719924				TMX27C210				NMC27C1023	
		L7824				MC719924				TC541000				μPDC1024	
		SG7824				MC719924				TC571024				MSM271000	
	SiliconG	SG7824A				MC719924				WS27C010 (3390)				MSM271024	
						MC719924				WS27C210L				SMM63100	
						MC719924				GM3043 (2712)				TMS27C010 (3326)	
						MC719924				AM9114				TMS27C210 (3326)	
						MC719924				AM9124				TMX27C210	
						MC719924				2114A				TC541000	
						MC719924				2114-150 (2877)				TC571024	
						MC719924				2114-200 (2877)				MSM271000	
						MC719924				2114-450 (2877)				MSM271024	
						MC719924								SMM63100	
						MC719924								TMS27C010 (3326)	
						MC719924								TMS27C210 (3326)	
						MC719924								TMX27C210	
						MC719924								TC541000	
						MC719924								TC571024	
						MC719924								MSM271000	
						MC719924								MSM271024	
						MC719924								SMM63100	
						MC719924								TMS27C010 (3326)	
						MC719924								TMS27C210 (3326)	
						MC719924								TMX27C210	
						MC719924								TC541000	
						MC719924								TC571024	
						MC719924								MSM271000	
						MC719924								MSM271024	
						MC719924								SMM63100	
						MC719924								TMS27C010 (3326)	
						MC719924								TMS27C210 (3326)	
						MC719924								TMX27C210	
						MC719924								TC541000	
						MC719924								TC571024	
						MC719924								MSM271000	
						MC719924								MSM271024	
						MC719924								SMM63100	
						MC719924								TMS27C010 (3326)	
						MC719924								TMS27C210 (3326)	
						MC719924								TMX27C210	
						MC719924									

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
NEC Electronics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
• μPD23C128E	VLSI Tech	VT23131 VT23138	(Cont'd)	• μPD27C256	AMD	AM27C256 AT27C256 MBM27C256A	(2628)	• μPD27C512D	NEC Ricoh TI	μPD27C512 TMS27C512 SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)	(Cont'd)	• μPD2732	Krueger	2732A-350 2732A-450	(2877) (2877)
• μPD23C256E	Dense-Pac Gould/AMI Mitsubishi NCR	DPS92256 S23256 M5M23256 NCR23256 NCR23257	(2609)	• μPD27C256	Hitachi Intel	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300		• μPD27C64	Toshiba	TC54512 TC57512 VT27C512 WS27C512L (3390)		• μPD2732	National	MM2732 NMC2732 MSM2732	
• μPD23C256E	OKI Panasonic	MSM38256 MN23256 MN23257		• μPD27C256	Krueger	27C256-200 27C256-250 27C256-300		• μPD27C64	VLSI Tech	TC54512 TC57512 VT27C512		• μPD2732	OKI	MSM2732	
• μPD23C256E	S-MOS	SMM23256 SMM6325 SMM6326		• μPD27C256	Microchip	R09256 27C256 (2913)		• μPD27C64	Fujitsu Intel	MBM27C64 M27C64 27C64 87C64		• μPD28C64	SGS-Thomson	M2732A TMS2732A	(3326)
• μPD23C256E	Signetics	23256 23256A		• μPD27C256	Mitsubishi	M5L27256 NMC27C256 μPD27C256A		• μPD27C64	Waferscale	WS27C64 27C64		• μPD28C64	TI	TMM324C TMS2732C	
• μPD23C256E	Toshiba	TC53257 VT23256 VT23257		• μPD27C256	National	μPD27C256A		• μPD27C64	Fujitsu	MBM27C64 M27C64		• μPD28C64	Toshiba	AM2864A AM9864	
• μPD23C512	NCR	NCR23C512 VT23512		• μPD27C256	OKI	MSM27C256		• μPD27C64	Intel	27C64 87C64		• μPD28C64	Atmel	AT28C64 XLS2864A	(2621)
• μPD231000	AMD	AMPAL16R4 CYPALC16R4 CYPAL16R4		• μPD27C256	SEEQ	27C256		• μPD27C64	Krueger	27C64-200 27C64-250 27C64-300		• μPD28C64	EXEL	XL2864A	
• μPD231000	GoldStar Harris	GM231024 HPL16R4		• μPD27C256	SGS-Thomson	TS27C256 27C256 CXK54256P		• μPD27C64	Microchip	27C64 MSM27C64 SPM27C64	(2911)	• μPD28C64	Fujitsu	MBM28C64 HM58064	
• μPD231000	ICT	PEEL18C4V8	(4257)	• μPD27C256	TI	SMJ27C256 (3286) TMS27C256 (3326) TMS27C256 (3326)		• μPD27C64	OKI	MSM27C64		• μPD28C64	Hitachi	HN58064	
• μPD231000	MMI	PALC16R4Q-25 PAL16R4 PAL16R4D-4 PAL16R4		• μPD27C256	Toshiba	TC54256 TC57256 VT27C256		• μPD27C64	S-MOS	SPM27C64		• μPD28C64	IDT	IDT7M7864	
• μPD231000	National	UM23128 VT23128 VT23129		• μPD27C256	VLSI Tech	WS27C256 WS57C256F	(3390)	• μPD27C64	SGS-Thomson	TS27C64 27C64		• μPD28C64	Intel	I2864A	
• μPD231000	Samsung	CPL16R4L-25	(3031)	• μPD27C256	AMD	AM27C256 AT27C256		• μPD27C64	Signetics	TMS27C64	(3326)	• μPD28C64	Microchip	28C64A	(2918)
• μPD23128E	Toshiba	TC53100 AM9128 S23128		• μPD27C256	Atmel	AM27C256 AT27C256	(2628)	• μPD27C64	TI	TMS27C64 (3326)		• μPD28C64	National	MM28C64 NMC98C64	(3038)
• μPD23128E	AMD	S23128 R09128		• μPD27C256	Hitachi	HN27C256 M27C256		• μPD27C64	VLSI Tech	WS27C64		• μPD28C64	Samsung	KM28C64 DQ2864H	
• μPD23128E	Gould/AMI	MSM23128 NCR23128		• μPD27C256	Intel	27C256 27C256-200 27C256-250 27C256-300		• μPD27C64	Waferscale	WS27C64 AM27128 AM27128A		• μPD28C64	SEEQ	DQ2864H DQ52B33	
• μPD23128E	Microchip	M5M23128		• μPD27C256	Krueger	27C256-200 27C256-250 27C256-300		• μPD27C64	Intel	M27128 N27128A P27128		• μPD28C64	Xicor	X2864A X2864B	(3412) (3452)
• μPD23128E	Mitsubishi	NCR23128		• μPD27C256	Microchip	R09256 27C256 (2913)		• μPD27C64	Microchip	M27128 N27128A P27128		• μPD28C64	TI	X2864H	(3412) (3452)
• μPD23128E	NCR	23128		• μPD27C256	Mitsubishi	M5L27256 NMC27C256		• μPD27C64	Mitsubishi	M5L27128 M27128		• μPD28C64	GE/RCA	CD4016	(2639) (2653) (2655)
• μPD23128E	Supertex	CM1310		• μPD27C256	OKI	MSM27C256		• μPD27C64	SGS-Thomson	M27128		• μPD28C64	Motorola	MC14016	(2945)
• μPD23128E	UMC	UM23128		• μPD27C256	SEEQ	27C256		• μPD27C64	Toshiba	M27128		• μPD28C64	National	CD4016	(2945)
• μPD23128E	VLSI Tech	VT23128 VT23129 VT23130 VT23131 VT23138		• μPD27C256	SGS-Thomson	TS27C256 27C256 CXK54256P		• μPD27C64	AMD	AM27128 AM27128A		• μPD28C64	Motorola	MC14066	(2945)
• μPD2364	Gould/AMI	S2364 NCR2364		• μPD27C256	TI	SMJ27C256 (3286) TMS27C256 (3326) TMS27C256 (3326)		• μPD27C64	Intel	M27128 N27128A P27128		• μPD28C64	National	CD4066	(2945)
• μPD2364	OKI	MSM3864		• μPD27C256	Toshiba	TC54256 TC57256		• μPD27C64	SGS-Thomson	M27128		• μPD28C64	Sanyo	LC4016	(2945)
• μPD2364	Plessey	SL2364C		• μPD27C256	VLSI Tech	VT27C256		• μPD27C64	Toshiba	M27128		• μPD28C64	SGS-Thomson	HCC/HCF4016	(2945)
• μPD2364	S-MOS	SMM2364		• μPD27C256	Waferscale	WS27C256 WS57C256F	(3390)	• μPD27C64	AMD	AM27128 AM27128A		• μPD28C64	Signetics	HEF4016	(2945)
• μPD2364	Sharp	LH2364A		• μPD27C256	TI	SMJ27C256 (3286) TMS27C256 (3326) TMS27C256 (3326)		• μPD27C64	Intel	M27128 N27128A P27128		• μPD28C64	Solitron	CM4016	(2945)
• μPD2364	Signetics	2364		• μPD27C256	Toshiba	TC54256 TC57256		• μPD27C64	Krueger	27128 27128A 27128A		• μPD28C64	Toshiba	TC4016B	(3341)
• μPD2364	TI	TMS2364		• μPD27C256	VLSI Tech	VT27C256		• μPD27C64	SGS-Thomson	M27128		• μPD28C64	Unitorde	PIC7516	(3341)
• μPD2364	VLSI Tech	VT2364		• μPD27C256	Waferscale	WS27C256 WS57C256F	(3390)	• μPD27C64	AMD	AM27128 AM27128A		• μPD28C64	Dense-Pac	DPD411M	(2608)
• μPD2364	Weitek	SC8164		• μPD27C256	TI	SMJ27C256 (3286) TMS27C256 (3326) TMS27C256 (3326)		• μPD27C64	Intel	M27128 N27128A P27128		• μPD28C64	Fujitsu	MB81C1000	
• μPD2364E	Gould/AMI	S2364 NCR2364		• μPD27C512	Atmel	AT27C512		• μPD27C64	Krueger	27128-200 27128-250 27128-300		• μPD28C64	GoldStar	TH22568	
• μPD2364E	OKI	MSM3864		• μPD27C512	Fujitsu	MBM27C512		• μPD27C64	SGS-Thomson	27128-450 27128A-200 27128A-250		• μPD28C64	Hitachi	HM561003	
• μPD2364E	Plessey	SL2364C		• μPD27C512	Hitachi	HN27C512G		• μPD27C64	Mitsubishi	27128A-450 27128A-500		• μPD28C64	Hitachi	HM511000	
• μPD2364E	S-MOS	SMM2364		• μPD27C512	IDT	IDT7M856S		• μPD27C64	SEEQ	27128A-500 27128A-550		• μPD28C64	GoldStar	HM511000	
• μPD2364E	Sharp	LH2364A		• μPD27C512	Intel	IDT71256 IDT8M824	(2837) (2872)	• μPD27C64	SGS-Thomson	27128A-550 27128A-600		• μPD28C64	Hitachi	HM511000	
• μPD2364E	Signetics	2364		• μPD27C512	Krueger	MD27512 27C512-200 27C512-250		• μPD27C64	Toshiba	27128A-600 27128A-650		• μPD28C64	Hitachi	HM511000	
• μPD2364E	TI	TMS2364		• μPD27C512	Microchip	27C512 M5L27512	(2914)	• μPD27C64	AMD	27128A-650 27128A-700		• μPD28C64	Hitachi	HM511000	
• μPD2364E	VLSI Tech	VT2364		• μPD27C512	Mitsubishi	μPD27C512D		• μPD27C64	Intel	27128A-700 27128A-750		• μPD28C64	Hitachi	HM511000	
• μPD2364E	Weitek	SC8164		• μPD27C512	NEC	μPD27C512D		• μPD27C64	SGS-Thomson	27128A-750 27128A-800		• μPD28C64	Hitachi	HM511000	
• μPD27C1000A	Fujitsu	MBM27C1000		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	Toshiba	27128A-800 27128A-850		• μPD28C64	Hitachi	HM511000	
• μPD27C1001A	Toshiba	TC571001		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	AMD	27128A-850 27128A-900		• μPD28C64	Hitachi	HM511000	
• μPD27C1001A	Fujitsu	MBM27C1001	(2629)	• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	Krueger	27128A-900 27128A-950		• μPD28C64	Hitachi	HM511000	
• μPD27C1001A	Mitsubishi	M5M27C100K		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	SGS-Thomson	27128A-950 27128A-1000		• μPD28C64	Hitachi	HM511000	
• μPD27C1001A	TI	TMS27C010 (3326)		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	Toshiba	27128A-1000 27128A-1050		• μPD28C64	Hitachi	HM511000	
• μPD27C1001A	Toshiba	TC571000		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	AMD	27128A-1050 27128A-1100		• μPD28C64	Hitachi	HM511000	
• μPD27C1001A	Waferscale	WS27C010 (3390)		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	Krueger	27128A-1100 27128A-1150		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	AMD	AM27C1024		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	SGS-Thomson	27128A-1150 27128A-1200		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	Atmel	AT27C1024		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	Toshiba	27128A-1200 27128A-1250		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	Fujitsu	MBM27C1024		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	AMD	27128A-1250 27128A-1300		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	Hitachi	HN27C1024		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	Krueger	27128A-1300 27128A-1350		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	Microchip	27C1024		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	SGS-Thomson	27128A-1350 27128A-1400		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	National	μPD27C1024		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	Toshiba	27128A-1400 27128A-1450		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	OKI	NMC27C1024		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	AMD	27128A-1450 27128A-1500		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	SGS-Thomson	MSM27C1024		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	Krueger	27128A-1500 27128A-1550		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	VLSI Tech	VT27C1024		• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	SGS-Thomson	27128A-1550 27128A-1600		• μPD28C64	Hitachi	HM511000	
• μPD27C1024	(Continued)			• μPD27C512	TI	SMJ27C512 (3286) TMS27C512 (3326) TMS27C512 (3326)		• μPD27C64	Toshiba	27128A-1600 27128A-1650		• μPD28C64	Hitachi	HM511000	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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ALT. SOURCE DIRECTORY

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
NEC Electronics (Cont'd)				* PD5101	AMD	AM2101 AM91L01 AM9101		* PD71055	Intel	P8255 82C55A	(Cont'd)	* PD71084C	Mitsubishi	M5L8284A M5L8284AP	(Cont'd)	
* PD446	Intel Krueger	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116-200 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)		* PD5101	Datal Harris Intel MicroNet Mitsubishi Motorola	ADC5101 (2595) HA5101 (2767) 5101 MN5101 M5L5101 MCMS1L01 MCM145101 MM74C920 MNS101 LH5101 XR555 (2619) XR555M (2619) NE555 SE555 CA555 (2656) GLC555 (2713) GL555 (2713)			Mitsubishi NEC OKI S-MOS	M5M82C55A M5M82C55AP μPD8255A μPD8255A-21-5 MSM82C55A SMC82C55A-5 SMC82C55AC KS82C55A TMP82C55 (3339) TMP8255 (3339)			NEC	OKI Samsung Unicorn UMC	MSL8284A MSL8284AP μPB8284 μPB8284A μPD71084 MSM82C84 UC82C84A KS82C84A UC82C84A UM82C84A UM8284A VL82C84A	
				μPD555	National Panasonic Sharp Exar	LM555 μPC1555 μPC617 RC555 RM555 NE555 SE555	(2619)		Unicorn UMC Intel OKI Unitrode Calmos	UC82C55A UM82C55A 82C57 MSM82C57 UC2847 CA82C59A 82C57 MSM82C57		* PD71086	AMD Fujitsu Harris Intel	DP8304 MBL8286 (2635) CP82C86H 82C86 8286		
* PD446	Matra-Harris	HM6166 HM65161 HM65162 HM65163 HN65728 MT5C1608 MS8725 M5M116 M5M5116 M5M5117 M5M5118 M58275 M58725			GE/Intersil	NE555 CA555 (2656) GLC555 (2713) GL555 (2713)		* PD71057	Intel OKI Calmos	82C57 MSM82C57 CA82C59A 82C57			National NEC OKI	DP8304 μPB8286 MSM82C86		
* PD446	MicronTech Mitsubishi	MT5C1608 MS8725 M5M116 M5M5116 M5M5117 M5M5118 M58275 M58725			Hitachi Mitsubishi	HA17555 M5E555 M51841 M51848 MC1455 (2989) μA555 LM555 μPC1555 μPC617 RC555 RM555		* PD71059	Fujitsu Harris Intel	MBL8259 (2635) CP82C59A 82C59A 8259A		* PD71088	AMD Calmos Fujitsu Harris Intel	D82C88 CA82C88 MBL8288 (2635) CP82C88 82C88 8288		
* PD446	Motorola	MCM2016 MCM2016H MCM2018P MCM6116			Motorola National	MC1455 (2989) μA555 LM555 μPC1555 μPC617 RC555 RM555			MicronTech Mitsubishi	MT8259 M5M82C59 M5M82C59AP M5M8259AP			Mitsubishi	M5L8288 M5L82885 μPB8288 μPD71088C		
* PD446	National OKI	MMC2116 MSM2128 MSM5126 MSM5128 MSM5129			NEC	NE555 μPC1555 μPC617 RC555 RM555			OKI S-MOS Samsung	INS8259 μPD71059C μPD8259A MSM82C59A SMC82C59AC KS82C59A			OKI Samsung Unicorn UMC	MSM82C88 KS82C88 UC82C88 UM82C88 UM8288		
* PD446	Performance S-MOS Saratoga SGS-Thomson	P4C116 SMC6116 SSM6116			SGS-Thomson	NE555 NE555 SE555 SE555 SE555M TLC555 (3325)			Unicorn UMC VLSI Tech Calmos Fujitsu Harris Intel	UC82C59A UM8259A VL82C59A CA82C59A CP82C59A 82C59A 8259A		* PD71088C	VLSI Tech AMD Calmos Fujitsu Harris Intel	VL82C88 D82C88 CA82C88 MBL8288 (2635) CP82C88 82C88 8288		
* PD446	Sharp Signetics Sony Sprague STC	ET2128 MK2817 MK6116 LH5115 NE5517 CKX5814P UDN6116 STC2018 STC6116			AdvLinear	ALD2502 ALD2504 ICM7556 (2685) ICM7556M (2685)			MicronTech Mitsubishi	MT8259 M5M82C59 M5M82C59AP M5M8259AP			NEC	M5L8288 M5L82885 μPB8288 μPD71088		
* PD446	TI	SMJ68CE16 TC5517B TMM2015A TMM2018 TMM2018AP			Maxim TI	ICM7556 TLC552C TLC552M TLC556C TLC556M			National NEC	INS8259 μPD71059 μPD8259A MSM82C59A SMC82C59AC			OKI Samsung Unicorn UMC	MSM82C88 KS82C88 UC82C88 UM82C88 UM8288		
* PD446	Toshiba	TC5517B TMM2015A TMM2018 TMM2018AP			AMD	AM9114 AM9124 2114A 2114-150 (2877) 2114-200 (2877) 2114-450 (2877)			Samsung Toshiba	KS82C59A TMP82C59 (3339) TMP8259 (3339)		* PD72065	VLSI Tech NEC	VL82C88 μPD7654A μPD7654A		
* PD446	UMC Vitellic	UM6116 V61C16 V62C16			Mitsubishi Motorola	M5L2114 MCM2114 MCM2114 M5L2114			Unicorn UMC VLSI Tech Calmos Fujitsu Harris	UC82C59A UM8259A VL82C59A CA82C52 MBL8282 (2635) CP82C82		* PD72066	SMC Zilog Intel Rockwell	FDC72C65 FDC765A 8272 R6765 R6765A		
* PD446	VLSI Tech	VT20C18 (3343, 3345, 3349)			National	F2114 NMC2114A			Intel	82C82 82C82			SMC	FDC72C65 FDC765A UC82C384		
μPD4464	Fujitsu Hitachi Inmos Krueger	MB81464 HM50464 IMS2820 4464-100 (2877) 4464-120 (2877) 4464-150 (2877)			OKI Rockwell Sharp Toshiba	MSM2114 R6514 LH2114 TMM2114A TMM314A			NEC OKI Samsung Harris Intel	μPB8282 MSM82C82 KS82C52 CP82C83H 82C83 82B3		* PD7210	UMC IDT SMC	UC8272A UM8272A IDT7210 COM7210		
	Mitsubishi	MCM41464 MSM4464P M5M4464 μPD41464 MSM41464 KM41464 (3036)			UMC GE/RCA Hitachi Motorola	UM6114 CA3318 HA19209 MC10319 (2970)			OKI Calmos Fujitsu Harris	MSM82C83 CA82C84A MBL8284 (2635) CP82C84A 82C84A		* PD7220A	LSI Logic Raytheon Toshiba	LL7220 RL7220 TC17G022		
	NEC OKI Samsung	μPD41464 MSM41464 KM41464A SMJ4469 TMS4464 (3326)			Zilog	Z70108			OKI Calmos Fujitsu Harris Intel	MSM82C83 CA82C84A MBL8284 (2635) CP82C84A 82C84A		* PD7261A μPD7262 μPD7265 μPD765 μPD765A	SMC SMC SMC SMC NEC	HDC7261 HDC7262 FDC7265 FDC765 μPD72065 μPD7654A FDC72C65 FDC765A		
* PD449	Toshiba Fujitsu	MBM8418 MB8418			AMD	Z70116			Mitsubishi	MSL8284A MSL8284AP μPB8284 μPB8284A μPD71084C		* PD7654A	Zilog NEC	μPD72065 μPD765A FDC72C65 FDC765A		
* PD449	S-MOS Sprague	SRM2018 SCM20C16			Mitsubishi	M5M82C54 M5M82C54P			OKI	MSM82C84 UC82C84A			SMC	FDC72C65 FDC765A		
μPD4511	GE/RCA	CD4511 (2656, 2658)			OKI S-MOS	MSM82C54 SMC82C54A SMC82C54AC			Samsung Unicorn UMC	KS82C84A UC82C84A UM8284A VL82C84A CA82C84A						
	Motorola	MC14511 (2946, 2985)			Samsung Unicorn UMC	KS82C54 UC82C54A UM8254			VLSI Tech	VL82C84A MBL8284 (2635)						
	National	CD4511 F4511			VLSI Tech	VL82C54			Calmos	CP82C84A		* PD7720 μPD780	Gould/AMI GoldStar	S7720 ZB400 (2695)		
	SGS-Thomson	HCC/HCF4511			AMD	D8255A			Intel	82C84A						
	Signetics Solitron Toshiba	HEF4511 CM4511 TC4511B (3341)			Calmos Harris	CA82C55A CP82C55A									(Continued)	

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
NEC Electronics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
μPD780	Sharp	LH0080	(Cont'd)	μPD8243	Signetics	N8243	(Cont'd)	μPS71087	NEC	μPD8287	(Cont'd)	• MC41256	Panasonic	MM41256	
	Toshiba	TMP284C00 (3339)		μPD8251A	AMD	TMP8243		• MC411000	OKI	MSM8287		• MC41256	Samsung	KM41256 (3036)	
	Zilog	Z84C00			Intel	8251			Dense-Pac	DPD411M	(2608)		TI	TMS4257	
• μPD80C35	Intel	Z8400			National	82C51		• MC411000	Fujitsu	MB81C1000			Toshiba	TMM41256	
	Toshiba	Z8400			OKI	INS8251			GoldStar	TH22568		• MC41256	Vitelco	V51C257	
μPD80C48	Intel	Z8400			S-MOS	MSM82C51			Hitachi	GM7C1024		• MC41256A4	Western	WCM41256	
	Toshiba	80C35			SMC	MSM82C51A				HB561003			Dense-Pac	DPD44256	
μPD80C49	Intel	80C48			Toshiba	SMC82C51AC				HM511002		• MC41256A5	TI	TM4256EC4	
	Signetics	80C49		μPD8253	Intel	SMC82C51A			Hyundai	HM511003			Hitachi	HB561005A	
	Toshiba	SCC80C49			National	8253		• MC411000		HM511002		MC41256A8	Dense-Pac	DPD4256	
μPD80C50	Intel	TMP80C49	(3339)		Toshiba	INS8253			MicronTech	HY51C1000	(2778)		Hitachi	TM4256E05	
	SiliconSys	80C50		μPD8255A	AMD	TMP8253	(3339)	• MC411000		HY51C1002	(2778)	MC41256A9	Hitachi	HB561008B	
	Toshiba	SS180C50			Calmos	D8255A			Mitsubishi	MT1259			Mitsubishi	OH25608A	
μPD8035	Intel	SS180C50	(3339)		Harris	CP82C55A		• MC411000		MH25608			OKI	MSC2304KS8	
	National	8035			Intel	CP82C55A				MH25609			TI	MSC2304YS8	
	Siemens	INS8035				P8255				M5M4C1000				TM4256FL8	
	Signetics	SAB8031A			Mitsubishi	82C55A		• MC411000		M5M41000S			• MC41256A9	TM4256G08	
	Toshiba	SCN8035				M5M82C55A			Motorola	M5M410000			Dense-Pac	DPD42569	
μPD8041A	Intel	TMP8035			NEC	M5M82C55AP		• MC411000	NEC	MCM511000			MicronTech	MT9259	
μPD8048	Intel	8041A			OKI	μPD71055				μPD421000			Mitsubishi	MH25609A	
	Intel	8048			S-MOS	μPD8255A-21-5		• MC411000	OKI	MC421000			OKI	MSC2304KS9	
	National	INS8048				MSM82C55A			Panasonic	MSM41000			TI	MSC2304YS9	
	Signetics	SCN8048			Samsung	SMC82C55A-5			Samsung	MN411000				TM4256EL9	
μPD8049	Toshiba	SCN8048	(3339)		Toshiba	SMC82C55AC		• MC411000		KM41C1000		MC421000	Dense-Pac	TM4256GU9	
	Intel	8049			Unicorn	KS82C55A			Siemens	KM41256A	(3036)		Fujitsu	DPD411M	(2608)
	National	INS8049			UMC	TMP82C55	(3339)	• MC411000A1		HYB511000				MB81C1000	
	Signetics	SCN8049	(3130)			TMP8255	(3339)			TMS4C1024	(3326)		GoldStar	TH22568	
μPD8085	Toshiba	SCN8049	(3339)		AMD	UM82C55A		• MC411000A1		TMX4C1025			Hitachi	GM7C1024	
	AMD	AM8085AH		μPD8255A-21-5	AMD	D8255A				TMX4C1026				HB561003	
	Calmos	CA80C85B			Calmos	CA82C55A		• MC411000		TMX4C1029				HM511000	
	P8085AH				Harris	CP82C55A				TM4256FC1				HM51101	
	Krueger	8085A	(2877)		Intel	P8255		• MC411000A1		TM5256				HM51102	
		8085AH	(2877)			82C55A				TX4C1024				HM561003	
	Mitsubishi	M5M80C85A			Mitsubishi	MSM82C55A		• MC411000		TC511000			Hyundai	HY51C1000	(2778)
μPD8155	OKI	MSM8085				MSM82C55AP				TC511000C				HY51C1002	(2778)
	Harris	HS81C55			NEC	μPD71055		• MC411000A1		TMM411001C			MicronTech	MT1259	
	Intel	8155				μPD8255A				DPD411M	(2608)			MT4C1024	
μPD8156	Toshiba	HS81C56			OKI	MSM82C55A		• MC411000A1	Dense-Pac	MB81C1000			Mitsubishi	MH25608	
	Intel	8156			S-MOS	SMC82C55A-5			Fujitsu	TH22568				M5M4C1000	
		8156-2				SMC82C55AC		• MC411000A1		GM7C1024				M5M41000S	
μPD8156-2	NEC	μPD8156-2			Samsung	KS82C55A			GoldStar	HB561003			Motorola	MCM511000	
	Harris	HS81C56			Toshiba	TMP82C55	(3339)	• MC411000A1	Hitachi	HM511000			NEC	μPD421000	
	Intel	8156				TMP8255	(3339)			HM51101			OKI	MSM41000	
		8156-2			Unicorn	UM82C55A		• MC411000A1		HM51102			Panasonic	MN411000	
μPD8237	NEC	μPD8156			UMC	UM82C55A				HM561003			Samsung	KM41C1000	(3036)
	AMD	AM8237A			Intel	8257		• MC411000A1	Hyundai	HY51C1000	(2778)			KM41256A	(3036)
		D8237A		μPD8257	Calmos	CA82C59A				HY51C1002	(2778)			HYB511000	
		8237A		μPD8259A	Fujitsu	MBL8259	(2635)	• MC411000A1		TMX4C1025			Siemens	TMS4C1024	(3326)
	Calmos	CA82C37A			Intel	82C59A				TMX4C1026				TMX4C1025	
	Harris	CP82C37A			Intel	82C59A		• MC411000A1		TMX4C1029				TMX4C1026	
	Intel	8037A				8259A				TM4256FC1				TMX4C1029	
		8237			MicronTech	MT8259		• MC411000A1		M5M4C1000				TM5256	
		8237A-4			Mitsubishi	M5M82C59				M5M41000S				TX4C1024	
		8237A-5				M5M82C59AP		• MC411000A1		M5M410000			Toshiba	TC511000	
	Mitsubishi	M5M82C37A				M5M8259AP				MCM511000				TC511000C	
		M5M82C37AP			National	INS8259		• MC411000A1	Motorola	μPD421000				TMM411001C	
	NEC	μPD8237A			NEC	μPD71059			NEC	MSM41000				DPD411M	(2608)
	OKI	MSM82C37A				μPD71059C		• MC411000A1		MN411000				MB81C1000	
	S-MOS	SMC82C37AC-5			OKI	MSM82C59A				KM41C1000	(3036)	• TMX4C1024	Dense-Pac	TH22568	
	Samsung	KS82C37A			S-MOS	SMC82C59AC		• MC411000A1	OKI				Fujitsu	GM7C1024	
	Toshiba	TMP82C37	(3339)		Samsung	KS82C59A			Panasonic				Hitachi	HB561003	
	Unicorn	UC82C37A			Toshiba	TMP82C59	(3339)	• MC411000A1						HM511000	
	UMC	UM8237A				TMP8259	(3339)							HM51102	
		UM8737A			Unicorn	UC82C59A		• MC411000A1						HM561003	
		VL82C37A			UMC	UM8259A								HY51C1000	(2778)
μPD8237A	VLSI Tech	AM8237A		μPD8279-5	VLSI Tech	VL82C59A		• MC411000A1	Siemens	HYB511000				HY51C1002	(2778)
	AMD	D8237A		μPD8287	Intel	8279			TI	TMS4C1025				MT4C1024	
		8237A			AMD	8287		• MC411000A1		TMX4C1026				MH25608	
	Calmos	CA82C37A			Harris	CP82C87H				TMX4C1029				M5M4C1000	
	Harris	CP82C37A			Intel	82C87		• MC411000A1		TM4256FC1				M5M41000S	
	Intel	8037A				8287				TM5256				MCM511000	
		8237			NEC	μPS71087		• MC411000A1		TX4C1024				μPD421000	
		8237A-4			OKI	MSM82C87				TC511000				MC421000	
		8237A-5			Intel	8741A		• MC41256		TC511000C				MSM41000	
	Mitsubishi	M5M82C37A		μPD8741A	Intel	8748				TMM411001C				KM41C1000	(3036)
		M5M82C37AP		μPD8748	National	NS80CX48		• MC41256						DPD411M	(2608)
	NEC	μPD8237			Intel	8255A				MB81256				GM7C1024	
	OKI	MSM82C37A				8755		• MC41256	Fujitsu	HM50256				HB561003	
	S-MOS	SMC82C37AC-5				8755A			Hitachi	MSM4257				HM511000	
	Samsung	KS82C37A				μPD8755A		• MC41256		MSM4257				TM4256G08	
	Toshiba	TMP82C37	(3339)		NEC	8755A				MCM6256				TMX4C1024	
	Unicorn	UC82C37A		μPD8755A	Intel	8255A		• MC41256		MT1259				MSM41000	
	UMC	UM8237A				8755A				μPD41256				MN411000	
		UM8737A			NEC	μPD8755		• MC41256	Motorola				OKI	KM41C1000	(3036)
		VL82C37A			AMD	8287		• MC41256		MSM37256				KM41256A	(3036)
μPD8243	VLSI Tech	8243		μPS71087	Harris	CP82C87H			OKI	MSM37257A				HYB511000	
	Intel	RL8243			Intel	82C87				MSM41256				TMS4C1024	(3326)
	Lansdale	RC8243				8287								TMX4C1025	
	Raytheon	RC8243													(Continued)

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page																																								
NEC Electronics (Cont'd)				MSM2114 (Cont'd)				MSM27C1024 (Cont'd)				MSM271024 (Cont'd)																																											
*TMX4C1024	TI	TMX4C1026	(Cont'd)	Rockwell	R6514	LH2114	(2580)	Microchip	27C1024	National	μPD27C1024	National	NMC27C1023	μPDC1024	μPD23C1010																																								
		TMX4C1029																																																					
		TM4256FC1																																																					
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		TX4C1024																																																					
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		TMM411001C																																																					
		OKI Semiconductor														MSM2128				MSM27C256				MSM2716																															
MSC2304KS8	Dense-Pac	DPD42568	(2619)	Hitachi	HB561008B	Mitsubishi	MH25608A	NEC	MC41256A8	OKI	MSC2304YS8	TI	TM4256FL8	TM4256GU8	DPD42569																																								
		MT9259																																																					
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MSC2304KS9	Dense-Pac	DPD42568	(2619)	Hitachi	HB561008B	Mitsubishi	MH25608A	NEC	MC41256A8	OKI	MSC2304KS8	TI	TM4256FL8	TM4256GU8	DPD42569																																								
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MSC2304YS8	Dense-Pac	DPD42568	(2619)	Hitachi	HB561008B	Mitsubishi	MH25608A	NEC	MC41256A8	OKI	MSC2304KS8	TI	TM4256FL8	TM4256GU8	DPD42569																																								
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		TM4256EL9																																																					
		TM4256GU9																																																					
MSC2310KS9	OKI	MSC2310YS9	(3326)	Toshiba	THM91000	MSC2310KS9	Toshiba	THM91000	Hitachi	HB56A18	Mitsubishi	MH1M08	MH1M09	MSC2311YS8	TI																																								
		TM024GAD8																																																					
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						MSM2114	AMD			2114A																	(2877)	Intel	Krueger	2114-150	2114-200	2114-450																							
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								MSM2114	AMD	2114A																									(2877)	Intel	Krueger	2114-150	2114-200	2114-450															
										2114A																																													
MSM2114	AMD									2114A							(2877)	Intel							Krueger	2114-150							2114-200	2114-450																					
										2114A																																													
		MSM2114	AMD							2114A	(2877)	Intel	Krueger	2114-150	2114-200	2114-450																																							
										2114A																																													
				MSM2114	AMD					2114A									(2877)	Intel	Krueger	2114-150	2114-200	2114-450																															
										2114A																																													
						MSM2114	AMD			2114A																	(2877)	Intel	Krueger	2114-150	2114-200	2114-450																							
										2114A																																													
								MSM2114	AMD	2114A																									(2877)	Intel	Krueger	2114-150	2114-200	2114-450															
										2114A																																													
MSM2114	AMD									2114A							(2877)	Intel							Krueger	2114-150							2114-200	2114-450																					
										2114A																																													
		MSM2114	AMD							2114A	(2877)	Intel	Krueger	2114-150	2114-200	2114-450																																							
										2114A																																													
				MSM2114	AMD					2114A									(2877)	Intel	Krueger	2114-150	2114-200	2114-450																															
										2114A																																													
						MSM2114	AMD			2114A																	(2877)	Intel	Krueger	2114-150	2114-200	2114-450																							
										2114A																																													
								MSM2114	AMD	2114A																									(2877)	Intel	Krueger	2114-150	2114-200	2114-450															
										2114A																																													
MSM2114	AMD									2114A							(2877)	Intel							Krueger	2114-150							2114-200	2114-450																					
										2114A																																													
		MSM2114	AMD							2114A	(2877)	Intel	Krueger	2114-150	2114-200	2114-450																																							
										2114A																																													
				MSM2114	AMD					2114A									(2877)	Intel	Krueger	2114-150	2114-200	2114-450																															
										2114A																																													
						MSM2114	AMD			2114A																	(2877)	Intel	Krueger	2114-150	2114-200	2114-450																							
										2114A																																													
								MSM2114	AMD	2114A																									(2877)	Intel	Krueger	2114-150	2114-200	2114-450															
										2114A																																													
MSM2114	AMD									2114A							(2877)	Intel																																					

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
OKI Semiconductor (Cont'd)				MSM3764	SGS-Thomson	(Cont'd)		MSM4013	GE/RCA	CD4013 (2638, 2656)		MSM4021	GE/RCA Motorola National	CD4021 (2638) MC14021 (2943) CD4021 F4021	
MSM3716	ITT	ITT4116				MK45H64			Motorola National	MC14013		MSM4021	SGS-Thomson	HCC/HCF4021	
		4116-120 (2877)				TS4164				CD4013				HEF4021	
	National	4116-150 (2877)		Siemens TI	HYB4164		F4013		MM74C74		Signetics	TC4021B (3341)			
		4116-200 (2877)			SMJ4164 (3286)		LC4013		HEF4021						
	SGS-Thomson	F16K		Toshiba	SM4164		HCC/HCF4013		HEF4013		GE/RCA	CD4022 (2638)			
		F4116			TMS4164		CM4013		Motorola National	MC14022 (2943)					
	MSM37256	SGS-Thomson	MM5290		Vitellic	TMM4164A		Signetics Solitron	GE/RCA Motorola National	CD4014 (2638) MC14014 (2944)		MSM4022	SGS-Thomson	CD4022 F4022	
			M4116			DPS92256 (2609)				HCC/HCF4014				HCC/HCF4022	
		Siemens	HYB4116		Gould/AMI	S23256		Signetics Solitron	GE/RCA Motorola National	CD4014 F4014		MSM4023	SGS-Thomson	HEF4022	
			2690			M5M23256				HEF4014				HEF4023	
STC		STC4116		Mitsubishi NCR	NCR23256		Toshiba	GE/RCA Motorola National	CD4014 F4014		MSM4024	SGS-Thomson	CM4023		
		TMM416			NCR23257				TC4014B (3341)				Toshiba	TC4023B (3341)	
MSM37256A		Fujitsu	MB81256		Panasonic	MN23256		Signetics Solitron	GE/RCA Motorola National	CD4015 (2638) MC14015 (2944)		MSM4024	SGS-Thomson	CD4023 F4023	
			HM50256			MN23257				CD4015				MC14024	
		Hitachi	HM50257		S-MOS	SMM23256		Toshiba	GE/RCA Motorola National	CD4015 F4015		MSM4024	SGS-Thomson	MC4024 F4024	
			MM54HCT241			SMM6325				MM74C164				HCC/HCF4024	
	Mitsubishi	MSM4257		Signetics	SMM6326		Motorola	GE/RCA Motorola National	CD4015 F4015		MSM4025	SGS-Thomson	HEF4024		
		M5M4256			23256A				MC14017 (2943)				HEF4024		
	MSM37257A	NEC	μPD41256		Toshiba	TC53257		Motorola	GE/RCA Motorola National	CD4017 (2637, 2639)		MSM4025	SGS-Thomson	CM4024	
			MSM37257A			VT23256				CD4017 F4017				MC14025 (2938)	
		OKI	MSM41256		VLSI Tech	VT23257		Sanyo	SGS-Thomson	CD4017 F4017		MSM4025	SGS-Thomson	MC4025 F4025	
			MM41256			Gould/AMI	S2364				HCC/HCF4015				HCC/HCF4025
Panasonic		MM41256		NCR	NCR2364		Signetics Solitron	GE/RCA Motorola National	CD4017 (2638)		MSM4027	SGS-Thomson	HEF4025		
		KM41256 (3036)			SL2364C				MC14017 (2943)				CM4025		
MSM3764		TI	TMS4257		S-MOS	SMM2364		Toshiba	GE/RCA Motorola National	CD4017 (2638)		MSM4027	SGS-Thomson	TC4025B (3341)	
			KM41256A (3036)			LH2364A				MC14017 (2943)				MC14027B	
		Toshiba	TMM41256		Sharp	2364		Motorola	GE/RCA Motorola National	CD4017 F4017		MSM4027	SGS-Thomson	CD4027	
			V51C256			Signetics TI	TMS2364				CD4019				CD4027B
	Vitellic	V51C257		VLSI Tech	VT2364		National	GE/RCA Motorola National	CD4019		MSM4027	SGS-Thomson	F4027		
		WCM41256			SC8164				CD4019				MM74C76		
	MSM37257A	Western	54HCT241		Weitek	SC8164		Motorola	GE/RCA Motorola National	CD4019		MSM4027	SGS-Thomson	LC4027	
			GE/RCA	CD54HCT241 (2640)			Fujitsu			MB4001				CD4019B	
		Krueger	41256-100 (2877)		GE/RCA	CD4001 (2637)		National	GE/RCA Motorola National	CD4019		MSM4027	SGS-Thomson	HEF4027	
			41256-120 (2877)			CD4001UB (2637)				LC4019				CM4027	
Micrel		41256-150 (2877)		Motorola	MC14001 (2938)		SGS-Thomson	GE/RCA Motorola National	CD4019		MSM4027	SGS-Thomson	TC4027B (3341)		
		MC54HCT241			MC14001UB (2938)				CD4019				CD4028		
MSM3764		Mitsubishi	MIC54HCT241		National	CD4001		Sanyo	SGS-Thomson	CD4019		MSM4027	SGS-Thomson	MC14027B	
			M5M4256A			CD4001UB				F4019				MC14027B	
		Motorola	MCM6256B		Sanyo	F4001		SGS-Thomson	GE/RCA Motorola National	CD4019		MSM4027	SGS-Thomson	CD4027	
			MC54HCT241			MM74C02				CD4019				CD4027B	
	National	MM54HCT241		SGS-Thomson	LC4001B		Signetics Solitron	GE/RCA Motorola National	CD4019		MSM4027	SGS-Thomson	F4027		
		MM41256			HCC/HCF4001				CD40192				MM74C76		
	MSM37257A	Panasonic	MM41256		Signetics Solitron	HEF4001		Motorola	GE/RCA Motorola National	CD40192		MSM4027	SGS-Thomson	LC4027	
			KM41256A (3036)			CM4001				CD40192				HCC/HCF4027	
		Siemens	HYB41256		Toshiba	TC4001B (3341)		National	GE/RCA Motorola National	CD40192		MSM4027	SGS-Thomson	HEF4027	
			54HCT241			TC4001UB (3341)				CD40192				CM4027	
Supertex		SN54HCT241		Vitellic	TC4001UB (3341)		Motorola	GE/RCA Motorola National	CD40192		MSM4027	SGS-Thomson	TC4027B (3341)		
		V51C256			TC4001UB (3341)				CD40192				CD4028		
MSM3764		Fujitsu	MB81256		Fujitsu	MB4002		Motorola	GE/RCA Motorola National	CD40192		MSM4027	SGS-Thomson	F4027	
			HM50256			GE/RCA	CD4002 (2637)				CD40192				MC14029 (2942)
		Hitachi	HM50257		Motorola	MC14002 (2637)		National	GE/RCA Motorola National	CD40192		MSM4027	SGS-Thomson	MM74C76	
			MSM4257			MC14002 (2637)				F40192				LC4027	
	Mitsubishi	M5M4256		SGS-Thomson	F4002		SGS-Thomson	GE/RCA Motorola National	F4029		MSM4027	SGS-Thomson	HCC/HCF4027		
		M5M4257			HCC/HCF4002				HCC/HCF40192				HCC/HCF4027B		
	MSM3764	Motorola	MCM6256		Signetics Solitron	HEF4002		Motorola	GE/RCA Motorola National	CD40192		MSM4027	SGS-Thomson	HEF4027	
			MT1259			CM4002				CD40192				CM4027	
		NEC	μPD41256		Toshiba	TC4002B (3341)		National	GE/RCA Motorola National	CD40192		MSM4027	SGS-Thomson	TC4027B (3341)	
			MSM37256			GE/RCA	CD4007 (2637)				CD40192				CD4028
OKI		MSM41256		Motorola	MC14007 (2939)		Motorola	GE/RCA Motorola National	CD40192		MSM4027	SGS-Thomson	MC14028 (2945)		
		MSM41256			MC14007 (2939)				CD40193				F4028		
MSM3764		Panasonic	MM41256		National	CD4007		SGS-Thomson	GE/RCA Motorola National	CD40193		MSM4027	SGS-Thomson	MM74C42	
			KM41256A (3036)			F4007				CD40193				LC4028	
		TI	TMS4257		SGS-Thomson	HCC/HCF4007		SGS-Thomson	GE/RCA Motorola National	F40193		MSM4027	SGS-Thomson	HCC/HCF4028	
			TMM41256			HEF4007				MM54C193				HEF4028	
	Toshiba	V51C256		Signetics Solitron	CM4007		SGS-Thomson	GE/RCA Motorola National	MM74C193		MSM4027	SGS-Thomson	HEF4028		
		V51C257			Toshiba	TC4007UB (3341)				HCC/HCF40193				CM4028	
	MSM3764	Western	WCM41256		SGS-Thomson	HCC/HCF40104		Motorola	GE/RCA Motorola National	CD40193		MSM4027	SGS-Thomson	TC4028B (3341)	
			HA5104			TC40104B (3341)				TC40193B (3341)				GE/RCA	CD40192 (2638)
		Harris	IMS2600		Toshiba	TC40104 (3341)		Motorola	GE/RCA Motorola National	CD40194 (2638)		MSM4027	SGS-Thomson	CD4029 (2638)	
			IDT	IDT7164 (2848)			TC40104B (3341)				MC14194B (2944)				MC14029 (2942)
Intel		M2164A		Motorola	CD4011 (2637)		National	GE/RCA Motorola National	CD40194		MSM4027	SGS-Thomson	CD40192		
		Krueger	4164-120 (2877)			CD4011UB (2637)				MC14194 (2944)				CD4029	
MSM3764		Saratoga	4164-150 (2877)		Motorola	MC14011 (2937)		SGS-Thomson	GE/RCA Motorola National	CD40194		MSM4027	SGS-Thomson	F40192	
			4164-200 (2877)			MC14011UB (2937)				F40194				F4029	
		Motorola	MT4264		National	MC14011UB (2937)		SGS-Thomson	GE/RCA Motorola National	HCC/HCF40194		MSM4027	SGS-Thomson	HCC/HCF4030	
			MCM4164			MC14011UB (2937)				HCC/HCF40194B				HEF40192	
	Motorola	MCM4164C		National	CD4011		Signetics Solitron	GE/RCA Motorola National	HEF40194		MSM4027	SGS-Thomson	HEF40192		
		MCM6665			CD4011UB				TC40194B				CM4029		
	MSM3764	National	F4164		Sanyo	MM74C00		SGS-Thomson	GE/RCA Motorola National	CD4020		MSM4027	SGS-Thomson	Toshiba	
			F64K			LC4011				MC14020 (2943)				TC40192B (3341)	
		Panasonic	NMC4164		SGS-Thomson	HCC/HCF4011		SGS-Thomson	GE/RCA Motorola National	F4020		MSM4027	SGS-Thomson	TC4029B (3341)	
			MN4164			HEF4011				HCC/HCF4020				CD4030 (2637, 2639)	
Samsun		KM4164A (3036)		Signetics Solitron	CM4011		SGS-Thomson	GE/RCA Motorola National	HEF4020		MSM4027	SGS-Thomson	CD4030		
		KM4164B (3036)			TC4011B (3341)				CM4020				F4030		
MSM3764		Saratoga	SSM7164		Toshiba	TC4011UB (3341)		SGS-Thomson	GE/RCA Motorola National	HEF4020		MSM4027	SGS-Thomson	HCC/HCF4030	
			SGS-Thomson	MKB4564			TC4011UB (3341)				TC4020B (3341)				HEF4030
		SGS-Thomson	(Continued)		(Continued)			(Continued)	(Continued)			(Continued)	(Continued)		

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
OKI Semiconductor (Cont'd)				MSM4069 (Cont'd)				MSM41000 (Cont'd)				MSM4502 (Cont'd)				
• MSM4030		(Cont'd)		MSM4069	Signetics	HEF4069		MSM41000	Mitsubishi	M5M41000S		• MSM4502	SGS-Thomson	HCC/HCF4502		
	Solitron	CM4030			Solitron	CM4069				M5M410000				HCC/HCF4502B		
• MSM4035	GE/RCA	CD4035	(2638)	MSM4071	Toshiba	TC4069UB	(3341)		Motorola	MCM511000		• MSM4502	Signetics	HEF4502		
	Motorola	MC14035	(2944)		GE/RCA	CD4071	(2637)		NEC	μPD421000			Toshiba	TC4502B	(3341)	
	National	CD4035B			Motorola	CD4071B	(2637)			MC421000		• MSM4510	Unicorn	UC4502		
		F4035				MC14071	(2937)		Panasonic	MN411000			GE/RCA	CD4510	(2638)	
• MSM4035	SGS-Thomson	HCC/HCF4035			National	MC14071B	(2937)		Samsung	KM41C1000	(3036)		Motorola	MC14510	(2942)	
	Signetics	HEF4035				CD4071					(3036)		National	CD4510		
	Solitron	CM4035				CD4071B			Siemens	KM41256A	(3036)	• MSM4510	SGS-Thomson	HCC/HCF4510		
	Toshiba	TC4035B			Sanyo	MM74C32			TI	HYB511000	(3326)		Signetics	HEF4510		
• MSM4036	Solitron	CM4036			SGS-Thomson	LC4071				TMS4C1024	(3326)		Solitron	CM4510		
	Toshiba	TC4036B	(3341)			HCC/HCF4071				TMX4C1025			Toshiba	TC4510B	(3341)	
• MSM4039	GE/RCA	CD4039				HCC/HCF4071B				TMX4C1026		• MSM4511	GE/RCA	CD4511	(2656)	
	Solitron	CM4039			Signetics	HEF4071				TM4256FC1			Motorola	MC14511	(2946)	
	Toshiba	TC4039B	(3341)	• MSM4072	Solitron	CM4071				TM5256				2895)		
• MSM4040	GE/RCA	CD4040	(2638)		Toshiba	TC4071B				TX4C1024			National	CD4511		
	Motorola	MC14040	(2943)		Fujitsu	MB4072			Toshiba	TC511000				F4511		
	National	CD4040			GE/RCA	CD4072	(2637)			TC511000C		• MSM4511	NEC	μPD4511		
		F4040			Motorola	CD4072B	(2637)			TMS11001C			SGS-Thomson	HCC/HCF4511		
• MSM4040	SGS-Thomson	HCC/HCF4040		• MSM4072	National	MC14072	(2937)		MSM41001	TMM411001C			Signetics	HEF4511		
	Signetics	HEF4040				CD4072				MB81C1001			Solitron	CM4511		
	Solitron	CM4040		• MSM4072	NEC	μPC4072				HM511001		• MSM4512	Toshiba	TC4511B	(3341)	
	Toshiba	TC4040B	(3341)		SGS-Thomson	HCC/HCF4072				MT4C1025			GE/RCA	CD4512	(2653)	
• MSM4042	GE/RCA	CD4042	(2638)			HCC/HCF4072				M5M4C1001			Motorola	MC14512	(2944)	
	Motorola	MC14042	(2941)		Signetics	HEF4072				MCM511001			National	CD4512		
	National	CD4042		• MSM4073	Toshiba	TC4072B				μPD421001		• MSM4512	SGS-Thomson	HCC/HCF4512		
		F4042			GE/RCA	CD4073	(2637)			HYB511001			Toshiba	TC4512B	(3341)	
• MSM4042	SGS-Thomson	HCC/HCF4042			Motorola	MC14073	(2937)		TI	TMS4C1025	(3326)		GE/RCA	CD4514	(2637)	
	Signetics	HEF4042		• MSM4073	National	CD4073				TC511001			Motorola	MC14514	(2945)	
	Solitron	CM4042			SGS-Thomson	F4073			MSM41002	TC511001		• MSM4514	National	CD4514		
	Toshiba	TC4042B	(3341)			HCC/HCF4073				MB81C1002				F4514		
• MSM4043	GE/RCA	CD4043	(2638)		Signetics	HEF4073				HM511002		• MSM4514	SGS-Thomson	HCC/HCF4514		
	Motorola	MC14043	(2941)		Solitron	CM4073				MT4C1026			Signetics	HEF4514		
	National	CD4043		• MSM4075	Toshiba	TC4073B				M5M4C1002			Solitron	CM4514		
	SGS-Thomson	HCC/HCF4043			GE/RCA	CD4075	(2637)			MCM511002		• MSM4514	Toshiba	TC4514B	(3341)	
	Signetics	HEF4043			Motorola	MC14075	(2937)			μPD421002			GE/RCA	CD4515	(2637)	
	Solitron	CM4043		• MSM4075	National	CD4075			TI	KM41C1002			Motorola	MC14515	(2945)	
	Toshiba	TC4043B	(3341)		SGS-Thomson	HCC/HCF4075				TMS4C1027	(3326)	• MSM4515	National	CD4515		
• MSM4044	GE/RCA	CD4044	(2638)			HCC/HCF4075			MSM41005	TC511002				F4515		
	Motorola	MC14044	(2941)		Signetics	HEF4075				MB81C4256		• MSM4515	SGS-Thomson	HCC/HCF4515		
	National	CD4044		• MSM4078	Solitron	CM4075				HM514256			Signetics	HEF4515		
		F4044			Toshiba	TC4075B				HY51C4256		• MSM4516	Solitron	CM4515		
• MSM4044	SGS-Thomson	HCC/HCF4044			GE/RCA	CD4078	(2637)			MT4C256			Toshiba	TC4515B	(3341)	
	Signetics	HEF4044			Motorola	MC14078	(2938)			M5M4C256			GE/RCA	CD4516	(2638)	
	Solitron	CM4044			National	F4078			MSM41256	NEC	μPD424256		National	CD4516		
	Toshiba	TC4044B	(3341)		SGS-Thomson	HCC/HCF4078				OKI	MSM514256		• MSM4516	SGS-Thomson	HCC/HCF4516	
• MSM4049	GE/RCA	CD4049	(2637, 2656)		Signetics	HEF4078				Samsung	KM44C256			Signetics	HEF4516	
	Motorola	MC14049	(2939)	MSM4081	Solitron	CM4078				Sharp	LH64257		• MSM4516	Solitron	CM4516	
	National	CD4049			Toshiba	TC4078B	(3341)			Toshiba	TC514256			Toshiba	TC4516B	(3341)
		F4049			GE/RCA	CD4081	(2637)			Hitachi	HM50256			GE/RCA	CD4518	(2638)
	Sanyo	LC4049			Motorola	MC14081	(2937)				HM50257		• MSM4516	Motorola	MC14518	(2942)
	SGS-Thomson	HCC/HCF4049			National	CD4081				Mitsubishi	MSM4257			National	CD4518	
	Signetics	HEF4049				F4081					M5M4256		• MSM4516	SGS-Thomson	HCC/HCF4516	
	Solitron	CM4049				MM74C08				Motorola	M5M4257			Signetics	HEF4516	
	Toshiba	TC4049B	(3341)		NEC	μPC4081					MCM6256		• MSM4518	Solitron	CM4516	
• MSM4054	GE/RCA	CD4054	(2639, 2653, 2656)		Sanyo	LC4081				NEC	MT1259			Toshiba	TC4516B	(3341)
					SGS-Thomson	HCC/HCF4081				OKI	μPD41256		• MSM4518	GE/RCA	CD4518	(2638)
	SGS-Thomson	HCC/HCF4054		• MSM4082	Signetics	HEF4081					MSM37256			National	CD4518	
	Signetics	HEF4054			Solitron	CM4081				Panasonic	MSM37257A		• MSM4518	SGS-Thomson	HCC/HCF4518	
	Solitron	CM4054			Toshiba	TC4081B				Samsung	MM41256			Signetics	HEF4518	
	Toshiba	TC4054B	(3341)		GE/RCA	CD4082	(2637)			TI	KM41256A	(3036)		Solitron	CM4518	
• MSM4063	Fujitsu	MB4063			Motorola	MC14082	(2937)			Toshiba	TMS4257			Toshiba	TC4518B	(3341)
	GE/RCA	CD4063	(2639)	• MSM4082	National	CD4082				Vitelc	TMM41256			GE/RCA	CD4520	(2638)
	SGS-Thomson	HCC/HCF4063				F4082					V51C256		MSM4520	Gould/AMI	S4520	
	Signetics	HEF4063			NEC	μPC4082			MSM41464		V51C257			National	MC14520	(2942)
	Solitron	CM4063		• MSM4082	SGS-Thomson	HCC/HCF4082					WCM41256			National	CD4520	
	Toshiba	TC4063B	(3341)		Signetics	HEF4082					MB81464		• MSM4532	National	CD4520	
• MSM4068	GE/RCA	CD4068	(2637)		Toshiba	TC4082B					HM50464			Sanyo	F4520	
	Motorola	MC14068	(2937)	MSM41000	Dense-Pac	DPD411M	(2608)				IMS2820		• MSM4532	SGS-Thomson	HCC/HCF4520	
	National	F4068			Fujitsu	MB81C1000				Crueger	4464-100	(2877)		Signetics	HEF4520	
	SGS-Thomson	HCC/HCF4068				TH22568					4464-120	(2877)		Solitron	CM4520	
	Signetics	HEF4068			GoldStar	GM7C1024					4464-150	(2877)		Toshiba	TC4520B	(3341)
	Solitron	CM4068			Hitachi	HB561003				Mitsubishi	MCM41464		• MSM4532	GE/RCA	CD4532	(2637)
	Toshiba	TC4068B	(3341)			HM511000					M5M4464P			Motorola	MC14532	(2946)
• MSM4069	GE/RCA	CD4069	(2637)			HM51101				NEC	M5M4464			National	F4532	
	Motorola	MC14069	(2939)			HM51102				Samsung	μPD4464	(3036)		SGS-Thomson	HCC/HCF4532	
	National	CD4069				HM561003					KM41464A			Signetics	HEF4532	
		F4069				HY51C1000	(2778)			TI	SMJ4469		• MSM4538	Toshiba	TC4532B	(3341)
	MM54C04					HY51C1002	(2778)				TMS4464	(3326)		GE/RCA	CD14538B	
	MM74C04					MT1259					TMM41464			Motorola	MC14538B	(2638)
	SGS-Thomson	HCC/HCF4069				MT4C1024					CD4502	(2637)			2653)	
		(Continued)				MH25608					CD4502B	(2637)		Motorola	MC14538B	(2946)
						MH25609					MC14502	(2939)			MC14538B	(2946)
						M5M4C1000					MC14502B	(2939)			(Continued)	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
OKI Semiconductor (Cont'd)				MSM5165 (Cont'd)				MSM5187 (Cont'd)				MSM5188A (Cont'd)					
MSM514258	Toshiba	TC514258	(Cont'd)	GE/RCA	CDM6264	(2644, 2653)		NEC	μPD4361			MSM5188A	Cypress	CYPLDC20G10			
MSM5164	Cypress	CY7C185	(2580)	GoldStar	GM76C88	(2696, 2703)		Performance	P4C187				Fujitsu	MB81C88			
	Dense-Pac	DPS88H08	(2620)	Harris	HM65642	(2747)		S-MOS	SRM2261				Gould/AMI	PEEL20CG10			
	Exar	XR8464		Hitachi	HM6264			Saratoga	SSM7187				Hitachi	HM7688HP			
	Fujitsu	MB88464			HM6264			SGS-Thomson					Hyundai	HY62C88			
		MB81C78A		Hyundai	HY6264	(2778)			MK41H87				ICT	PEEL20CG10	(4257)		
		MB8464		Inmos	IMS1630	(2796)		Sharp	LH5261				MicronTech	MT5C6404			
	GE/RCA	CDM6264	(2644, 2653)	IDT	IDT7165			Signetics	74HC4515	(3057)			Mitsubishi	M5M5188AP			
	GoldStar	GM76C88	(2696, 2703)	Krueger	6264-100	(2877)		TI	SMJ61CD64				MMI	PAL20L8			
					6264-120	(2877)		Toshiba	TC5562				National	F100165			
					6264-150	(2877)			TMM5562					PAL20L8			
					6264LP-100	(2877)		Cypress	CY7C185	(2580)			NEC	μPD4362C			
	Harris	HM65642	(2747)		6264LP-120	(2877)		Exar	DPS88H08				Samsung	CPL20L8-35	(3031)		
	Hitachi	HM6264			6264LP-150	(2877)		Fujitsu	MB88464	(2620)			Sharp	LH5262			
		HM6464		Matra-Harris	HM2064				MB81C78A				Signetics	100165	(3074)		
		MB6264			HM56162			GE/RCA	MB8464A	(2644, 2653)			Sony	CXK5464AP			
	Hyundai	HY6264	(2778)		HM62641			GoldStar	CDM6264	(2696, 2703)			TI	TIBPAL20L8			
	Inmos	IMS1630	(2796)		HM65641			Harris	GM76C88	(2696, 2703)				TIBPAL20L8-20	(3283)		
	IDT	IDT7165			HN65641			Hitachi	HM65642	(2747)		MSM52464	VLSI Tech	VT64KS4			
	Krueger	6264-100	(2877)		ML8464				HM6264				Cypress	CY7C194	(2580)		
		6264-120	(2877)		MT5C6404			Hyundai	HM6464				Hitachi	HM6208P			
		6264-150	(2877)		MT5C6408			Inmos	MB6264				Inmos	IMS1820			
		6264LP-100	(2877)		AM99C88			IDT	HY6264	(2778)			IDT	IDT71258L	(2839)		
		6264LP-120	(2877)		M5M165			Krueger	IMS1630	(2796)			IDT71258S	(2839)			
		6264LP-150	(2877)		M5M5164				IDT7165								
	Matra-Harris	HM2064			M5M5165				6264-100	(2877)			MicronTech	MT5C2564			
		HM56162			M5M5178				6264-120	(2877)			Mitsubishi	M5M5258			
		HM62641			MCM6064				6264-150	(2877)			Motorola	MCM6208			
		HM65641			MCM6164				6264LP-100	(2877)			NEC	μPD43254			
	MicroLinear	ML8464			MCM6164C				6264LP-120	(2877)		MSM8085	Performance	P4C1258			
	MicronTech	MT5C6404			MCM6264				6264LP-150	(2877)			Sharp	LH52252	(3052)		
	Mitsubishi	AM99C88			DP8464			Matra-Harris	HM2064				AMD	AM8085AH			
		M5M165			NMC6164				HM56162				Calmos	CA80C85B			
		M5M5164			μPD4364				HM62641				Intel	P8085AH			
		M5M5165			MSM5164				HN65641				Krueger	8085A	(2877)		
		M5M5178			MSM5188				ML8464					8085AH	(2877)		
	Mosel	MS6264			Performance	P4C164			MT5C6404				Mitsubishi	M5M80C85A			
	Motorola	MCM6064			S-MOS	SRM2064			MT5C6408				NEC	μPD8085			
		MCM6164			SRM2264				AM99C88				AMD	AM8212			
		MCM6164C			KM6264	(3036)			M5M165				Calmos	CA82C12			
		MCM6264			KM6264A	(3036)			M5M5164				GE/Intersil	ICL8212	(2677)		
	National	DP8464							M5M5165				Intel	8212			
		NMC6164			Sharp	LH5164			M5M5178				Maxim	MAX8212			
		μPD4364			Sony	LH5165			MS6264				NEC	μPB8212			
	NEC	MSM5165				CVK5864			MCM6064					AM8237A			
	OKI	MSM5188				CVK5863P			MCM6164					D8237A			
	Performance	P4C164				CKX5865P			MCM6164C					8237A			
		P4C188				CKX5865P			MCM6264					8237A-4			
	S-MOS	SRM2064				STC6264			DP8464					8237A-5			
		SRM2264				SMJ68CE64			NMC6164					M5M82C37A			
	Samsung	KM6264	(3036)			TC5565			μPD4364					M5M82C37AP			
		KM6264A	(3036)			TC5565A			MSM5164					μPD8237			
	Sharp	LH5164				TC5585			MSM5165					μPD8237A			
		LH5165				TC5588			Performance	P4C164				SMC82C37AC-5			
		CVK5864				TMM2063			OKI	MSM5165				KS82C37A			
		CKX5164P				TMM2064				P4C188				TMP82C37	(3339)		
		CKX5863P				TMM2088				SRM2064				UC82C37A			
		CKX5865				V61C62				SRM2264				UM8237A			
		CKX5865P				V61C64				Sharp				UM8737A			
		STC6264				V62C64				Sony				VL82C37A			
	STC	SMJ68CE64				V65C64								8251			
	TI					VT20C98								P8251			
	Toshiba	TC5565				VT20C99								82C51			
		TC5565A				MB81C71A								INS8251			
		TC5585				MB81C71A								μPD8251A			
		TMM2063				GM76C64								MSM82C51A			
		TMM2064				HM6287								OKI	MSM82C51AC		
		TMM2088				HM6787								S-MOS	SMC82C51AC		
	Vitellic	V61C62				HY62C87								SMC	COM8251A		
		V61C64				IMS1600	(2792)							Toshiba	TMP8251	(3339)	
		V62C64				IMS1601	(2793)							AMD	8251		
		V65C64				IDT7187L	(2850)							Intel	P8251		
	VLSI Tech	VT20C98				MT5C6401									82C51		
		VT20C99				M5M5187									INS8251		
	Cypress	CY7C185	(2580)			M5M5187AP									μPD8251A		
		CY7C186	(2580)			M5M5187P									MSM82C51		
	Dense-Pac	DPS88H08				MCM6287									OKI	MSM82C51AC	
	Exar	XR8464	(2620)			F1600									S-MOS	SMC82C51AC	
	Fujitsu	MB88464				F1602									SMC	COM8251A	
		MB81C78A													Toshiba	TMP8251	(3339)
		MB8464													AMD	82C54	
		MB8464A													Calmos	CA82C54	
															Harris	CP82C54	
															Intel	82C54	
															8254		
			(Continued)				(Continued)				(Continued)					(Continued)	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
OKI Semiconductor (Cont'd)				MSM82C87 (Cont'd)				9910				DN74LS10			
MSM82C54 (Cont'd)				MSM82C88 (2635)				9932				DN74LS109			
Mitsubishi	M5M82C54			Intel	82C87			Elantec	ELH0002			Hitachi	HD74LS10		
	M5M82C54P			NEC	82B7			Harris	EL2002			Motorola	SN74LS10	(2937)	
NEC	μPD71054C			AMD	μPD8287			Hytek	EL2003			National	DM74LS10		
S-MOS	SMC82C54A			Calmos	D82C88			LinearTech	HA5002	(2765)		SGS-Thomson	T74LS10		
	SMC82C54AC			Fujitsu	CA82C88			Micra	HY0002			Signetics	74LS10	(3057)	
Samsung	KS82C54			Intel	CP82C88			National	LT1010			TI	SN74LS10		
Unicorn	UC82C54A				82C88			TeledyneC	MC0002			Hitachi	HD74LS109		
UMC	UM8254			Mitsubishi	82B8			Motorola	MC0021			Motorola	SN74LS109	(2941)	
VLSI Tech	VL82C54				M5L8288			National	LH0002			National	DM74LS109		
AMD	D8255A			NEC	M5L8288S			932	MC932			SGS-Thomson	74LS109		
Calmos	CA82C55A				μPB8288			9932	DM932			Signetics	T74LS109		
Harris	CP82C55A				μPD71088			Raytheon	932			TI	SN74LS109A	(3057)	
Intel	P8255			Samsung	μPD71088C			Motorola	RM932			Hitachi	HD74LS11		
	82C55A			Unicorn	KS82C88			National	MC963			Motorola	SN74LS11	(2937)	
Mitsubishi	M5M82C55A			UMC	UC82C88			Raytheon	DM963			National	DM74LS11		
	M5M82C55AP				UM82C88				9963			SGS-Thomson	74LS11		
NEC	μPD71055			VLSI Tech	VL82C88			Panasonic				DN74LS112			
	μPD8255A			Siemens	SAB80C513			AN6551	Commodore	MPS6551		Hitachi	T74LS11		
S-MOS	μPD8255A-21-5			AMD	AM27512			Gould/AMI	MP6551			Signetics	74LS11	(3057)	
	SMC82C55A-5			Hitachi	HN27512			Harris	S6551			TI	SN74LS11		
Samsung	KS82C55A			Intel	N27512			Rockwell	HM6551	(2749)		Motorola	HD74LS112		
Toshiba	TMP82C55	(3339)			P27512			Unicorn	R6551	(3028)		National	DM74LS112		
	TMP8255	(3339)		Krueger	27512-200	(2877)		UMC	UC6551			SGS-Thomson	74LS112		
Unicorn	UC82C55A				27512-250	(2877)		UMC	UM6551			Signetics	T74LS112		
MSM82C57	UM82C55A			Mitsubishi	M27512			VLSI Tech	VL6551			TI	SN74LS112	(3057)	
Intel	82C57			Toshiba	TMM27512			Hitachi	HD74LS00			Motorola	SN74LS112A	(2941)	
NEC	μPD71057				TMM27512D			National	DM74LS00			National	DM74LS113		
Unitrode	UC2847			MS80C31	P80C31			SGS-Thomson	74LS00			SGS-Thomson	74LS113		
Calmos	CA82C59A			Intel	P80C31BH			Signetics	74LS00	(3057)		TI	SN74LS113A	(3057)	
Fujitsu	MBL8259	(2635)		Siemens	SAB80C31			TI	SN74LS00			Hitachi	HD74LS113		
Harris	CP82C59A			Signetics	SC80C31			Motorola	SN74LS01			Motorola	SN74LS113A	(2941)	
Intel	82C59A			Fujitsu	MBL80C51			National	DM74LS01			National	DM74LS113		
	8259A			Intel	P80C51			SGS-Thomson	74LS01			SGS-Thomson	74LS113		
MicronTech	MT8259				P80C51BH			Signetics	74LS01	(3057)		TI	SN74LS114	(2942)	
Mitsubishi	M5M82C59			Matra-Harris	P80C51			TI	SN74LS01			TI	T74LS114		
	M5M82C59AP			Siemens	SAB80C51			Hitachi	HD74LS02			Hitachi	HD74LS114A		
	M5M8259AP			Signetics	SCC80C51B	(3126)		Motorola	SN74LS02	(2938)		Motorola	SN74LS112	(2937)	
National	INS8259			Calmos	CA82C84A	(2635)		National	DM74LS02			National	DM74LS12		
NEC	μPD71059			Fujitsu	CP82C84A			SGS-Thomson	74LS02			SGS-Thomson	74LS12		
	μPD71059C			Intel	82C84A			Signetics	74LS02	(3057)		TI	SN74LS12		
	μPD8259A			Mitsubishi	M5L8284A			TI	SN74LS02			Hitachi	HD74LS12		
S-MOS	SMC82C59AC			NEC	μPB8284			Hitachi	HD74LS03			Motorola	SN74LS123	(2946)	
Samsung	KS82C59A				μPB8284A			National	DM74LS03			National	DM74LS123		
Toshiba	TMP82C59	(3339)		OKI	μPD71084			SGS-Thomson	74LS03			TI	SN74LS123A	(2939)	
	TMP8259	(3339)		Samsung	MSM82C84			TI	T74LS03			National	DM74LS125		
Unicorn	UC82C59A			Unicorn	KS82C84A			Hitachi	SN74LS03			SGS-Thomson	74LS125A		
UMC	UM8259A			UMC	UC82C84A			Motorola	SN74LS04	(2939)		TI	T74LS125		
VLSI Tech	VL82C59A			VLSI Tech	VL82C84A			National	DM74LS04			Signetics	74LS125A	(3057)	
Calmos	CA82C52							SGS-Thomson	74LS04			TI	SN74LS125A		
Fujitsu	MBL8282	(2635)						Signetics	74LS04	(3057)		Hitachi	HD74LS13		
Harris	82C82							TI	SN74LS04			Motorola	SN74LS13	(2940)	
Intel	82C82							Hitachi	HD74LS05			National	DM74LS13		
NEC	μPB8282							National	DM74LS05			SGS-Thomson	74LS13		
Samsung	μPD71082							SGS-Thomson	74LS05			Signetics	T74LS13		
Harris	KS82C52							TI	T74LS05	(3057)		TI	SN74LS13		
Intel	CP82C83H							Hitachi	HD74LS08			Hitachi	HD74LS132		
	82C83							Motorola	SN74LS08	(2937)		National	DM74LS132	(2937, 2940)	
MSM82C83	82B3							National	DM74LS08			SGS-Thomson	74LS132		
MSM82C84	μPD71083							SGS-Thomson	74LS08			Signetics	T74LS132		
	CA82C84A							TI	T74LS08			TI	SN74LS132		
Calmos	MBL8284	(2635)						Hitachi	HD74LS08			Hitachi	HD74LS136		
Fujitsu	CP82C84A							National	DM74LS08			National	DM74LS136	(2938)	
Harris	82C84A							SGS-Thomson	74LS08			National	DM74LS136		
Intel	82B4A							TI	T74LS08			SGS-Thomson	74LS136		
Mitsubishi	M5L8284A							Signetics	74LS08	(3057)		Signetics	T74LS136		
	M5L8284AP							TI	SN74LS08			TI	SN74LS136		
NEC	μPB8284							Hitachi	SN74LS09			Motorola	SN74LS136	(2938)	
	μPB8284A							National	DM74LS09	(2937)		National	DM74LS136		
	μPD71084							SGS-Thomson	74LS09			SGS-Thomson	74LS136		
	μPD71084C							TI	T74LS09			Signetics	T74LS136		
OKI	UC82C84A							Hitachi	SN74LS09			TI	SN74LS136		
Samsung	KS82C84A							National	DM74LS09			Hitachi	HD74LS138		
Unicorn	UC82C84A							SGS-Thomson	74LS09			Motorola	SN74LS138	(2945)	
UMC	UM82C84A							TI	SN74LS09	(Continued)					
VLSI Tech	VL82C84A														
AMD	DP8304														
Fujitsu	MBL8286	(2635)													
Harris	CP82C86H														
Intel	82C86														
National	82B6														
NEC	DP8304														
MSM82C86	μPB8286														
AMD	μPD71086														
Harris	82B7														
	CP82C87H														
	(Continued)														
Optical Electronics				MSM82C87 (Cont'd)				MSM82C88 (2635)				MSM82C89			
AH001 AD ADLH0033 (2429, 2461)				MSM82C90				MSM82C91				MSM82C92			
Burr-Brown OPA633 (2542, 2544)				MSM82C93				MSM82C94				MSM82C95			
Elantec ELH0033				MSM82C96				MSM82C97				MSM82C98			
ELH2004				MSM82C99				MSM82C100				MSM82C101			
ELH2005				MSM82C102				MSM82C103				MSM82C104			
EL2004				MSM82C105				MSM82C106				MSM82C107			
EL2005				MSM82C108				MSM82C109				MSM82C110			
EL2033				MSM82C111				MSM82C112				MSM82C113			
HA5033				MSM82C114				MSM82C115				MSM82C116			
LH0033				MSM82C117				MSM82C118				MSM82C119			
MAX460				MSM82C120				MSM82C121				MSM82C122			
MAX460				MSM82C123				MSM82C124				MSM82C125			
MC0033				MSM82C126				MSM82C127							

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Panasonic (Cont'd)				DN74LS40	Hitachi	HD74LS40	(2937)	DN74LS90	Motorola	SN74LS90	(2942)	MN23257	Toshiba	TC53257	(Cont'd)
DN74LS30	SGS-Thomson	T74LS30	(3057)	Motorola	National	DM74LS40	74LS40	National	DM74LS90	74LS90		MN2332	VLSI Tech	VT23256	
DN74LS33	Motorola	SN74LS33	(2938)	SGS-Thomson	TI	SN74LS40		SGS-Thomson	TI	SN74LS90	(3057)	Commodore	MPS2332		
DN74LS365A	Motorola	SN74LS365A	(2939)	Hitachi	Motorola	SN74LS42	(2945)	Hitachi	Motorola	SN74LS92	(2942)	Fujitsu	P51C69		
DN74LS366A	SGS-Thomson	T74LS366		National	SGS-Thomson	DM74LS42	74LS42	National	SGS-Thomson	DM74LS92		Intel	UM2168		
DN74LS367A	SGS-Thomson	T74LS367		SGS-Thomson	TI	SN74LS42		SGS-Thomson	TI	SN74LS92		Microchip	R09432		
DN74LS368A	SGS-Thomson	T74LS368		TI	TI	SN74LS42		TI	TI	SN74LS92		Mitsubishi	M58333		
DN74LS37	SGS-Thomson	T74LS37		Hitachi	Motorola	SN74LS490	(2942)	Hitachi	Motorola	SN74LS93	(2942)	National	F3532		
DN74LS373	SGS-Thomson	T74LS373		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		NCR	NM52132		
DN74LS38	SGS-Thomson	T74LS38		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Sharp	NCR2332		
DN74LS386	SGS-Thomson	T74LS386		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Siemens	LH2332		
DN74LS390	SGS-Thomson	T74LS390		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	SAB8332		
DN74LS393	SGS-Thomson	T74LS393		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	2332		
DN74LS395A	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	2632A		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	SG3532		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	CM3200		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	23SC32		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	DS1C69		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	P51C69		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	TMM333P		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	VT2332		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	S2364		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	R039365		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	R09864		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	M5M23C64		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	M5M2364		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	M5M2365		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	F3568		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	F3569		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	F3570		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MM52264		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	NM52264		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MSM3864		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	OKI		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	SGS-Thomson		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	Supertex		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	TI		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	UMC		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	Harris		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	Krueger		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	2716-350	(2877)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	2716-450	(2877)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	2716T-350	(2877)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	2716T-450	(2877)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MM2716		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MSM2716		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	SGS-Thomson		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	M2716		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	CD40161	(2638)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	CD40161B	(2638)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MC14016B	(2945)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MC14161	(2942)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	CD40161		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	CD40161B		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	F40161		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HCC/HCF40161		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HCC/HCF40161B		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HEF40161		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	TC40161	(3341)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	TC40161B	(3341)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	DPD411M	(2608)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MB81C1000		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	TH2568		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	GM7C1024		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HB561003		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HM511000		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HM51101		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HM51102		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HM561003		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HY51C1000	(2778)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	HY51C1002	(2778)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MT1259		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MT4C1024		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MH25608		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MH25609		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	M5M4C1000		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	M5M41000S		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	M5M410000		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MC5M11000		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	μPD421000		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MC421000		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	MSM41000		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	OKI		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	Samsung		
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	KM41C1000	(3036)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	KM41256A	(3036)	
	SGS-Thomson	T74LS395		Hitachi	Motorola	SN74LS490		Hitachi	Motorola	SN74LS93		Signetics	(Continued)		

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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ALT SOURCE DIRECTORY

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Plessey Semiconductors (Cont'd)				MV74HCT245 (Cont'd)				MV74HCT564 (Cont'd)				MV8912 (Cont'd)			
MV61901	MMI	67L4502	(Cont'd)	Signetics	74HCT245	(3057)		SGS-Thomson	M74HCT564			National	TP3040		(Cont'd)
	Saratoga	SSL7202		Supertex	74HCT245			Signetics	74HCT564	(3057)		SGS-Thomson	ETC5040		
	TI	74ACT7202		TI	SN74HCT245			TI	SN74HCT564			TI	TCM2912C		
MV74HCT137	CTI	74HCT137		Toshiba	TC74HCT245			Toshiba	TC74HCT564			Mitel	MT8960		
	GE/RCA	CD74HCT137	(2640)	CTI	74HCT373			CTI	74HCT573			Mitel	MT8961		
	SGS-Thomson	M74HCT137		CMD Micro	G74SC373			GE/RCA	CD74HCT573	(2641)		MV8962	Mitel	MT8962	
	Supertex	74HCT137		GE/RCA	CD74HCT373	(2641, 2653)		Micrel	MIC74HCT573			MV8963	Mitel	MT8963	
	TI	SN74HCT137		Hitachi	HD74HCT373			National	MM74HCT573			MV8964	Mitel	MT8964	
MV74HCT138	CTI	74HCT138		Micrel	MIC74HCT373			SGS-Thomson	M74HCT573			MV8965	Mitel	MT8965	
	Toshiba	TC74HCT137		Motorola	MC74HCT373			Signetics	74HCT573	(3057)		REF12	GE/RCA	CD54AC00	(2642)
	GE/RCA	CD74HCT138	(2640)	National	MM74HCT373			Supertex	74HCT573				LinearTech	LM385-1.2	
	National	MM74HCT138		Plessey	MV74SC373			TI	SN74HCT573				National	LM385-1.2	
	SGS-Thomson	M74HCT138		SGS-Thomson	M74HCT373			Toshiba	TC74HCT573			REF25	TeledyneS	TS004	
	Signetics	74HCT138	(3057)	Supertex	74HCT373	(3057)		CTI	74HCT574				LinearTech	LM336-2.5	
	TI	SN74HCT138		TI	SN74HCT373			GE/RCA	CD74HCT574	(2641)			Motorola	LM385-2.5	
MV74HCT139	CTI	74HCT139		Toshiba	TC74HCT373			Micrel	MIC74HCT574				National	LM336-2.5	
	GE/RCA	CD74HCT139	(2640)	CTI	74HCT374			National	MM74HCT574			REF50	TeledyneS	TS005	
	IDT	IDT74HCT139		CMD Micro	G74SC374			SGS-Thomson	M74HCT574			SL1310	TI	LM385-2.5	
	National	MM74HCT139		GE/RCA	CD74HCT374	(2641, 2653)		Signetics	74HCT574	(3057)			National	LM336-5.0	
	Signetics	74HCT139	(3057)	Hitachi	HD74HCT374			Supertex	74HCT574				Exar	XR1310	
MV74HCT237	Supertex	74HCT237	(2640)	Micrel	MIC74HCT374			TI	SN74HCT574			SL1495	TI	SN76115	
	GE/RCA	CD74HCT237	(2640)	Motorola	MC74HCT374			Toshiba	TC74HCT574				Motorola	MC1495	
	Signetics	74HCT237		National	MM74HCT374			CTI	74HCT245			SL1496	SiliconG	SG1495	
MV74HCT238	CTI	74HCT238	(2640)	Plessey	MV74SC374			CMD Micro	G74SC245				Motorola	MC1496	(2973, 2989)
	GE/RCA	CD74HCT238	(2640)	SGS-Thomson	M74HCT374			GE/RCA	CD74HCT245	(2640, 2653)			National	LM1496	
	Signetics	74HCT238	(3057)	Supertex	74HCT374	(3057)		Hitachi	HD74HCT245			SL1595	Signetics	SG1496	
	TI	SN74HCT237		TI	SN74HCT374			Micrel	MIC74HCT245				SiliconG	SG1496	
	CTI	74HCT238		Toshiba	TC74HCT374A			Motorola	MC74HCT245			SL2364C	Motorola	MC1595	
	GE/RCA	CD74HCT238	(2640)	CTI	74HCT533			National	MM74HCT245				SiliconG	SG1595	
	Signetics	74HCT238	(3057)	GE/RCA	CD74HCT533	(2641)		Plessey	MV74HCT245				Gould/AMI	S2364	
	TI	SN74HCT238		Hitachi	HD74HCT533			SGS-Thomson	M74HCT245				NCR	NCR2364	
MV74HCT240	CTI	74HCT240	(2640)	Micrel	MIC74HCT533			Signetics	74HCT245	(3057)			OKI	MSM3864	
	GE/RCA	CD74HCT240	(2640)	Motorola	MC74HCT533			Supertex	74HCT245				S-MOS	SMM2364	
	Hitachi	HD74HCT240		National	MM74HCT533			TI	SN74HCT245				Sharp	LH2364A	
	Micrel	MIC74HCT240		Signetics	74HCT533	(3057)		Toshiba	TC74HCT245				Signetics	2364	
	Motorola	MC74HCT240		TI	SN74HCT533			CTI	74HCT245A				TI	TMS2364	
	National	MM74HCT240		CTI	74HCT534			CMD Micro	G74SC373			SL3046	WEITEK	SC8164	(2650)
	Samsung	74HCT240		GE/RCA	CD74HCT534	(2641)		GE/RCA	CD74HCT373	(2641, 2653)			GE/RCA	CA3046	(2650)
	SGS-Thomson	M74HCT240		Hitachi	HD74HCT534			Hitachi	HD74HCT373				Motorola	MC3346	(2951, 2990)
	Signetics	74HCT240	(3057)	Micrel	MIC74HCT534			Micrel	MIC74HCT373				National	μA3046	
	Supertex	74HCT240		Motorola	MC74HCT534			Motorola	MC74HCT373				μA3086		
	TI	SN74HCT240		National	MM74HCT534			Motorola	MC74HCT373				LM3046		
MV74HCT241	Toshiba	TC74HCT240A		Signetics	74HCT534	(3057)		National	MM74HCT373				Plessey	SL3086	
	CTI	74HCT241		TI	SN74HCT534			Plessey	MV74HCT373				SL3146		
	GE/RCA	CD74HCT241	(2640)	CTI	74HCT540			SGS-Thomson	M74HCT373				LA3046		
	Hitachi	HD74HCT241		GE/RCA	CD74HCT540	(2641)		Signetics	74HCT373	(3057)			SGS-Thomson	CA3046	
	Micrel	MIC74HCT241		Micrel	MIC74HCT540			Supertex	74HCT373				CA3046		
	Motorola	MC74HCT241		Motorola	MC74HCT540			TI	SN74HCT373				LM3046		
	National	MM74HCT241		National	MM74HCT540			Toshiba	TC74HCT373				SFC2046		
	Samsung	74HCT241		SGS-Thomson	M74HCT540			CTI	74HCT374				TBA331		
	SGS-Thomson	M74HCT241		Signetics	74HCT540	(3057)		CMD Micro	G74SC374				SG3046		
	Signetics	74HCT241	(3057)	TI	SN74HCT540			GE/RCA	CD74HCT374	(2641, 2653)			SG3146		
	Supertex	74HCT241		Toshiba	TC74HCT540			Hitachi	HD74HCT374			SL3054	SG3821		
	TI	SN74HCT241		CTI	74HCT541			Micrel	MIC74HCT374				ULN2046		
MV74HCT244	Toshiba	TC74HCT241A		GE/RCA	CD74HCT541	(2641)		Motorola	MC74HCT374				CA3054	(2649, 2655)	
	CTI	74HCT244		Micrel	MIC74HCT541			National	MM74HCT374				HC3054		
	GE/RCA	CD74HCT244	(2640, 2653)	Motorola	MC74HCT541			Plessey	MV74HCT374				CA3054	(2951)	
	Hitachi	HD74HCT244		National	MM74HCT541			SGS-Thomson	M74HCT374				μA3054		
	Micrel	MIC74HCT244		SGS-Thomson	M74HCT541			Signetics	74HCT374	(3057)			LM3054		
	Motorola	MC74HCT244		Supertex	74HCT541	(3057)		Supertex	74HCT374			SL3054	TP3054		
	National	MM74HCT244		TI	SN74HCT541			TI	SN74HCT374				SFC2054		
	Samsung	74HCT244		Toshiba	TC74HCT541			Toshiba	TC74HCT374A				ULN2054		
	SGS-Thomson	M74HCT244		CTI	74HCT563			Samsung	KA2410	(3040)		SL3081	ULN3054		
	Signetics	74HCT244	(3057)	GE/RCA	CD74HCT563	(2641)		Mitel	MT8804				CA3081	(2650, 2656)	
	Supertex	74HCT244		Micrel	MIC74HCT563			National	F8804				2653, 2656)		
MV74HCT245	Toshiba	TC74HCT244A		National	MM74HCT563			CMD Micro	G8865			SL3082	ULN2081		
	CTI	74HCT245		SGS-Thomson	M74HCT563			Mitel	MT8865				CA3082	(2650, 2656)	
	CMD Micro	G74SC245		Hitachi	HD74HCT563			SGS-Thomson	MK8865			SL3083	ULN2082		
	GE/RCA	CD74HCT245	(2640, 2653)	Signetics	74HCT563	(3057)		MV8870	CMD Micro	G8870	(2567)		CA3083	(2650, 2656)	
	Hitachi	HD74HCT245		TI	SN74HCT563				Crystal	CS8870				2653, 2656)	
	Micrel	MIC74HCT245		Toshiba	TC74HCT563				Fujitsu	MB87017A		SL3083	SG3083		
	Motorola	MC74HCT245		CTI	74HCT564				Mitel	MT8870			SG3183		
	National	MM74HCT245		GE/RCA	CD74HCT564	(2641)			Sierra	SC11270		SL3086	ULN2083		
	Plessey	MV74SC245							SC11271				CA3046	(2650)	
	SGS-Thomson	M74HCT245	(Continued)						G8912B				CA3146	(2650)	
									ID2912				MC3346	(2951, 2990)	
									2912				Motorola		
													National	μA3046	
													μA3086		
													LM3046		(Continued)

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Plessey Semiconductors (Cont'd)				SP8656	National	DS8627		ZN423	Plessey	ZN404	(Cont'd)	ZN518	Motorola	LM124	(2957)
SL3086	Plessey	SL3046	(Cont'd)	SP8658	National	DS8628			TeledyneS	TSC04			SiliconG	SG124A	
				SP8680	National	11C90			TSC05			SiliconSys	SSI6276		
SL3127	Sanyo	SL3046	(2650, 2655)	SP8685	Plessey	SP8685		ZN425	TI	LT1004		ZN558	AD	AD558	(2410, 2461)
				SP8740	National	11C90		ZN426	SiliconG	SG2815			GE/Intersil	ICL8023	
SL3146	SGS-Thomson	CA3046	(2650, 2655)	SP8793	National	DS8616			SiliconSys	SSI6220		ZN6012	AMD	AM6012	
				SP97508	Datal	ADC303	(2595)		SiliconG	ULN2815			AD	AD6012	
SL3183	SiliconG	LM3046	(2650, 2655)		Honeywell	HADC77100		ZN429	SiliconG	SG2825			Exar	XR346A	
				TAB1042	Sony	CX20116			SiliconSys	SSI6240			Maxim	AM6012	
SL3183	GE/RCA	CA3046	(2650, 2655)	TBA331	Exar	XR4202		ZN433	Sprague	ULN2825	(3258)		National	NS846A	
				TBA530	Telefunken	TBA530			Datal	ADC856	(2595)		NEC	PC6012	
SL3183	Motorola	CA3146	(2951, 2990)	TBA540	Telefunken	TBA540		ZN435	SiliconSys	SSI6020			PMI	DAC312	
				TBA560	Telefunken	TBA560		ZN436	SiliconSys	SSI6030			Raytheon	DAC6012	
SL3183	National	CA3127	(2650, 2655)	TBA800	National	TBA800			Motorola	MC3523		ZN7528	Signetics	AM6012	
				TBA800	Telefunken	TDA800			SiliconG	SG3523A			AD	AD7528	(2413, 2461)
SL3183	Plessey	LA3046	(2650, 2655)	TDA920	SGS-Thomson			ZN437	SiliconSys	SSI6260			Maxim	AD7528	
									Motorola	LM208	(2952, 2989)		MicroPwr	MP7528	
SL3183	Sanyo	LA3046	(2650, 2655)	TDA1085	Motorola	TDA1085	(2969)		National	LA209			Motorola	MC7528	
				TDA1085A	Motorola	TDA1085A	(2969)			LM209			PMI	PM7528	(3019)
SL3183	SGS-Thomson	CA3046	(2650, 2655)	TDA2522	National	TDA2522		ZN438	PMI	PM108			Raytheon	RC7528	
				TDA2523	National	TDA2523			SiliconG	SG209			TI	TLC7528	(3325)
SL3183	Motorola	MC3346	(2951, 2990)	TDA2530	Krueger	2532-350	(2877)		SiliconSys	SSI6410		1G000	Unitrode	PICT7528	
						2532-450	(2877)		SiliconG	SG2825			Plessey	ULA1G000	
SL3183	National	CA3086	(2650, 2655)		National	MM2532		ZN439	SiliconG	SSI6272		2U000	Plessey	ULA2U000	
						NMC2532			Sprague	ULN2825	(3258)	3U000	Plessey	ULA3U000	
SL3183	Plessey	LA3046	(2650, 2655)			TDA2532			SiliconSys	SG2813					
						SG2532			SiliconSys	SSI6080					
SL3183	Sanyo	LA3046	(2650, 2655)	TDA2540	SiliconG	TBA2540		ZN440	Sprague	ULN2813		Polycore Electronics			
									SiliconG	SG55234		LA201	Gennum	LA201	(4236)
SL3183	SGS-Thomson	CA3046	(2650, 2655)	TDA2541	SGS-Thomson	SP2541			SiliconG	SSI6040		LA202	Gennum	LA202	(4236)
									SiliconSys	SNJ55234		LA203	Gennum	LA203	
SL3183	Motorola	MC3346	(2951, 2990)		Harris	HA2541	(2762)	ZN441	TI	SN55234		LA251	Gennum	LA251	(4236)
									SGS-Thomson	TDA2541			SN55234		LA252
SL3183	Sprague	ULN2046	(2650, 2655)	TDA2560	Gould/AMI	S2560		ZN442	SiliconSys	SG75432		LA253	Gennum	LA253	(4236)
					National	TDA2560		ZN443	SiliconG	SG75432			Gennum	LA253	(4236)
SL3183	GE/RCA	CA3083	(2650, 2655)		SGS-Thomson	M2560		ZN445	SiliconSys	SSI6044			POL		
						CM2560			SiliconG	SG75431		PL293	IPS	IP293	
SL3183	National	AD	(2433, 2462)	TDA2593	National	TDA2593		ZN447	Motorola	LM309	(2959)		SGS-Thomson	L293	
						TDA2593			National	LA309			TI	L293	(3322)
SL3183	Plessey	AD	(2411, 2462)		Signetics	TDA2593			SiliconG	SG309				SN754410	(3322)
						TDA2593		ZN447E	Datal	ADC847A	(2595)				
SL3183	Harris	AD	(2596)		Telefunken	TDA2593		ZN447J	Datal	ADC847B	(2595)	Precision Monolithics Inc.			
						TDA440		ZN448	Motorola	LM224	(2956, 2989)	ADC908	AD	AD7574	(2462, 2470)
SL3183	Datal	DAC562	(2596)		SGS-Thomson	TDA440			National	LA224			Maxim	AD7574	
						1G000			PMI	OP400			MicroPwr	MAX160	
SL3183	Motorola	MC1648	(2946)	ULA1G000	Plessey	1G000				OP421		ADC910	PMI	PM7574	
				ULA1U000	Plessey	1U000			SiliconG	SG224			AD	AD571	(2416, 2462)
SL3183	Motorola	MC1650	(2946)	ULA2C000	Plessey	MSA		ZN449	TI	LM224	(2595)			AD573	(2416, 2462)
				ULA2U000	Plessey	2U000			SiliconSys	SSI6051			MCE	MCE571	
SL3183	Motorola	MC1660	(2938)	ULA3U000	Plessey	3U000		ZN449E	SiliconSys	SSI6052			National	LA571	
				ULA5C000	Plessey	MSB		ZN454	LinearTech	LT138			NEC	PC571	
SL3183	Motorola	MC1666	(2937)	ULA9C000	Plessey	MSC			SiliconG	SG138		AD7521	Signetics	NE571	(3163)
				ZNREF025	National	LA305		ZN455	SiliconG	SG138A			AD	AD7521	(2462, 2470)
SL3183	Motorola	MC1672	(2938)		Signetics	TDA2593			SiliconSys	SSI6282			GE/Intersil	AD7521	(2666)
						TDA2593		ZN458	Datal	VR182	(2600)		HybridSys	DAC331-12	
SL3183	Motorola	MC1674	(2938)	ZNREF050	National	LM207		ZN459	AnalogSys	MA459			Maxim	AD7521	
						OP02		ZN501	SiliconG	SG224A			MicroPwr	MP7521	
SL3183	Motorola	MC1690	(2942)		PMI	OP02			SiliconG	SSI6070M			Motorola	MC7521	
						OP77		ZN502	National	LM240-05			National	AD7521	
SL3183	National	AD	(2416, 2462)		SiliconG	SG207			SiliconG	LM240-5					
						SSI6505		ZN503	SiliconG	SG240-05			AMP05	AD	AD521
SL3183	Plessey	AD	(2416, 2462)	ZNREF100	SiliconSys	SSI6505			Motorola	LM340-5	(2960)				
						LM207			National	LM340-05					
SL3183	SGS-Thomson	AD	(2416, 2462)		LinearTech	LM307		ZN504	SiliconSys	SSI6072M					
						LM307			Unitrode	UC340-05			Burr-Brown	INA110	
SL3183	Motorola	MC1692	(2946)		National	OP02			SiliconG	SG2811			National	DS1603	
						OP77			SiliconG	ULN2811			PMI	LM148	
SL3183	Siemens	AD	(2416, 2462)		PMI	OP77		ZN508	SiliconG	ULS2811			TI	LM163	
						SG307			SiliconSys	SG1253			GE/RCA	CA139A	(2648)
SL3183	Telefunken	AD	(2416, 2462)	ZN404	AD	AD589	(2426, 2462)			SG2814			Motorola	LM139A	(2958)
									SiliconG	SG2814			National	LM139A	
SL3183	Motorola	MC1699	(2943)		GE/Intersil	ICL8069	(2426, 2462)	ZN509	SiliconG	SSI6082			PMI	PM139A	
						LT1004			SiliconG	ULN2814			Signetics	LM1339	
SL3183	National	AD	(2943)		LinearTech	LT1004			SiliconG	ULN2812			TI	LM139A	
						ICL8069		ZN512	SiliconG	ULS2812			CMP05	National	LA760
SL3183	Plessey	AD	(2943)		Maxim	ICL8069				LM205					
						MP5010		ZN515	National	SG205			CMP08	AMD	AM685
SL3183	SGS-Thomson	AD	(2943)		National	LM1313				SSI6284					
						LM1313			SiliconG	SSI6284					
SL3183	Motorola	MC1699	(2943)		Plessey	ZN423									
						TSC04									
SL3183	Telefunken	AD	(2943)		TeledyneS	TSC05									
						TSC9491									
SL3183	Motorola	MC1699	(2943)		TI	LT1004									
						AD589	(2426, 2462)								
SL3183	National	AD	(2943)		GE/Intersil	ICL8069	(2426, 2462)								
						LT1004									
SL3183	Plessey	AD	(2943)		LinearTech	LT1004									
						ICL8069									
SL3183	Siemens	AD	(2943)		Maxim	ICL8069									
						MP5010									
SL3183	Telefunken	AD	(2943)		National	LM1313									
						LM1313									
SL3183	Motorola	MC1699	(2943)		Plessey	ZN423									
						TSC04									
SL3183	SGS-Thomson	AD	(2943)		TeledyneS	TSC05									
						TSC9491									
SL3183	Motorola	MC1699	(2943)		TI	LT1004									
						AD589	(2426, 2462)								
SL3183	National	AD	(2943)		GE/Intersil	ICL8069	(2426, 2462)								
						LT1004									
SL3183	Plessey	AD	(2943)		LinearTech	LT1004									
						ICL8069									
SL3183	Siemens	AD	(2943)		Maxim	ICL8069									
						MP5010									
SL3183	Telefunken	AD	(2943)		National	LM1313									
						LM1313									
SL3183	Motorola	MC1699	(2943)		Plessey	ZN423									
						TSC04									
SL3183	SGS-Thomson	AD	(2943)		TeledyneS	TSC05									
						TSC9491									
SL3183	Motorola	MC1699	(2943)		TI	LT1004									
						AD589	(2426, 2462)								
SL3183	National	AD	(2943)		GE/Intersil	ICL8069	(2426, 2462)								
						LT1004									
SL3183	Plessey	AD	(2943)		LinearTech	LT1004									
						ICL8069									
SL3183	Siemens	AD	(2943)		Maxim	ICL8069									
						MP5010									
SL3183	Telefunken	AD	(2943)		National	LM1313									

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Precision Monolithics Inc. (Cont'd)				DAC8012 DAC8222	Burr-Brown AD	DAC8012 AD7547	(2553) (2413, 2462)	OP01 OP02	MicroPwr Burr-Brown GE/RCA	MPOP01 OP011 CA741	(2543) (2647)	OP14	TI	MC1458 MC1558 MC4558C RC4558 RM4558 RV4558 TL4558 TA75458 TA75558	(Cont'd)
CMPO8	LinearTech	LT685	(Cont'd)	DAC8248	Maxim	AD7547 AD7537	(2413, 2460, 2462)	OP05	MicroPwr PMI	MPOP02 PM741		OP15	AD	AD381	(2428, 2462)
DAC01	National	DAC01		DAC88	Maxim	AD7537 XR541	(2620)	OP06	GE/Intersil	OP05			Toshiba	AD381	(2428, 2462)
DAC01C	MicroPwr	µPC603			MicroLinear	ML541		OP07	LinearTech	OP05			LinearTech	AD544	(2427, 2462)
DAC02C	NEC	µPC610			National	FGC8000		OP08	MicroPwr	MPOP05			Burr-Brown	OPA606	(2540, 2543)
DAC08	AD	ADDAC-08		DMX88	SiliconSys	SSI541			Raytheon	OP05					
		AD1408	(2471)		Burr-Brown	MPC8S			National	µA725					
	Datel	DACIC8B	(2596)		Datel	MUX808	(2600)	OP09		LM725					
		DACIC8BC	(2596)		GE/Intersil	ICL6108	(2670)	OP10	PMI	OP77					
	Hitachi	DACIC8BC	(2596)		Harris	HI508		OP11	Harris	HAOP07					
	Hitachi	HA17008			Maxim	DG508A			Siemens	S576B					
	Motorola	HA17408	(2971, 2989)			MAX358			AD	AD517	(2429, 2462)				
		DAC08	(2971)			MAX368									
	National	MC1408	(2971)			MP7508DI	(2970)		LinearTech	LT1008					
		µA0801			Motorola	MC6108			MicroPwr	MPOP08					
		µA0802			National	LF11508			PMI	PM1008					
		DAC08				LF13508			TI	LT1008					
		DAC0801			PMI	MUX08			MicroPwr	MPOP09					
		DAC0802				MUX88				MP4136					
		DAC0806			Siliconix	DG508A			National	µA4136					
		DAC0807			TeledyneP	TP4554			LinearTech	LT1002					
		DAC0808			MicroPwr	MPT02A			MicroPwr	MPOP10					
		MA0802M			National	LM194			Exar	XR4741	(2619)				
	NEC	µPC624				LM3942			Harris	HA4741					
	PMI	DAC1408				LM3942			LinearTech	LT1014					
		DAC1508				MPC8S			MicroPwr	MPOP11					
	Raytheon	DAC08	(3025)		Burr-Brown	MPC8S			Motorola	LM148	(2957)				
	Samsung	KDA0800			Datel	MUX808	(2600)			LM248	(2956)				
		KDA0801			GE/Intersil	ICL6108	(2670)			MC33174	(2957, 2990)				
		KDA0802			Harris	HI508				MC4741	(2956, 2990)				
		KDA0806			Maxim	DG508A									
		KDA0807				MAX358			National	µA148					
		KDA0808				MAX368				µA248					
	Signetics	MC1408				MP7508DI				LM148					
		DACIC10B	(2596)		MicroPwr	MC6108	(2970)		NEC	µPC4741					
DAC10	Datel	DAC10	(3025)		Motorola	LF11508			PMI	OP400					
DAC100	AD	ADDAC100	(2471)		National	LF13508				OP421					
DAC1408	AD	ADDAC-08			PMI	DMX88				OP470					
		AD1408	(2471)			MUX88				PM148					
	Datel	DACIC8B	(2596)		Siliconix	DG508A				PM248					
		DACIC8BC	(2596)		TeledyneP	TP4554				Raytheon	HA14741				
		DACIC8BC	(2596)		AD	AD7506	(2425, 2462)				HA34741				
	Hitachi	DAC088	(2596)			MV1606	(2600)				HA4741				
	Hitachi	HA17008			Datel	MX1606	(2600)				LM148	(3025)			
	Motorola	HA17408	(2971, 2989)			MX1606	(2600)				RM4158				
		DAC08	(2971)		Harris	HI506			TI	LM148					
		MC1408	(2971)		MicroPwr	MP7506			LinearTech	LT1012					
	National	µA0801			Motorola	MC7506			MicroPwr	MPOP12					
		µA0802			Siliconix	DG506A			National	LM112					
		DAC08			GE/Intersil	ICL6109				LM212					
		DAC0801				IH6208	(2670)			LM312					
		DAC0802			Harris	HI509			PMI	OP97					
		DAC0806			Maxim	DG509A				PM1012					
		DAC0807				MAX359			TI	LT1012					
		DAC0808				MAX369				OP12					
		MA0802M			MicroPwr	MP7509DI			Exar	XR1458	(2619)				
	NEC	µPC624			National	LF11509				XR4558	(2647)				
	PMI	DAC08	(3017)			LF13509			GE/RCA	CA1558	(2647)				
		DAC1508			Siliconix	DG509A			GoldStar	GL4558	(2714)				
	Raytheon	DAC08	(3025)		AD	AD7507	(2425, 2462)		Hitachi	HA17458					
	Samsung	KDA0800				MVD807	(2600)			HA17558					
		KDA0801			Datel	MXD807	(2600)		Motorola	MC1558	(2955)				
		KDA0802				MXD807	(2600)			MC4558	(2955, 2990)				
		KDA0806			GE/Intersil	IH6216	(2670)								
		KDA0807			Harris	HI507				SE4558					
		KDA0808			MicroPwr	MP7507			National	µA1458					
	Signetics	DAC08			Siliconix	DG507A				µA4558					
DAC1508	AD	AD1508	(2471)		TeledyneP	TP4551				LM1458					
	Datel	DACIC8BM			Burr-Brown	MPC8S				LM1558					
	Motorola	MC1508	(2971)		Datel	MUX808	(2600)		NEC	µPC1458					
	National	MC1508				MX808				µPC4558					
	Signetics	MC1508			GE/Intersil	ICL6108	(2670)			OP270					
DAC1508A-8Q					Harris	HI508				RC1458	(3024)				
DAC312	AMD	AM1508L8			Maxim	DG508A				RC4558	(3024)				
	AMD	AM6012				MAX358				RM1558					
	AD	AD6012				MAX368				RM4558	(3024)				
	Exar	XR3464			MicroPwr	MP7508DI	(2970)		Samsung	MC4558	(3039)				
	Maxim	AM6012			Motorola	MC6108			SGS-Thomson	LS4558					
	National	NS8464			National	LF11508				MC4558					
	NEC	µPC6012				LF13508				MC1458					
	Plessey	ZN6012			PMI	DMX88				MC1558					
	Raytheon	DAC6012				MUX08				NE4558					
	Signetics	AM6012			Siliconix	DG508A				SA4558					
			(Continued)		TeledyneP	TP4554	(Continued)			SE4558	(Continued)				

• Discontinued

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Precision Monolithics Inc. (Cont'd)				PM219	SGS-Thomson	LM219	(Cont'd)	PM339	TI	LM339	(Cont'd)	PM7523	AD	AD7523	(2470)		
PM155	PMI	PM255	(Cont'd)	PM2208A	Signetics	LM219		PM339A	Toshiba	TA75339		AD	Datel	DA7523	(2596)		
	SGS-Thomson	LM255			GE/Intersil	LH2208A			Fujitsu	MB4204		GE/Intersil	GE/Intersil	AD7523	(2666)		
PM155A	LinearTech	LF155A			MicroPwr	MP2208A			GE/RCA	CA339	(2648, 2653)	Maxim	MicroPwr	MP7523			
PM156	National	LF155A			National	LH2208A				CA339A	(2648, 2653)	Motorola	Motorola	MC7523			
	AD	AD544	(2427, 2462)		GE/Intersil	LH2308				LM339		National	National	LM7523			
	Burr-Brown	OPA156A	(2540, 2542)		National	LH2308			GoldStar	LM339	(2714)	Raytheon	Raytheon	RC7523			
	LinearTech	LF156			GE/Intersil	LH2308A			Motorola	LM339	(2958, 2989)	Unitrode	Unitrode	PIC7523			
	MicroPwr	MP156			National	LH2308A						AD	AD	AD7524	(2411, 2460, 2462)		
	National	LF156				CA239	(2648)		National	μA339			GE/Intersil	AD7524			
	PMI	OPA101			Motorola	LM239	(2958, 2989)		NEC	LM339			Maxim	AD7524			
	PMI	OP16				μA239				μPC137			MicroPwr	MP7524			
	SGS-Thomson	OP43				LM239				μPC177			Motorola	MC7524			
		PM156A				LM239				μPC339			National	DS7524			
PM156A	TI	TL081	(2427, 2462)		PMI	CMPO4				CMPO4			Signetics	7524			
	AD	AD544	(2540, 2542)		Raytheon	PM139				PM139			TI	TLC7524	(3325)		
	Burr-Brown	OPA156A			SGS-Thomson	LM239				PM339			AD	AD7524	(2413, 2461)		
	LinearTech	LF156				LM239				LM339	(3025)		Maxim	AD7528			
	MicroPwr	MP156				LM239				LM339			MicroPwr	MP7528			
	National	LF156				LM239				TA75339			Motorola	MC7528			
	PMI	OPA101				CA239A	(2648)		PM355	LinearTech	LF355		Plessey	ZN7528			
	SGS-Thomson	OP16			Motorola	LM239A	(2958, 2989)			Motorola	LF355	(2953)	Raytheon	RC7528			
		OP43				LM239A				National	LF355		TI	TLC7528	(3325)		
		PM156				CMPO4				PMI	OP15		Unitrode	PIC7528			
PM157	AMD	27S29				XR4751				SGS-Thomson	OP43		AD	AD7531	(2470)		
	MicroPwr	MP157				LM348					LF355		GE/Intersil	AD7531	(2666)		
	National	LF157A				LM348					LF355A		Maxim	AD7531			
	NEC	μPC157				LM348			PM355A	LinearTech	LF355A		MicroPwr	MP7531			
	PMI	OP15				LM348				LinearTech	LF356		National	AD7531			
	Raytheon	29621				LM348				Motorola	LF356	(2953)	Unitrode	PIC7531			
	Signetics	PLS157	(3209, 3213)			LM348				National	LF356		AD	AD7533	(2411, 2462)		
	TI	LF351				LM348				NEC	μPC356			Datel	DA7533	(2596)	
		LF353				LM348					μPC813			GE/Intersil	AD7533	(2666)	
	AMD	27S29				LM348					OP16			Maxim	AD7533		
	MicroPwr	MP157				LM348					OP16			MicroPwr	MP7533		
	National	LF157A				LM348					LF356			National	AD7533		
	NEC	μPC157				LM348					OP16			Unitrode	PIC7533		
	PMI	OP15				LM348					OP16			AD	AD7542	(2411, 2462)	
	Raytheon	29621				LM348					OP16			Honeywell	HDAC7542		
	Signetics	PLS157	(3209, 3213)			LM348					OP16			Maxim	AD7542		
	TI	LF351				LM348					OP16			MicroPwr	MP7542		
		LF353				LM348					OP16			AD	AD7543	(2411, 2462)	
	AMD	27S29				LM348					OP16				Honeywell	HDAC7543	
	MicroPwr	MP157				LM348					OP16			Maxim	AD7543		
	National	LF157A				LM348					OP16			MicroPwr	MP7543		
	NEC	μPC157				LM348					OP16			AD	AD7545	(2411, 2460, 2462)	
	PMI	OP15				LM348					OP16			Burr-Brown	DA7545	(2552)	
	Raytheon	29621				LM348					OP16			Honeywell	HDAC7545		
	Signetics	PLS157	(3209, 3213)			LM348					OP16			HybridSys	HS7545		
	TI	LF351				LM348					OP16			Maxim	AD7545		
		LF353				LM348					OP16			MicroPwr	MP7545		
	AMD	27S29				LM348					OP16			SiliconG	SG7545A		
	MicroPwr	MP157				LM348					OP16			AD	AD7548	(2411, 2462)	
	National	LF157A				LM348					OP16				Maxim	AD7548	
	NEC	μPC157				LM348					OP16			AD	AD7574	(2462, 2470)	
	PMI	OP15				LM348					OP16				Maxim	AD7574	
	Raytheon	29621				LM348					OP16				MicroPwr	MP7574	
	Signetics	PLS157	(3209, 3213)			LM348					OP16			PMI	ADC908		
	TI	LF351				LM348					OP16			Maxim	AD7645		
		LF353				LM348					OP16			MicroPwr	MP7645		
	AMD	27S29				LM348					OP16			AD	ADREF01	(2426, 2462)	
	MicroPwr	MP157				LM348					OP16						
	National	LF157A				LM348					OP16						
	NEC	μPC157				LM348					OP16						
	PMI	OP15				LM348					OP16						
	Raytheon	29621				LM348					OP16						
	Signetics	PLS157	(3209, 3213)			LM348					OP16						
	TI	LF351				LM348					OP16						
		LF353				LM348					OP16						
	AMD	27S29				LM348					OP16						
	MicroPwr	MP157				LM348					OP16						
	National	LF157A				LM348					OP16						
	NEC	μPC157				LM348					OP16						
	PMI	OP15				LM348					OP16						
	Raytheon	29621				LM348					OP16						
	Signetics	PLS157	(3209, 3213)			LM348					OP16						
	TI	LF351				LM348					OP16						
		LF353				LM348					OP16						
	AMD	27S29				LM348					OP16						
	MicroPwr	MP157				LM348					OP16						
	National	LF157A				LM348					OP16						
	NEC	μPC157				LM348					OP16						
	PMI	OP15				LM348					OP16						
	Raytheon	29621				LM348					OP16						
	Signetics	PLS157	(3209, 3213)			LM348					OP16						
	TI	LF351				LM348					OP16						
		LF353				LM348					OP16						
	AMD	27S29				LM348					OP16						
	MicroPwr	MP157				LM348					OP16						
	National	LF157A				LM348					OP16						
	NEC	μPC157				LM348					OP16						
	PMI	OP15				LM348					OP16						
	Raytheon	29621				LM348					OP16						
	Signetics	PLS157	(3209, 3213)			LM348					OP16						
	TI	LF351				LM348					OP16						
		LF353				LM348					OP16						
	AMD	27S29				LM348					OP16						
	MicroPwr	MP157				LM348					OP16						
	National	LF157A				LM348					OP16						
	NEC	μPC157				LM348					OP16						
	PMI	OP15				LM348					OP16						
	Raytheon	29621				LM348					OP16						
	Signetics	PLS157	(3209, 3213)			LM348					OP16						
	TI	LF351				LM348					OP16						
		LF353				LM348					OP16						
	AMD	27S29				LM348					OP16						
	MicroPwr	MP157				LM348					OP16						
	National	LF157A				LM348					OP16						
	NEC	μPC157				LM348					OP16						
	PMI	OP15				LM348					OP16						
	Raytheon	29621				LM348					OP16						
	Signetics	PLS157	(3209, 3213)			LM348					OP16						
	TI	LF351				LM348					OP16						
		LF353				LM348					OP16						
	AMD	27S29				LM348					OP16						
	MicroPwr	MP157				LM348					OP16						
	National	LF157A				LM348					OP16						
	NEC	μPC157				LM348					OP16						
	PMI	OP15															

ALT CAMPUS DIRECTORY

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ALF. SOURCE DIRECTORY

◆ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Raytheon Semiconductor (Cont'd)				RC4195	GoldStar	GD75189	(Cont'd) (2708)	RC555	Mitsubishi	M51841	(Cont'd)	RC725	AD	ADOP07	(2427, 2429, 2462)		
RC2041	PMI	OP14	(3039)	Motorola	MC1468	MC1468	(2947)	Motorola	National	MC1455	(2989)	GE/Intersil	ICL8008	AD201	(2427, 2429)		
		OP215			μA121A	μA121A				μA555				AD707			
		OP270			μA750	μA750				LM555				OP07			
	Samsung	MC1458		SiliconG	SG1468	SG2501A	(3341)	NEC	National	μPC1555	(3039)	GE/RCA	CA201	CA301	(2647)		
		SGS-Thomson			SG3501A	SG75189				μPD555				CA307			
		μA1458			SN75189	SN75189A				RM555				CA3193			
	Signetics	MC1458		TI	MAX4391	MC14531	(2947)	Raytheon	Samsung	LB8555	(3039)	National	μA207	CA3493	(2647)		
		NE5512			MC14531	F4531				NE555				μA307			
		SA1458			HCC/HCF40101	HCC/HCF40101				NE555				LMH0044			
	TI	LF412		Signetics	HEF4531	HEF4531	(3341)	TI	TI	NE555	(3325)	PMI	OP06	OP77	(3024)		
		TA75458			TC4531B	TC4531B				SE555				LM201			
		TA75558			GE/RCA	CD4556				SE555M				OP77			
RC3301	Hitachi	HA17301	(2957)	Motorola	MC14556	MC14556	(2945)	Toshiba	Adv Analog	TA7555	(3039)	RC733	Adv Analog	GE/Intersil	(2953, 2989)		
		LM2900			F4556	F4556				A733				μA733			
RC3302	Cypress	CY7C901	(2590)	National	HCC/HCF4556	HCC/HCF4556	(3341)	Hitachi	Motorola	NE592-8	(2951)	Hitachi	Motorola	MC1733	(2953, 2989)		
		IDT			HEF4556	HEF4556				SE592				NE592			
		IDT39C01			TC4556B	TC4556B				SE592				SE592			
	Motorola	LM2901		Exar	XR1458	XR1458	(2619)	GE/RCA	GoldStar	HA17733	(2951)	National	μA733	LM733	(2953, 2989)		
		MC3302			XR4558	XR4558				MC1733				NE592			
		μA2901			GL4558	GL4558				NE592				SE592			
	PMI	μA3302		Hitachi	HA17458	HA17458	(2955)	Motorola	Motorola	μA733	(2951)	Signetics	μA733	NE592	(2953, 2989)		
		LM2901			HA17558	HA17558				LM733				SE592			
		LM3302			MC1558	MC1558				NE592				SE592			
	RC3401	SGS-Thomson		LM2901	(3025)	NEC	μPC1458	μPC1458	(3039)	Motorola	National	MC1709	(2954)	Burr-Brown	LinearTech	LM107	(2954, 2989)
				MC3302			OP14	OP14				LM709				LMH741A	
				SG324A			OP270	OP270				μPC55				LM107	
TI		LM2901	Raytheon	RC1458		RC1458	(3024)	NEC	PMI	OP06	(3024)	PMI	OP02	OP77	(3024)		
		LM3302		RM1558		RM1558				μA709				PM741			
		TA75339		RM4558		RM4558				μA709				PM741			
GE/RCA		CA3401	Samsung	MC4558		MC4558	(3039)	TI	TI	OP06		SGS-Thomson	LM107	SG107			
		MC3401		LS4558		MC4558				Signetics				AD		ADOP27	SN74154
		LM3900		MC1458		MC1458						AD510	GE/RCA			Hitachi	HA17747
Raytheon		LM3900	Signetics	NE4558		NE4558	(3039)					AD517					MPOPO4
		LM3900		SA4558		SA4558	Burr-Brown	Harris	OPA27	National		μA747	LM747				
		CD4077		SE4558		SE4558			LT1007				LM747				
RC4077	GE/RCA	CD4077	(2637, 2639)	TI	MC1458	MC1458	(3341)	Maxim	MicroPwr	MPOP27	(2954)	NEC	PMI	OP04	(3024)		
		CD4077B			MC1558	MC1558				OP27				PM747			
		MC14077			MC1558C	MC1558C				OP27		Raytheon	Signetics	RM747			
	Motorola	MC14077B		Toshiba	TA75458	TA75458	(3341)	Motorola	PMI	OP77				μA747			
		CD4077			μPC4559	μPC4559				OP27				TSC747			
		F4077			OP270	OP270		Raytheon	TI	OP27		TI	μA747M	AD7523			
	SGS-Thomson	HCC/HCF4077		NEC	RC4559	RC4559	(3341)			MB3752	(2651, 2659)	GE/Intersil	GE/Intersil	AD7523			
		HCC/HCF4077B		PMI	XR4560	XR4560				LM723				AD7523			
		HEF4077		TI	μPC4560B	μPC4560B	Fujitsu	GE/Intersil	CA723	Maxim		MicroPwr	MP7523				
RC4136	CMD Micro	G65SC51	(3025)	Toshiba	TA75558	TA75558	(3341)	Hitachi	Motorola	HA17723	(2962, 2989)	National	LM7523	LM7523	(2413, 2461)		
		OP09			RC4559	RC4559				National				Raytheon		LM723	PM7523
		RC4136			XR4560	XR4560										LM723	PIC7523
	PMI	XR4151		Toshiba	μA739	μA739	(2619)	SGS-Thomson	TI	μA723	(3039)	Raytheon	MicroPwr	MC7528	(3019)		
		RM4151			Toshiba	TA75558				TA75558				LM723		MC7528	
		RV4151				μPC4559				μPC4559				LM723		MC7528	
	Raytheon	RV4151		National	XR4739	XR4739	(2619)	Hitachi	Motorola	SG723	(3039)	Plessey	PMI	PM7528	(3019)		
		XR4151			μA749	μA749				LM723				PM7528			
		OP470			LM1303	LM1303				LM723				PM7523			
	Signetics	NE5514		SGS-Thomson	TBA231	TBA231	(3341)	TI	TI	LM723		Unitrode	AD	AD7528			
		SE5514			SN76131	SN76131				LM723				AD7528			
		TL136			SN76149	SN76149				LM723				AD7528			
RC4156	Harris	XR4156	(3025)	PMI	CMPO5	CMPO5	(3025)	Raytheon	Samsung	LM723	(3039)	SGS-Thomson	TI	LM723	(3019)		
		HA5112		Exar	XR5534	XR5534				LM723				LM723			
		MA2650			MC5534	MC5534				LM723				LM723			
Raytheon	RC4192	Motorola		LM5534	LM5534	(3025)	National	Raytheon	LM723	Hitachi		Motorola	LM723				
	RC4193			MC5534	MC5534				LM723				LM723				
	RC4191			XR5555	XR5555		GE/Intersil	TI	LM723	Signetics		SiliconG	SG723				
Raytheon	RC4191	TI		XR555M	XR555M	(2619)			LM723				SG723				
	RC4193			NE555	NE555				LM723				SG723				
	RC4192			SE555	SE555	GE/RCA											

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Raytheon Semiconductor (Cont'd)				RC930	Motorola	MC830		RC961	Motorola	MC961		RF51	Lansdale	ML565	
				RC930	National	MC930			National	DM961		RF60	Lansdale	ML516	
RC8T10	National	DM74173				930		RC962	Motorola	MC962		RF61	Lansdale	ML566	
						9930			National	DM962		RF8601	National	DM8601	
				RC930	Raytheon	RM930				962				DM9601	
				RC9304	Raytheon	RM9304		RC963	Motorola	MC963			Raytheon	RF9601	
				RC9308	National	9308			National	DM963			Signetics	N8722	
RC8T20	Lansdale	SN74173	(3076)		TI	SN74116				9963			TI	SN74122	
				RC9311	IDT	IDT7213		RC963	OEI	9963		RF8602	National	DM8602	
					National	DM7213			Raytheon	RM963				DM9602	
						DM74154		RC993	Motorola	MC853				9602	
RC8200	Lansdale	RL8200				9311				MC953			Raytheon	RF9602	
RC8201	Lansdale	RL8201				DM74154	(3057)	RC993	National	DM9093		RF9601	National	DM8601	
RC8202	Lansdale	RL8202				DM8311				9093				DM9601	
RC8203	Lansdale	RL8203				9311		RC993	Raytheon	RM993				9601	
RC8230	Lansdale	RL8230				74154		RC994	Motorola	MC856			Raytheon	RF8601	
	National	DM8312		RC9312	Signetics	SN54154				MC956			Signetics	N8722	
					TI	RL8230				DM9094				S8722	
					National	DM8312		RC993	Raytheon	RM993			TI	SN74122	
						9312		RC994	Motorola	MC856			National	DM8602	
	Raytheon	RC9312				9312				MC956				DM9602	
RC8231	Lansdale	RL8231				RC8230		RC997	Motorola	MC855			Raytheon	RF8602	
RC8232	Lansdale	RL8232		RC9316	National	9316				MC955				ML505	
RC8233	Lansdale	RL8233		RC932	Motorola	MC932		RC997	National	DM9097		RG110	Lansdale	ML555	
RC8234	Lansdale	RL8234				DM932				9097		RG111	Lansdale	ML556	
						932		RC997	Raytheon	RM997		RG120	Lansdale	ML556	
RC8241	Signetics	N8234	(3076)	RC932	Raytheon	RM932		REF01	AD	ADREF01	(2426, 2462)	RG121	Lansdale	ML556	
RC8242	Lansdale	RL8241		RC9322	National	DM8322						RG130	Lansdale	ML507	
	Motorola	SN74LS266 (2938)				9322						RG131	Lansdale	ML557	
	National	DM74LS266				MC933						RG140	Lansdale	ML508	
						DM933						RG141	Lansdale	ML558	
	Panasonic	DN74LS266		RC934	Motorola	MC934			LinearTech	LTREF01		RG150	Lansdale	ML509	
	SGS-Thomson	74LS266				9933				LT1019-10		RG151	Lansdale	ML599	
						MC934				REF01A		RG160	Lansdale	ML519	
	Signetics	N8242	(3076)	RC9341	Raytheon	RM934				AD581		RG161	Lansdale	ML569	
					Lansdale	ML54181				REF01		RG170	Lansdale	ML510	
	TI	SN74LS266			National	DM74181			Maxim	AD581		RG180	Lansdale	ML511	
	Intel	8243			Raytheon	RM9341				REF01		RG181	Lansdale	ML561	
	Lansdale	RL8243			Signetics	74181	(3057)			MPREF01		RG190	Lansdale	ML512	
	NEC	μPD8243		RC935	Motorola	MC835			MicroPwr	MP5531		RG191	Lansdale	ML562	
	Signetics	N8243				MC935				MC1400A0G10		RG200	Lansdale	ML2111	
	Toshiba	TMP8243		RC935	National	DM935			Motorola	MC1400AU10		RG201	Lansdale	ML2161	
RC8251	Lansdale	RL8251				9135				MC1404		RG210	Lansdale	ML2100	
RC8252	Lansdale	RL8252				9935				MC1504		RG211	Lansdale	ML2150	
						MC936			PMI	REF01		RG220	Lansdale	ML2101	
						DM936				REF01AZ		RG221	Lansdale	ML2151	
						936				REF02		RG222	Lansdale	ML2102	
						9936				REF43	(3012)	RG230	Lansdale	ML2152	
				RC9360	National	DM74192				TSC9495		RG231	Lansdale	ML2103	
	Signetics	S8252				DM8560				TSC9496		RG240	Lansdale	ML2153	
RC8261	Lansdale	RL8261			Signetics	74192	(3057)		TeledyneS	TSC9496		RG241	Lansdale	ML2104	
RC8262	Raytheon	RM8262		RC937	Motorola	MC837		REF02	AD	ADREF02	(2426, 2462)	RG250	Lansdale	ML2154	
	Signetics	N8262	(3076)			MC937						RG251	Lansdale	ML2105	
						MC937			Gennum	REF02		RG260	Lansdale	ML2106	
RC8263	Lansdale	RL8263		RC937	National	DM937			LinearTech	LTREF02		RG261	Lansdale	ML2155	
RC8264	Lansdale	RL8264				937				LT1019-5		RG270	Lansdale	ML2106	
RC8266	Lansdale	SL8266				9937				REF02E		RG271	Lansdale	ML2156	
	Raytheon	RM8266		RC944	Motorola	MC944			Maxim	REF02		RG280	Lansdale	ML2053	
	Signetics	N8266	(3076)		National	DM944			MicroPwr	MPREF02		RG281	Lansdale	ML577	
						944			PMI	REF01		RG290	Lansdale	ML528	
RC8267	Lansdale	RL8267				9944				REF02		RG291	Lansdale	ML578	
RC8270	Lansdale	RL8270		RC945	Motorola	MC945				REF02EZ		RG300	Lansdale	ML2112	
RC8271	Lansdale	RL8271			National	DM945				TSC9496		RG301	Lansdale	ML2162	
	Signetics	N8271	(3076)			945		REF03	AD	AD1403	(2426)	RG310	Lansdale	ML2113	
RC8273	Lansdale	RL8273				9945			LinearTech	LT1009		RG311	Lansdale	ML2163	
	Signetics	N8273	(3076)	RC946	Motorola	MC946			Motorola	MC1400		RG320	Lansdale	ML2107	
RC8274	Lansdale	RL8274			National	DM946				MC1403	(2989)	RG321	Lansdale	ML2157	
	Signetics	N8274	(3076)			946				MC1500		RG370	Lansdale	ML529	
RC8275	Lansdale	RL8275				9946				LM185-2.5		RG371	Lansdale	ML2166	
RC8277	Lansdale	RL8277		RC948	Motorola	MC948				LM236		RG380	Lansdale	ML2116	
RC8280	Lansdale	RL8280			National	DM948				LM285-2.5		RG40	Lansdale	ML500	
	National	DM74176				948				LM385-2.5		RG41	IDT	IDT74FCT241	
						9948				REF03				IDT74FCT241A	
				RC949	Motorola	MC949				REF43	(3012)	RG41	Performance	P74PCT241	
	Raytheon	RM8280			National	DM949				SG3503		RG50	Lansdale	ML501	
	Signetics	S8280				949		RF100	SiliconG	TSC05		RG51	Lansdale	ML551	
						9949		RF101	TeledyneS	ML523		RG60	Lansdale	ML502	
	TI	SN74176		RC949	Raytheon	RM949		RF110	Lansdale	ML573		RG61	Lansdale	ML552	
	National	DM74177		RC950	Motorola	MC950			Lansdale	ML573		RG70	Lansdale	ML520	
					National	9950			IDT	IDT29FCT520		RG71	Lansdale	ML570	
				RC951	Motorola	MC851			Performance	P29PCT520		RG80	Lansdale	ML526	
						MC852						RG81	Lansdale	ML576	
						MC951		RF111	Lansdale	ML574		RG90	Lansdale	ML503	
RC8285	Lansdale	RL8285		RC951	National	9951		RF120	Lansdale	ML2123		RG91	Lansdale	ML553	
RC8290	Lansdale	RL8290			Raytheon	RM951		RF121	Lansdale	ML2173		RL7050	LSI Logic	LL7050	
	National	DM74196		RC957	Motorola	MC857		RF130	Lansdale	ML2124			Toshiba	TC17G005	
						MC957		RF131	Lansdale	ML2174			LSI Logic	LL7080	
				RC957	National	DM9567		RF200	Lansdale	ML2125			Toshiba	TC17G008	
						DM957		RF210	Lansdale	ML2175			LSI Logic	LL71000	
						9157		RF211	Lansdale	ML2126			Toshiba	TC17G100	
				RC957	Raytheon	RM957		RF250	Lansdale	ML2109					
				RC958	Motorola	MC858		RF251	Lansdale	ML2159					
						MC859		RF261	Lansdale	ML2110					
						DM958		RF30	Lansdale	ML521					
				RC958	National	9158		RF31	Lansdale	ML571					
					Raytheon	RM958		RF50	Lansdale	ML515					
				RC958	Raytheon	RM958									

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Raytheon Semiconductor (Cont'd)				• RM4131	Motorola	MC1556 ML1556	(Cont'd) (2954)	RM4558	TI	MC1458 MC1558 MC4558C RC4558 RM4558 RV4558 TL4558	(Cont'd)	RM723	National	μA723 μA723M LM723 RC723 LM723	(Cont'd)
RL7140	IDT	IDT7140 LL7140 TC17G014	(2840)	• RM4131	Signetics TeledyneP TI	SE556 TP1326 MC1556 SE556M							Raytheon Samsung SGS-Thomson	μA723 LM723 RC723 LM723	(3039)
RL7220	LSI Logic NEC	LL7220 μPD7220A TC17G022		RM4136	Exar PMI	XR4136M OP09	(2619)		Toshiba	TA75458 TA75558				μA723 LM723 L123 SFC2723	
RL7320	LSI Logic Toshiba	LL7320 TC17G032		RM4137	PMI	OP421		RM5524	Motorola National	MC5524 LM5524 MC5524			Signetics SiliconG TI	μA723 SG723 μA723 μA723M	
RL7420	LSI Logic National	LL7420 DM7420 DM9004C 7420 9004		RM4139	Adv Analog GE/RCA LinearTech Maxim	A158 CA158A LT1013 MAX158	(2647)	RM5534	TI AnalogSys Datel Signetics	SNJ5524 MA332 AM453-2C NE531	(2598)	RM725	AD	ADDP07 AD201 AD707	(2427, 2429, 2462)
	Signetics TI	7420 SN7420	(3057)		Motorola National PMI	LM158 LM158A OP200 OP221	(2955)			SE5534 SE5534A SSM2134 SE5534 NE5534A	(3145) (3145)		GE/Intersil	ICL8008 OP07	
RL7600	LSI Logic Toshiba	LL7600 TC17G060		RM4151	Exar Raytheon	XR4151 RC4151	(3025)	RM555	Exar	XR555 XR555M	(2619) (2619)		GE/RCA	CA201 CA301	(2647)
RM1537	Motorola	MC1537	(2954)		Signetics TI	LM158 LM158 LT1013			SSM Audio TI	SE5534 NE5534A SE5534			GE/RCA	CA307 CA3193 CA3493	(2647) (2647) (2647)
RM1558	Exar	XR1458 XR4558 CA1558 GL4558	(2619) (2647) (2714)		TI	TL136 XR4156 XR4741	(2619)		GE/Intersil	NE555 SE555 SE555			National	μA207 μA307 LH0044	
	Motorola	HA17458 HA17558 MC1558 MC4558	(2955) (2955, 2990)	RM4156	Raytheon Signetics	RC4156 NE5514 SE5514	(3025)		Hitachi Mitsubishi	HA17555 M5E555 M51841 M51848			PMI	OP06 OP77	
	National	SE4558 μA1458 μA4558 LM1458 LM1558			TI	TL136 XR4156 XR4741			Motorola	μA555 LM555 μPC1555 μPC617 μPD555	(2989)	RM741	AD	MB3609 HA17741 MPOPO2 MC1741	(2953, 2989)
	NEC	μPC1458 μPC4558 OP14 OP270		RM4158	Exar Harris LinearTech MicroPwr Motorola	MP0P11 LM148 LM248 MC33174	(2957) (2956) (2957, 2990) (2956, 2990)		NEC	RC555 NE555 LB8555	(3039)		National	μA741M LM741 μPC151 μPC741	
	PMI	OP14 OP270			National	μA148 μA248 LM148			Signetics	NE555 NE555 SE555 NE555 SE555 SE555M	(3325)		NEC	μPC151 μPC741 OP02 OP77	
	Raytheon	RC1458 RC4558 RM4558 RM4558 MC4558	(3024) (3024) (3039)		NEC PMI	OP11 OP400 OP421 OP470 PM148 PM248		• RM709	TI	NE555 SE555 SE555 SE555M			PMI	OP02 OP77 PM741	(3039)
	SGS-Thomson	LS4558 MC4558 MC1458 MC1558 NE4558 SA4558 SE4558 MC1458 MC1558 MC4558C RC4558 RM4558 RV4558 TL4558			Raytheon	HA14741 HA34741 HA4741 LM148 LM148	(3025)	• RM709	Toshiba Motorola	TA7555 MC1709 μA709 LM1709 LM709	(2952)		SGS-Thomson	μA741M LM741 LS141 μA741 SG741 μA741 μA741M	
• RM201	Lansdale	RL201			TI	LM148		• RM709	NEC PMI	μPC55 OP06 μA709 μ709			Toshiba Unitec	TA7504 PIC7504	
• RM202	Lansdale	RL202		RM4194	Exar MCE	XR4194 MCE4194			TI	ADDP07 AD707	(2427, 2429, 2462)	RM747	GE/RCA	CA747 HA17747	(2647)
• RM204	Lansdale	RL204		RM4558	Raytheon Exar	RC4194 XR1458	(3025)	RM714	AD	ADDP07 AD707	(2427, 2429, 2462)		Hitachi MicroPwr Motorola	MP0P04 MC1747	(2954, 2989)
• RM206	Lansdale	RL206			GE/RCA GoldStar	CA1558 GL4558	(2619) (2647) (2714)			AD201 AD707			National	μA747 LM747	
• RM208	Lansdale	RL208			Hitachi	HA17458 HA17558			GE/Intersil	ICL8008 OP07			NEC	μPC1418 OP04	
• RM210	Lansdale	RL210			Motorola	MC1558 MC4558	(2955) (2955, 2990)		GE/RCA	CA201 CA301	(2647)		PMI	PM747	
• RM211	Lansdale	RL211			National	SE4558 μA1458 μA4558 LM1458			National	CA307 CA3193 CA3493	(2647) (2647) (2647)		Raytheon	RC747 μA747	(3024)
• RM212	Lansdale	RL212			NEC	μPC1458 μPC4558			PMI	μA207 LH0044 OP06 OP77			Signetics TeledyneS TI	μA747 TSC747 μA747M	
• RM213	Lansdale	RL213			PMI	OP14 OP270			Raytheon	LM201 OP77	(3024)	RM8T09	Signetics	S8T09	
• RM214	Lansdale	RL214			Raytheon	RC1458 RC4558 RM1558	(3024)	RM723	Fujitsu	MB3752 MB723		RM8T10	National	DM54173 DM7551 54173	
• RM215	Lansdale	RL215			Samsung	MC4558	(3039)		GE/Intersil	LM723	(2651, 2657, 2659)	RM8202	TI	SN54173 SL8202	
• RM216	Lansdale	RL216			Signetics	MC1458 MC1558 NE4558 SA4558 SE4558			GE/RCA	CA723		• RM8230	Lansdale	RL8230 DM8312 9312	
• RM217	Lansdale	RL217							Hitachi	HA17723	(2962, 2989)	• RM8230	Raytheon	RC8230 RC9312	
• RM220	Lansdale	RL220							Motorola	MC1723		RM8231	Intel	8231	
• RM222	Lansdale	RL222											Lansdale	SL8231	
• RM225	Lansdale	RL225											Signetics	S8231	
• RM226	Lansdale	RL226											Lansdale	SL8241	
• RM227	Lansdale	RL227											Motorola	SN54LS386	(2938)
• RM228	Lansdale	RL228													(Continued)
• RM231	Lansdale	RL231													
• RM233	Lansdale	RL233													
• RM234	Lansdale	RL234													
• RM236	Lansdale	RL236													
• RM241	Lansdale	RL241													
• RM246	Lansdale	RL246													
• RM261	Lansdale	RL261													
• RM266	Lansdale	RL266													
• RM286	Lansdale	RL286													
• RM288	Lansdale	RL288													
• RM296	Lansdale	RL296													
RM3403	Exar	XR3403M	(2619)												
• RM4131	PMI	OP421													
	Elantec	EHA2600													
	Harris	HA2600													
	Hitachi	HA17741													

• Discontinued

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Raytheon Semiconductor (Cont'd)				RM957	National	DM9567 DM957 9157	(Cont'd)	29610	Fujitsu MMI	MB7115 63S240 DM74S570		29632	National	932451 932451	(Cont'd)
RM8241	National	DM54LS386	(Cont'd)	RM958	Motorola	MC858 MC958 DM958		29611	AMD	N82S130 S82S130 AM27S13 GE/Intersil	(2673, 2675)	29641	Raytheon	29631AM 29631	
RM8250	Lansdale	SL8250		RM963	National	9158			Signetics	ICL7621			Signetics	N82S181 S82S181	
	National	INS8250 INS8250A			Motorola	MC963 DM963 9963			Maxim	MP7621			TI	28586-60	
RM8252	Signetics	S8250			National	9963			MicroPwr	63S241			AMD	AM27S33	
	Lansdale	RL8252 SL8252		RM993	Motorola	MC853 MC953			MMI	DM74S571			Fujitsu	MB7122	
RM8252	National	DM8301			OEI	DM9093			National	DM74S571A			MMI	63S441	
		DM9301 9031		RM994	Motorola	9093							National	DM74S573	
		9301			National	MC856 MC956							AMD	AM27S185	
RM8252	Raytheon	RC8252			Motorola	DM9094								27S185	
	Signetics	S8252			National	9094							Fujitsu	MB7128	
RM8262	Raytheon	RC8262		RM997	Motorola	MC855 MC955							Hitachi	HN25085	
	Signetics	N8262	(3076)		Raytheon	DM9097							MMI	63S841	
		S8262			Motorola	9097							National	DM87S185	
RM8266	Lansdale	SL8266		RM999	Motorola	MC952							Raytheon	29651A	
	Raytheon	RC8266			National	9099							Signetics	N82S185	
	Signetics	N8266	(3076)		Raytheon	OP09							TI	S82S185	
		S8266			Motorola	RV4136							AMD	24S81-55	
RM8270	Signetics	S8270			TI	XR4151								AM27S185	
	TI	SN54178			Exar	RC4151	(3025)							27S185	
RM8271	Signetics	S8271			Raytheon	RM4151								MB7128	
RM8280	Lansdale	RL8280			TI	XR4151								HN25085	
	National	DM74176			AMD	AM27PS43								63S841	
		DM8280				AM27S43								DM87S185	
		96176				AM27S43A								29651	
	Raytheon	RC8280				27S43								N82S185	
	Signetics	S8280				MB7142								S82S185	
		74176				27CX321	(2875)							24S81-55	
	TI	SN74176				53S3281								DM77S185	
RM8281	National	DM74177				63S3281								27PS185	
		DM8281				DM77S321								MB7113	
	Raytheon	RC8281				DM87S321								DM74S387	
	Signetics	74177				29671								AM27PS43	
	TI	SN74177				N82H321								AM27S43	
RM9094	Motorola	MC856				WS57C43	(3390)							AM27S43A	
		MC956				WS57C43B	(3390)							27S43	
	National	DM9094				WS57C43D	(3390)							MB7142	
		9094				AM29C116								27CX321	(2875)
	Raytheon	RM994				AM29C116A								63S3281	
RM930	Motorola	MC830				AM29L116A								DM77S321	
		MC930				AM29116								DM87S321	
	National	DM930				AM29116								R29671D	
		930				CY7C9116	(2592)							29671A	
		930				CY7C9117	(2592)							N82H321	
RM9304	Raytheon	RC9304				27CX322	(2875)							WS57C43	(3390)
RM9310	Lansdale	ML54160				DM87S421								WS57C43B	(3390)
	National	DM54160				74ACT29116								WS57C43D	(3390)
	Signetics	54160				74ACT29116-1								AM27PS43	
RM9311	TI	SN54160												AM27S43	
	National	DM54154												AM27S43A	
		DM9311												27S43	
		54154												MB7142	
	Signetics	54154												27CX321	(2875)
	TI	SN54154												53S3281	
RM9312	Lansdale	SL8230												63S3281	
	National	DM9312												DM77S321	
RM9316	National	DM9316												DM87S321	
RM932	Motorola	MC932												R29671D	
	National	DM932												29671	
		932												N82H321	
		9932												WS57C43	(3390)
RM9322	National	DM9322												WS57C43B	(3390)
RM934	Motorola	MC934												WS57C43D	(3390)
RM9341	Lansdale	ML54181												AM27PS43	
	National	DM74181												AM27S43	
	Raytheon	RC9341												AM27S43A	
	Signetics	74181	(3057)											27S43	
RM9342	Lansdale	ML54182												MB7142	
		SL54182												27CX321	(2875)
	National	DM54182												53S3281	
RM939	National	DM939												63S3281	
RM941	Motorola	MC941												DM77S321	
	National	9941												DM87S321	
RM949	Motorola	MC949												R29671D	
	National	DM949												29671	
		949												N82H321	
RM951	Motorola	MC851												WS57C43	(3390)
		MC852												WS57C43B	(3390)
		MC951												WS57C43D	(3390)
		9951												AM27PS43	
RM952	National	MC952												AM27S43	
	Motorola	9099												27S43	
	National	RM999												MB7142	
	Raytheon	MC857												27CX321	(2875)
RM957	Motorola	MC957												53S3281	
														63S3281	
														DM77S321	
														DM87S321	
														932511M	
														29681A	
														29683	
														29683A	
														WS57C191	(3390)
														WS57C291	(3390)
														CY7C291	(2585)
														XL46C16	
														IM6716	
														HM6617	(2752)
														DM77S291	
														DM77S291A	
														932511M	
														29681A	
														29683	
														29683A	
														WS57C191	(3390)
														WS57C291	(3390)
														CY7C291	(2585)
														XL46C16	
														IM6716	
														HM6617	(2752)
														DM77S291	
														DM77S291A	
														932511M	
														29681	
														29683	
														29683A	
														WS57C191	(3390)
														WS57C291	(3390)
														WS57C291	(3390)

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page				
Raytheon Semiconductor (Cont'd)				PS6168				(Cont'd)				R5516A/2816A				(Cont'd)			
29683	Cypress	CY7C291	(2585)	UMC	UM6168			R27C32	OKI	MSM2732		R5516A/2816A	Matra-Harris						
	EXEL	XL46C16		Vitelc	V61C68				SGS-Thomson	M2732A				HM65162					
	GE/Intersil	IM6716		VLSI Tech	VT20C19	(3349)			TI	TMS2732A	(3326)			HM65163					
	Harris	HM6617	(2752)		VT20C68	(3343, 3345, 3350)		R27C64	Toshiba	TMM324C		R5516A/2816A	MicronTech	MT5C1608					
	National	DM77S291			VT20C69	(3343, 3345, 3350)			Fujitsu	MBM27C64			Mitsubishi	MS8725					
		DM77S291A							Intel	M27C64				MSM116					
		932511M			VT20C98			R27C64	Krueger	27C64				MSM5116					
	Raytheon	29681		TMS27C512	AT27C512					27C64-200				MSM5117					
		29681A			MBM27C512					27C64-250				MSM5118					
		29683A			HN27C512G					27C64-300				MS8275					
	Waferscale	WS57C191	(3390)		IDT7M856S					27C64				MS8275					
		WS57C291	(3390)		IDT71256	(2837)				SPM27C64									
		WS57C291	(3390)		IDT8M824	(2872)				SGS-Thomson			R5516A/2816A	Motorola	MCM2016				
29683A	Cypress	CY7C291	(2585)		Intei	MD27512				TS27C64					MCM2016H				
	EXEL	XL46C16			Krueger	27C512-200				27C64					MCM2018P				
	GE/Intersil	IM6716				27C512-250				VLSI Tech	TMS27C64	(3326)			MCM6116				
	Harris	HM6617	(2752)			27C512	(2914)			Waferscale	WS27C64								
	National	DM77S291				M5127512				AMD	AM2764								
		DM77S291A				μPD27C512					AM2764A								
		932511M				μPD27C512D					MBM2764								
	Raytheon	29681				SMJ27C512	(3286)				M2764								
		29681A				TMS27C512	(3326)				P2764A								
		29683				TMS27PC512	(3326)				2764								
	Waferscale	WS57C191	(3390)								2764A								
		WS57C291	(3390)								2764-200	(2877)							
39VP864	Atmel	AT27HC64			Toshiba	TC54512					2764-250	(2877)							
	GoldStar	GL3320	(2711)			TC57512					2764-300	(2877)							
		GM57HC64				VT27C512					2764-450	(2877)							
	ICT	27CX641	(2875)			WS27C512L	(3390)				2764A-200	(2877)							
	Microchip	27HC64	(2907)								2764A-250	(2877)							
	NEC	μPC1401C									2764A-300	(2877)							
	Sharp	LH5763									2764A-450	(2877)							
	Toshiba	TA7644BP									MSM2764A								
	Waferscale	WS5C49B									2764								
		WS5C49B									5133								
		WS5C64	(3390)																
54LS192	Motorola	SN54LS192	(2942)																
	National	DM54LS192																	
		54LS192																	
54LS192	SGS-Thomson																		
		T54LS192																	
	Signetics	54LS192																	
	TI	SN54LS192																	
Ricoh				Rockwell International															
PS6168	AMD	AM2169				AM9128													
		AM99CL68				S23128													
		AM99C58				R09128													
	Cypress	CY7C168	(2580)			Microchip	M5M23128												
		CY7C169	(2580)			Mitsubishi	NCR23128												
	Fujitsu	MB81C68				NCR	23128												
		MB81C68A				Signetics	CM1310												
	Hitachi	HM6168HP				UMC	UM23128												
		HM6268				VLSI Tech	VT23128												
		HM6268L					VT23129A												
	Hyundai	HY61C68					VT23130												
	Inmos	IMS1421C					VT23131												
	IDT	IDT6120					VT23138												
		IDT6168	(2836)				S2364												
		IDT6168A	(2836)				NCR2364												
		IDT6168L	(2836)				MSM3864												
		IDT6168LA	(2836)				SL2364C												
		IDT6168S	(2836)				SMM2364												
		IDT6168SA	(2836)				LH2364A												
		IDT6169					2364												
	Matra-Harris	HM65682					TMS2364												
		HM65768					VT2364												
		MT5C1604					SC8164												
	MicronTech	MT5C1605					S2364												
		MT5C1608					NCR2364												
		M5M21C68P					OKI												
	Mitsubishi	MS6168					MSM3864												
	Mosel	MCM6168					SL2364C												
	Motorola	MCM6269					SMM2364												
		μPD4314					LH2364A												
	NEC	μPD4314C					2364												
		P4C168					TMS2364												
	Performance	P4C169					VT2364												
		SSM6168					SC8164												
	Saratoga						S2364												
	SGS-Thomson	MK41H68					NCR2364												
		MK41H69					OKI												
		MK41L68					MSM3864												
	Sony	CKX5416P/K					SL2364C												
	TI	SMJ64C16					SMM2364												
		SMJ68CE64					LH2364A												
		TMM2018					2364												
	Toshiba	TMM2068					TMS2364												
		TMM2068AP					VT2364												
							SC8164												
							WEITEK												
							AMD												
							Intel												
							2732												
							2732A												
							2732-250	(2877)											
							2732-300	(2877)											
							2732-350	(2877)											
							2732-450	(2877)											
							2732A-250	(2877)											
							2732A-300	(2877)											
							2732A-350	(2877)											
							2732A-450	(2877)											
							TMM2732												
							NMC2732												

◆ Discontinued

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Rockwell International (Cont'd)				ROHM				SMC6116 (Cont'd)				SMC82C55AC (Cont'd)			
R6504	Cypress Harris	CY7C147 HM6504	(2580) (2748)	BA328	Mitsubishi NEC Sanyo Toshiba GoldStar	M5152L μPC1032H LA3161 TA7325P GL5840		SMC6116	STC TI Toshiba	STC2018 STC6116 SMJ68CE16 TC5517B TMM2015A TMM2018 TMM2018AP		SMC82C55AC	Intel Mitsubishi NEC	P8255 82C55A M5M82C55A M5M82C55AP μPD71055 μPD8255A μPD8255A-21-5	
R6507	Hitachi Intel Matra-Harris Mitsubishi National OKI Toshiba	HM4315 5104 HM6504 M58981 NMC6504 MSM5104 TMM315		BA4110	Sanyo GoldStar	LA1140 GL1223	(2712)		UMC Vitellic	UM6116 V61C16 V62C16			OKI S-MOS Samsung Toshiba	MSM82C55A SMC82C55A-5 KS82C55A TMP82C55	21-5 (3339) (3339)
R6512	Commodore	MPS6507		S-MOS Systems				VLSI Tech VT20C18 (3343, 3345, 3349)				SMC82C37AC-5			
R6514	AMD	AM9114 AM9124		SLA6080	AMD IMI	AM6080 IM6080		SMC82C37AC-5	AMD	AM8237A D8237A		SMC82C59AC	Calmos Fujitsu	CA82C59A MBL8259	(2635)
	Intel	2114A		SLA6140	IMI	IM6140			Calmos Harris Intel	CA82C37A CP82C37A 8037A			Intel	82C59A 8259A	
	Krueger	2114-150 2114-200 2114-450	(2877) (2877) (2877)	SLA6170	IMI	IM6170				8237 8237A-4 8237A-5			MicronTech Mitsubishi	MT8259 M5M82C59 M5M82C59AP M5M8259AP	
	Mitsubishi	M5L2114		SLA6270	Saratoga IMI	SSM6170 IM6270				8237 8237A-4 8237A-5			National NEC	INS8259 μPD71059C μPD8259A	
	Motorola	MCM2114 MCM2114 M5L2114		SLA6330	Motorola SiliconSys	MCM6270 SSI6270				M5M82C37A M5M82C37AP					
	National	F2114		SLA6430	IMI	IM6430			NEC	μPD8237 μPD8237A					
	OKI	NMC2114A		SLA6620	IMI	IM6620			OKI	MSM82C37A					
	Sharp	LM2114		SMC6116	Cypress	CY6116 CY7C128	(2580)		OKI	KS82C37A					
	Toshiba	TMM2114A TMM314A			GE/Intersil GE/RCA	IH6116 CDM6116	(2670) (2644, 2653)		Samsung Toshiba	TMP82C37A UC82C37A	(3339)				
	UMC	UM6114			GoldStar	GM76C28	(2696, 2700)		Unicorn UMC	UM82C37A UM8737A					
R6520	Motorola	MC6820			Harris	HM6516 HM65162	(2747) (2747)		VLSI Tech	VL82C37A					
R6522	Commodore	MPS6522			Hitachi	HM6116 HM6716		SMC82C51AC	AMD	8251					
R6532	Commodore	MPS6532			Hyundai	HY6116A HY6116A	(2778)		Intel	P8251 82C51					
R6551	Commodore	MPS6551 MP6551			Immos	IMS1433	(2835)		National	INS8251					
	Gould/AMI	S6551			IDT	IDT6116 IDT6116A	(2835) (2835)		NEC	μPD8251A					
	Harris	HM6551	(2749)			IDT6116L IDT6116L	(2835) (2835)		OKI	MSM82C51 MSM82C51A					
	Panasonic	AN6551			Intel	81C28			SMC	COM8251A	(3339)				
	Unicorn	UC6551			Krueger	2128-100 2128-120 2128-150	(2877) (2877) (2877)		Toshiba	TMP8251					
	UMC	UM6551				2128-200 6116-120 6116-150 6116-200 6116LP-120	(2877) (2877) (2877) (2877) (2877)		AMD	82C54					
	VLSI Tech	VL6551				6116LP-150	(2877)		Calmos	CA82C54					
R6765	Intel	8272				6116LP-200	(2877)		Harris	CP82C54					
	NEC	μPD72066							Intel	82C54					
	Rockwell	R6765A								8254					
	SMC	FDC72C65 FDC765A							Mitsubishi	M5M82C54 M5M82C54P					
	Unicorn	UC82C384 UC8272A							NEC	μPD71054C					
R6765A	UMC	UM8272A							OKI	MSM82C54					
	Intel	8272							S-MOS	SMC82C54AC					
	NEC	μPD72066							Samsung	KS82C54					
	Rockwell	R6765							Unicorn	UC82C54A					
	SMC	FDC72C65 FDC765A							UMC	UM8254					
	Unicorn	UC82C384 UC8272A							VLSI Tech	VL82C54					
	UMC	UM8272A							AMD	82C54					
R68000	Hitachi	HD68000							Calmos	CA82C54					
	Krueger	68000	(2877)						Harris	CP82C54					
	Motorola	MC68000	(4859, 2924)						Intel	82C54					
	SGS-Thomson	TS68000								8254					
	Signetics	SCN68000							Mitsubishi	M5M82C54 M5M82C54P					
• R8050	Intel	80C50							NEC	μPD71054C					
	NEC	μPD80C50							OKI	MSM82C54					
	SiliconSys	SSI80C50							S-MOS	SMC82C54A					
	Toshiba	TMP80C50	(3339)						Samsung	KS82C54					
• R8060	National	INS8060							Unicorn	UC82C54A					
	SGS-Thomson	Z8060							UMC	UM8254					
	Zilog	Z8060							VLSI Tech	VL82C54					
• R87C64	Fujitsu	MBM27C64							AMD	D8255A					
	Intel	M27C64							Calmos	CA82C55A					
		27C64							Harris	CP82C55A					
		87C64							Intel	P8255					
• R87C64	Krueger	27C64-200								82C55A					
		27C64-250								M5M82C55A					
• R87C64	Microchip	27C64	(2911)							M5M82C55AP					
	OKI	MSM27C64								μPD71055					
	S-MOS	SPM27C64								μPD8255A					
	SGS-Thomson	TS27C64								μPD8255A-21-5					
	Signetics	27C64								MSM82C55A					
	TI	TMS27C64	(3326)							SMC82C55AC					
	VLSI Tech	VT27C64								KS82C55A					
	Waferscale	WS27C64								TMP82C55	(3339)				
										TMP8255	(3339)				
										UC82C55A					
										UM82C55A					
										D8255A					
										CA82C55A					
										CP82C55A					

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page																								
S-MOS Systems (Cont'd)				SRM20256 (Cont'd)				SRM2064 (Cont'd)				SRM2264 (Cont'd)																											
SMM6325 (Cont'd)				Sharp LH52256 LH52259 (3054)				National DP8464 NMC6164 μPD4364 OKI MSM5164 MSM5165 MSM5188 Performance P4C164 P4C188 S-MOS SRM2264 Samsung KM6264 (3036) KM6264A (3036)				Matra-Harris HM2064 HM56162 HM62641 HM65641 HN65641 ML8464 MicroLinear MicronTech MT5C6404 MT5C6408 Mitsubishi AM99C88 M5M165 M5M5164 M5M5165 M5M5178 MS6264 MCM6064 MCM61164 MCM6164 MCM6164C MCM6264 National DP8464 NMC6164 NEC μPD4364 OKI MSM5164 MSM5165 MSM5188 Performance P4C164 P4C188 S-MOS SRM2064 Samsung KM6264 (3036) KM6264A (3036)																											
OKI MSM38256 Panasonic MN23256 MN23257 S-MOS SMM23256 SMM6326 Signetics 23256 23256A Toshiba TC53257 VLSI Tech VT23256 VT23257				Sony CKX58255 CKX58256 Toshiba TC55257 TC55257A TC55328 Vitellic V62C256 AMD AM99C328 Cypress CY7C197 (2580) CY7C198 (2580) CY7C199 (2580)				Sharp LH5164 LH5165 CVK5864 CKX5164P CKX5863P CKX5865 CKX5865P STC STC6264 TI SMJ68CE64 Toshiba TC5565 TC5585 TC5588 TMM2063 TMM2064 TMM2088 Vitellic V61C62 V61C64 V62C64 V65C64 VLSI Tech VT20C98 VT20C99 Cypress CY7C187 (2580)				Mitsubishi MSM23256 NCR NCR23256 NCR23257 OKI MSM38256 Panasonic MN23256 MN23257 S-MOS SMM23256 SMM6325 Signetics 23256 23256A Toshiba TC53257 VLSI Tech VT23256 VT23257				Dense-Pac DPS412S88 GE/RCA CDM62256 (2644) GoldStar GM76C256 (2696) Hitachi HM62256 HM64456 Hyundai HY62C256 Inmos IMS1830 Inova S32K8 (2807) IDT IDT7M856S IDT71256 (2837) IDT71256L (2837) IDT71256S (2837) IDT8M824 (2872)				Lattice SR256K8 MicronTech MT5C2568 Mitsubishi M5M5256 Mosel MS62256 Motorola MCM60256 MCM61256 MCM6206 National NM44251 NEC μPD43256A S-MOS SRM20256 Samsung KM62256 (3036) Sharp TS27C64 27C64 TMS27C64 (3326) TI TMS27C64 VLSI Tech VT27C64 Waferscale WS27C64 GoldStar GM76C28 (2696, 2700) Harris HM6516 (2747) HM65162 (2747)				SRM20256C SRM20256D SRM20256E SRM20256F SRM20256G SRM20256H SRM20256I SRM20256J SRM20256K SRM20256L SRM20256M SRM20256N SRM20256O SRM20256P SRM20256Q SRM20256R SRM20256S SRM20256T SRM20256U SRM20256V SRM20256W SRM20256X SRM20256Y SRM20256Z				SRM20256A SRM20256B SRM20256C SRM20256D SRM20256E SRM20256F SRM20256G SRM20256H SRM20256I SRM20256J SRM20256K SRM20256L SRM20256M SRM20256N SRM20256O SRM20256P SRM20256Q SRM20256R SRM20256S SRM20256T SRM20256U SRM20256V SRM20256W SRM20256X SRM20256Y SRM20256Z				SRM20256AA SRM20256AB SRM20256AC SRM20256AD SRM20256AE SRM20256AF SRM20256AG SRM20256AH SRM20256AI SRM20256AJ SRM20256AK SRM20256AL SRM20256AM SRM20256AN SRM20256AO SRM20256AP SRM20256AQ SRM20256AR SRM20256AS SRM20256AT SRM20256AU SRM20256AV SRM20256AW SRM20256AX SRM20256AY SRM20256AZ				SRM20256AAA SRM20256AAB SRM20256AAC SRM20256AAD SRM20256AAE SRM20256AAF SRM20256AAG SRM20256AAH SRM20256AAI SRM20256AAJ SRM20256AAK SRM20256AAL SRM20256AAM SRM20256AAN SRM20256AAO SRM20256AAP SRM20256AAQ SRM20256AAR SRM20256AAS SRM20256AAT SRM20256AAU SRM20256AAV SRM20256AAW SRM20256AAX SRM20256AAZ			
SRM20256 (Continued)				SRM20256 (Continued)				SRM20256 (Continued)				SRM20256 (Continued)																											

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The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

ALT CALIDCE DIRECTORY

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Samsung Semiconductor (Cont'd)				KM41464	Fujitsu Hitachi Immos Krueger	MB81464 HM50464 IMS2820 4464-100 (2877) 4464-120 (2877) 4464-150 (2877)		KM41464B	Harris Immos IDT Intel Krueger	HA5104 IMS2600 IDT7164 (2848) M2164A 4164-120 (2877) 4164-150 (2877) 4164-200 (2877)		KM62256L	Mitsubishi Motorola NEC Toshiba Cypress	M5M5256-L MCM60L256 μPD43256-L TC55257AL CY7C185 (2580) CY7C186 (2580)	(Cont'd)
KM41C1000	(Cont'd)	Motorola NEC OKI Panasonic Samsung Siemens TI	MCM511000 μPD421000 MC421000 MSM41000 MN411000 KM41256A (3036) HYB511000 TMS4C1024 (3326) TMX4C1025 TMX4C1026 TMX4C1029 TM4256FC1 TM5256 TX4C1024 TC511000 TC511000C TC511001C TMM411001C		Mitsubishi NEC OKI Samsung TI	MCM41464 MSM4464P M5M4464 μPD41464 μPD4464 MSM41464 KM41464A SMJ4469 TMS4464 (3326) TMM41464 MB81464 HM50464 IMS2820 4464-100 (2877) 4464-120 (2877) 4464-150 (2877)			MicronTech Motorola National OKI Panasonic Samsung Saratoga SGS-Thomson	MT4264 MCM4164 MCM4164C MCM6665 F4164 F64K NMC4164 MSM3764 MN4164 MN4864 KM4164A (3036) SSM7164 MKB4564 MK45H64 TS4164 HYB4164 SMJ4164 (3286) SM4164 TMS4164 TMM4164 TMM4164A V51C64 Vitellic Fujitsu Hitachi Hyundai MicronTech Mitsubishi Motorola NEC OKI	MT4264 MCM4164 MCM4164C MCM6665 F4164 F64K NMC4164 MSM3764 MN4164 MN4864 KM4164A (3036) SSM7164 MKB4564 MK45H64 TS4164 HYB4164 SMJ4164 (3286) SM4164 TMS4164 TMM4164 TMM4164A V51C64 Vitellic Fujitsu Hitachi Hyundai MicronTech Mitsubishi Motorola NEC OKI		KM6264	Dense-Pac Exar Fujitsu GE/RCA GoldStar Harris Hitachi Hyundai Inmos IDT Krueger	DPS88H08 XR8464 (2620) MB88B464 MB81C78A MB8464 MB8464A CDM6264 (2644, 2653) GM76C88 (2696, 2703) HM65642 (2747) HM6264 HM6464 MB6264 HY6264 (2778) IMS1630 (2796) IDT7165 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)
KM41C1002	Fujitsu Hitachi MicronTech Mitsubishi Motorola NEC OKI TI	MB81C1002 HM511002 MT4C1026 MSM4C1002 MCM511002 μPD421002 MSM41002 TMS4C1027 (3326) TC511002 MB81256 HM50256 HM50257 MSM4257 M5M4256 M5M4257 MCM6256 MT1259 μPD41256 MSM37256 MSM37257A MSM41256 MM41256 KM41256A (3036) TMS4257 TMM41256 V51C256 V51C257		NEC Samsung TI Toshiba Vitellic	MSM41464 SMJ4469 TMS4464 (3326) TMM41464 HA5104 IMS2600 IDT7164 (2848) M2164A 4164-120 (2877) 4164-150 (2877) 4164-200 (2877)			Hitachi Hyundai MicronTech Mitsubishi Motorola NEC Sharp Toshiba	MB81C4256 HM514256 HY51C4256 MT4C256 M5M44C256 MCM514256 μPD424256 MSM41005 MSM514256 LH64257 TC514256 GE/Intersil IH5148 (2671) HM514258 IH5148 MT4C4258 M5M44C258 MCM514258 μPD424258 μPD42458 MSM514257 MSM514258 LH64258 TMS44C257 (3326) TC514258 AM99C328 CY7C197 (2580) CY7C198 (2580) CY7C199 (2580) DPS412S88 GE/RCA CDM62256 (2644) GoldStar GM76C256 (2696) HM62256 HM64456 HY62C256 IMS1830 Inova S32K8 (2807) IDT7M856S IDT71256 (2837) IDT71256L (2837) IDT71256S (2837) IDT8M824 (2872) SR256K8 MT5C2568 M5M5256 MS62256 MCM60256 MCM61256 MCM6206 NM44251 μPD43256A SRM20256 SRM20256C LH52256 LH52259 (3054) CXK58255 CXK58256 TC55257 TC55257A TC55328 V62C256 MB84256-L HM62256L			Matra-Harris MicroLinear Mitsubishi Mosel Motorola National NEC OKI Performance S-MOS Samsung Sharp Sony STC TI Toshiba	HM2064 HM56162 HM62641 HM65641 HN65641 ML8464 MT5C6404 MT5C6408 AM99C88 M5M165 M5M5164 M5M5165 M5M5178 MS6264 MCM6064 MCM61164 MCM6164 MCM6164C MCM6264 DP8464 NMC6164 μPD4364 MSM5164 MSM5165 MSM5188 P4C164 P4C188 SRM2064 SRM2264 KM6264A (3036) LH5164 LH5165 CVK5864 CXK5164P CXK5863P CXK5865 CXK5865P STC6264 SMJ68CE64 TC5565 TC5565A TC5585 TC5588 TMM2063 TMM2064 TMM2088 V61C62 V61C64 V62C64 V65C64 VT20C98 VT20C99 CY7C185 (2580) CY7C186 (2580) DPS88H08 XR8464 (2620) MB88B464 MB81C78A MB8464 MB8464A		
KM41256	Fujitsu Hitachi	MB81256 HM50256 MSM4257 M5M4257A MSM41257A μPD41257 KM41257A (3036) TMS4257 TMM41257 TMS4257 V51C256 V51C257		NEC Samsung TI Toshiba Vitellic	MSM41464 SMJ4469 TMS4464 (3326) TMM41464 V51C64 HA5104 IMS2600 IDT7164 (2848) M2164A 4164-120 (2877) 4164-150 (2877) 4164-200 (2877)			Hitachi Hyundai Inmos Intel Krueger	MB81256 HM50257 MSM4257 MCM4164 MCM4164C MCM6665 F4164 F64K NMC4164 MSM3764 MN4164 MN4864 KM4164B (3036) SSM7164 MKB4564 MK45H64 TS4164 HYB4164 SMJ4164 SM4164 TMS4164 TMM4164 TMM4164A						
KM41256A	Western CTI GE/RCA Krueger Micrel Mitsubishi Motorola National OKI Panasonic Supertex TI Vitellic	WCM41256 54HCT241 CD54HCT241 (2640) 41256-100 (2877) 41256-120 (2877) 41256-150 (2877) MC54HCT241 MIC54HCT241 M5M4256A MCM6256B MC54HCT241 MM54HCT241 MSM37256A MN41256 HYB41256 54HCT241 SN54HCT241 V51C256 V51C257		OKI Samsung TI Toshiba Vitellic	MSM41464 SMJ4469 TMS4464 (3326) TMM41464 V51C64 HA5104 IMS2600 IDT7164 (2848) M2164A 4164-120 (2877) 4164-150 (2877) 4164-200 (2877)			Hitachi Hyundai Inmos Intel Krueger	MB81256 HM50257 MSM4257 MCM4164 MCM4164C MCM6665 F4164 F64K NMC4164 MSM3764 MN4164 MN4864 KM4164B (3036) SSM7164 MKB4564 MK45H64 TS4164 HYB4164 SMJ4164 SM4164 TMS4164 TMM4164 TMM4164A						
KM41257	Fujitsu Hitachi Mitsubishi National NEC Samsung TI Toshiba Vitellic	MB81257 HM50257 MSM4257 M5M4257A MSM41257A μPD41257 KM41257A (3036) TMS4257 TMM41257 TMS4257 V51C256 V51C257		NEC Samsung TI Toshiba Vitellic	MSM41464 SMJ4469 TMS4464 (3326) TMM41464 V51C64 HA5104 IMS2600 IDT7164 (2848) M2164A 4164-120 (2877) 4164-150 (2877) 4164-200 (2877)			Hitachi Hyundai Inmos Intel Krueger	MB81257 HM50257 MSM4257 MCM4164 MCM4164C MCM6665 F4164 F64K NMC4164 MSM3764 MN4164 MN4864 KM4164B (3036) SSM7164 MKB4564 MK45H64 TS4164 HYB4164 SMJ4164 SM4164 TMS4164 TMM4164 TMM4164A						
KM41257A	Fujitsu Hitachi Mitsubishi National NEC Samsung TI Toshiba Vitellic	MB81257 HM50257 MSM4257 M5M4257A MSM41257A μPD41257 KM41257 (3036) TMS4257 TMM41257 TMS4257 V51C256 V51C257		NEC Samsung TI Toshiba Vitellic	MSM41464 SMJ4469 TMS4464 (3326) TMM41464 V51C64 HA5104 IMS2600 IDT7164 (2848) M2164A 4164-120 (2877) 4164-150 (2877) 4164-200 (2877)			Hitachi Hyundai Inmos Intel Krueger	MB81257 HM50257 MSM4257 MCM4164 MCM4164C MCM6665 F4164 F64K NMC4164 MSM3764 MN4164 MN4864 KM4164B (3036) SSM7164 MKB4564 MK45H64 TS4164 HYB4164 SMJ4164 SM4164 TMS4164 TMM4164 TMM4164A						
	(Continued)				(Continued)				(Continued)				(Continued)		

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Samsung Semiconductor (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
LM324	Exar	XR3403	(2619)	LM741	Signetics	μ A741	(Cont'd)	MC78M05	TI	μ A78M05	(Cont'd)	MC7808	Motorola	MC08	(Cont'd)
	Fujitsu	XR3503			SiliconG	SG741			Toshiba	TA78M05			National	MC7808	(2960)
	GE/RCA	MB3614			TI	μ A741		MC78M06	Motorola	MC78M06	(2960)		National	μ A7808	
		CA224	(2647)			μ A741M			National	μ A78M06			NEC	LM7808	
		CA324	(2647, 2653, 2658)		Toshiba	TA7504			Sanyo	LM78M06			SGS-Thomson	μ PC7808	
	Hitachi	LM324	(2647)	LS285A	Unitrode	PICT504			SGS-Thomson	L78M06				μ A7808	
	Motorola	LM324	(2956, 2989)		Maxim	ICL8069				L78M06CV			SiliconG	SG340-8	
		MC33174	(2957, 2990)		MicroPwr	MP5010			TI	μ A78M06				SG7808	
	National	μ A324		MC1458	Motorola	LM285			Toshiba	TA78M06				SG7808A	
		μ A3403			Fujitsu	LS285A			Motorola	MC78M08	(2960)		TI	μ A7808	
		LM224			GE/RCA	MB3607	(2647)		National	μ A78M08		MC7812	Toshiba	TA78008	
		LM324			Harris	HA21458			NEC	μ PC78M08			GoldStar	GL7812	
	NEC	μ PC3403				HA5102			Sanyo	L78M08			IPS	IP140-12	
	PMI	OP400			MicroPwr	MPOP14	(2954, 2989)		SGS-Thomson	L78M08				IP340-12	
	Raytheon	OP421			Motorola	MC1458				L78M08CV				IP7812	
		HA14741			National	μ A1458HC			TI	μ A78M08			Motorola	LM340-12	(2960)
		LM248	(3025)		NEC	μ PC1458			Toshiba	TA78M08	(2960, 2990)		National	μ A7812	(2960)
	SGS-Thomson	LM324			PMI	μ PC251			National	μ A78M12				LM7812	
	Signetics	MC3403			Raytheon	OP215				LM341-12			NEC	SG7812AC	
	SiliconG	SG324			SGS-Thomson	OP270			NEC	LM342-12			SGS-Thomson	μ A7812	
LM324A	National	LM324A				RC2041			Sanyo	LM78M12				L7812	
	SGS-Thomson	LM324A				μ A1458			SGS-Thomson	μ PC78M12			SiliconG	SG340-12	
		LM324A			Signetics	MC1458				L78M12				SG7812	
LM567	TI	LM324A				NE5512			TI	L78M12CV				SG7812A	
	Exar	XR1567	(2619)			SA1458			Toshiba	μ A78M12			TI	SG7812AT	
		XR2567	(2619)		TI	SE5512			Motorola	TA78M12	(2961, 2990)			μ A7812	
		XR567	(2619)		Toshiba	LF412			National	LM341-15		MC7815	Toshiba	TA78012	
	GoldStar	GL567				TA75458				LM78M15			Unitrode	UC340-12	
	MCE	MCE567		MC3361	Motorola	MC3361	(2972, 2990)			LM342-15				UC7812	
	National	LM567			Signetics	ULN3862			NEC	LM78M15			GoldStar	GL7815	(2714)
	Samsung	LM567L	(3040)		Exar	XR1458			Sanyo	μ PC78M15			IPS	IP140-15	
	Signetics	NE567				XR4558	(2619)		SGS-Thomson	L78M15				IP340-15	
LM567L	Exar	XR1567	(2619)	MC4558	GE/RCA	CA1558	(2647)			L78M15CV			Lambda	IP7815AC	
		XR2567	(2619)		GoldStar	GL4558	(2714)			L78M15			Motorola	LAS1515	
		XR567	(2619)		Hitachi	HA17458			TI	μ A78M15			National	LM340-15	(2960)
	GoldStar	GL567				HA17558			Toshiba	TA78M15				LM7815	(2961)
	MCE	MCE567			Motorola	MC1558	(2955)			MC78M18	(2961)		NEC	μ PC7815	
	National	LM567				MC4558	(2955, 2990)			National	μ A78M18		SGS-Thomson	μ A7815	
	Samsung	LM567	(3040)			SE4558			Sanyo	L78M18				L7815	
	Signetics	NE567			National	μ A1458			SGS-Thomson	L78M18			SiliconG	SG340-15	
LM723	Fujitsu	MB3752				μ A4558			TI	μ A78M18				SG7815	
		MB723				LM1458			Toshiba	TA78M18				SG7815A	
	GE/Intersil	LM723				LM1558			Motorola	MC78M24	(2961)		TI	μ A7815	
	GE/RCA	CA723	(2651, 2657, 2659)		NEC	μ PC1458			National	μ A78M24				LM340-15	
		LM723				μ PC4558			Sanyo	L78M24			Toshiba	TA78015	
	Hitachi	HA17723			PMI	OP14			SGS-Thomson	L78M24			Unitrode	UC340-15	
	Motorola	MC1723	(2962, 2989)			OP270				L78M24CV		MC7818		UC7815	
	National	μ A723			Raytheon	RC4558	(3024)		TI	μ A78M24			Motorola	MC7818	(2961)
		μ A723M				RM1558			Toshiba	TA78M24			National	μ A7818	
		LM723				RM4558	(3024)		National	μ A78M18			NEC	LM7818	
	Raytheon	RC723			SGS-Thomson	LS4558			Sanyo	IP7805				μ PC7818	
		RM723				MC4558			Motorola	MC7805	(2959)		SGS-Thomson	μ A7818	
	SGS-Thomson	μ A723				MC1458			National	LM340-5				L7818	
		LM723			Signetics	MC1558				LM7805			SiliconG	SG7818	
		L123				NE4558			NEC	μ PC7805				SG7818A	
		SFC2723				SA4558			SGS-Thomson	μ A7805			TI	μ A7818	
	Signetics	μ A723				SE4558				L7805			Toshiba	TA78018	
	SiliconG	SG723			TI	MC1458			SiliconG	SG7805		MC7824	AD	AD7824	(2414, 2416, 2462)
	TI	μ A723				MC1558				SG7805A				GL7824	(2714)
LM741	AD	μ A723M	(2427, 2462)			MC4558C			TI	μ A7805			GoldStar	AD7824	
		AD741				RC4558			Toshiba	TA78005			Maxim	MC7824	(2961)
	Fujitsu	MB3609				RM4558				TA79005			Motorola	μ A7824	
	Hitachi	HA17741				RV4558			Unitrode	UC7805			National	LM7824	
	MicroPwr	MPOP02				TL4558			GoldStar	GL7806	(2714)		NEC	μ PC7824	
	Motorola	MC1741	(2953, 2989)		Toshiba	TA75458		MC7806	Motorola	MC7806	(2960)		SGS-Thomson	μ A7824	
						TA75558			National	μ A7806				L7824	
	National	μ A741M			Motorola	MC78M05	(2990)			LM7806			SiliconG	SG7824	
		LM741				μ A78M05			NEC	μ PC7806				SG7824A	
	NEC	μ PC151				LM341-5			SGS-Thomson	μ A7806			TI	μ A7824	
		μ PC741				LM342-05				L7806				LM340-24	
	PMI	OP02			NEC	LM78M05			SiliconG	SG340-6			Toshiba	TA78024	
		OP77			Sanyo	μ PC78M05				SG7806		MC7902	National	μ A7902	
	Raytheon	PM741			SGS-Thomson	L78M05				SG7806A		MC7905	IPS	IP7905	
	SGS-Thomson	RM741				L78M05CV			TI	μ A7806			Motorola	MC7905	(2959)
						SG14005			Toshiba	TA78006			National	μ A7905	
		μ A741				SG14012			GoldStar	GL7808	(2714)			LM7905	
		LM741				SG7805AT			Hitachi	HA17808				MC7905	
		LS141													

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Samsung Semiconductor (Cont'd)																
MC7905			(Cont'd)	NE555	Hitachi	HA17555	(Cont'd)	LA2110	GoldStar	GL5910		LA7520	National	DAC1020	(Cont'd)	
	NEC	μPC7905			Mitsubishi	M5E555		LA3045	Waferscale	WS5910				DAC1021		
	SGS-Thomson	L7905				M51841			National	μA3045				DAC1022		
	SiliconG	SG7905				M51848			SGS-Thomson	LM3045				7520		
		SG7905A			Motorola	MC1455	(2989)			LM3045				PIC7520		
	TI	μA7905			National	μA555		LA3046	Sprague	ULS2045		LA7530	Unitrode	AD7530	(2470)	
	Unitrode	UC7905				LM555			GE/RCA	CA3046	(2650)		AD	GE/Intersil	AD7530	(2666)
MC7906	Motorola	MC7906	(2960)		NEC	μPC1555				CA3146	(2650)			Maxim	AD7530	
	National	μA7906				μPC617			Motorola	MC3346	(2951, 2990)			MicroPwr	MP7530	
		LM7906			Raytheon	μPD555			National	μA3046		LA7550	National	AD7530		
	SGS-Thomson	L7906				RC555				μA3086			Unitrode	PIC7530		
	TI	μA7906				RM555			Plessey	LM3046		LA7558	AD	AD7550	(2470)	
	Toshiba	TA78006			Sanyo	LB8555				SL3046			GoldStar	GL3130	(2711)	
MC7908	Motorola	MC7908	(2960)		SGS-Thomson	NE555			SGS-Thomson	SL3086			National	μA705		
	National	μA79M08				SE555				SL3146				LM1800		
		μA7908			Signetics	NE555				CA3046				Sanyo	LA705	
		LM7908				SE555				LM3046				Signetics	μA758	
		MC7908			TI	SE555				SFC2046				Sprague	ULN3809	
	SGS-Thomson	L7908				SE555M				TBA331				TI	ULN3812	
	SiliconG	SG7908				TLC555	(3325)			SG3046					SN76111	
	TI	μA79M08				TA7555				SG3146					SN76116	
	Toshiba	TA79008			NE556	M5E556		LA3086	Sprague	SG3821		LA7830	National	DS7830		
MC7912	GoldStar	GL7912	(2714)	74HCT240	SGS-Thomson	NE556			GE/RCA	CA3086	(2650)		TI	SN55183		
	IPS	IP320-12				NE556			National	LM3086		LA7850	GoldStar	GL1150	(2711)	
		IP7912			Signetics	NE556			SGS-Thomson	SFC2086		LA7851	GoldStar	GL1151		
	Motorola	MC7912	(2960)		TI	NE556				SG3086		LA7911	GoldStar	GL3711	(2711)	
	National	μA79M12			CTI	74HCT240			SiliconG	SG3886		LB1211	Toshiba	TD62501		
		μA79M12M			Hitachi	HD74HCT240		LA3160	Sprague	ULN2086		LB1212	Toshiba	TD62502		
		LM320MP12			Micrel	MIC74HCT240			Mitsubishi	M51521L		LB1213	Toshiba	TD62503		
	NEC	μPC7912			Motorola	MC74HCT240		LA3161	Toshiba	TA7312P		LB1214	Toshiba	TD62504		
	SGS-Thomson	μA7912			National	MM74HCT240			Mitsubishi	M5152L		LB1215	Toshiba	TD62505		
		L7912			Plessey	MV74HCT240			NEC	μPC1032H		LB1216	Toshiba	TD62506		
	SiliconG	SG320P-12			SGS-Thomson	M74HCT240		LA4550	ROHM	BA328		LB1217	Toshiba	TD62507		
		SG7912				M74HCT240		LA6358	Toshiba	TA7325P			Exar	XR2001	(2619)	
	TI	μA79M12M			Signetics	74HCT240	(3057)		GoldStar	GL5501	(2712)			XR2001C	(2619)	
	Toshiba	TA78024			Supertex	74HCT240			GoldStar	GL5676				XR2201	(2619)	
MC7915	GoldStar	GL7915	(2714)	74HCT241	TI	SN74HCT240			GoldStar	GL5526			Mitsubishi	M54524		
	IPS	IP320-15			Toshiba	TC74HCT240A		LA5550	Mitsubishi	M5226P			Motorola	MC1411	(2984)	
		IP7915			CTI	74HCT241		LA6358	GoldStar	GL5750			National	μA9665		
	Motorola	MC7915	(2961)		GE/RCA	CD74HCT241	(2640)		Fujitsu	MB47358			SGS-Thomson	L201		
	National	μA7915				HD74HCT241			GE/RCA	CA358A	(2647, 2653)			ULN2001		
		LM320-15			Hitachi	MIC74HCT241				LM358	(2647)		SiliconG	SG2001		
	NEC	μPC7915			Micrel	MC74HCT241			GoldStar	GL358	(2714)		Sprague	ULN2001	(3258)	
	SGS-Thomson	L7915			Motorola	MM74HCT241			Hitachi	HA17358				ULQ2001		
		SG7915			National	MV74HCT241			Motorola	LM358	(2954, 2989)		TI	ULS2001		
	SiliconG	SG320-15			Plessey	M74HCT241			National	LM358				ULN2001		
		SG7915A			SGS-Thomson	M74HCT241			NEC	LM358A			Toshiba	ULN2001A		
	TI	μA7915			Signetics	74HCT241	(3057)			μPC1251		LB1232		TD62001		
	Toshiba	TA79015			Supertex	74HCT241			PMI	μPC358			Exar	XR2002C	(2619)	
	Unitrode	UC320-15			TI	SN74HCT241			SGS-Thomson	OP221				TD62101		
MC7918	Motorola	MC7918	(2961)	74HCT244	Toshiba	TC74HCT241A				LM358			Mitsubishi	XR2202	(2619)	
	National	μA7918			CTI	74HCT244			Signetics	LM358			Motorola	M54523		
	SGS-Thomson	LM7918			GE/RCA	CD74HCT244	(2640, 2653)			NE532			National	MC1412		
		L7918				HD74HCT244			TI	LM348				μA9666		
	SiliconG	SG320-15			Hitachi	MIC74HCT244				LM358			NEC	μPA2002		
		SG7915			Micrel	MC74HCT244		LA6393	Toshiba	TA75358	(2714)		SGS-Thomson	L202		
	TI	μA7915			Motorola	MM74HCT244			GoldStar	GL393	(2958, 2989)			ULN2002		
	Toshiba	TA79015			National	MV74HCT244			Hitachi	HA17393			SiliconG	SG2002		
	Unitrode	UC320-15			SGS-Thomson	M74HCT244			Motorola	LM393			Sprague	ULN2002	(3258)	
		UC7915			Signetics	74HCT244	(3057)		National	LM393				ULS2002		
	Motorola	MC7918	(2961)		Supertex	74HCT244			NEC	μPC393			TI	ULN2002		
	National	μA7918			TI	SN74HCT244			SGS-Thomson	μPC393C				ULN2002A		
		LM7918			Toshiba	TC74HCT244A				LM393		LB1233	Toshiba	TD62002		
	SGS-Thomson	L7918								LM393			Exar	XR2003C	(2619)	
	SiliconG	SG7918							Signetics	LM393				XR2203	(2619)	
		SG7918A							Sprague	LM393			Mitsubishi	M55223		
	TI	μA7918							TI	LM393				M54523		
	Toshiba	TA79018								LM393			Motorola	MC1413	(2984, 2989)	
	ITT	SBA5089						LA7016	Toshiba	TA75393	(2711)			ULN2003		
		TP5089						LA705	GoldStar	GL3816			National	μA9667		
	National	TP5089							National	μA705				MC1413		
	SGS-Thomson	MK5089								LM1800			SGS-Thomson	L203		
		STC5089							Sanyo	LA758				ULN2003		
		TCM5089							Signetics	ULN3809				SG2003		
	UMC	UM5089							Sprague	ULN3812			SiliconG	ULN2003		
	Exar	XR555	(2619)						TI	SN76111			Sprague	ULN2003	(3258)	
		XR555M	(2619)					LA7520	AD	AD7520	(2462, 2470)			ULS2003		
	GE/Intersil	SE555								AD7520	(2666)		TI	ULN2003		
		SE555							GE/Intersil	AD7520			Toshiba	TD62003		
	GE/RCA	CA555	(2656)						Maxim	AD7520		LB1234	Exar	XR2204	(2619)	
	GoldStar	GLC555	(2713)						MicroPwr	MP7520				M54526		
		GL555	(2713)						Motorola	MC7520			Motorola	MC1416	(2984)	
									National	AD7520				ULN2004		
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The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Sanyo (Cont'd)				LC4001B National (Cont'd)				LC4027 Signetics (Cont'd)				LC4520 OKI (Cont'd)			
LB1234	SGS-Thomson	(Cont'd)		F4001				HEF4027				MSM4520			
				MM74C02				CM4027				SGS-Thomson	HCC/HCF4520		
				MSM4001				TC4027B	(3341)				HEF4520		
								CD4028	(2637)				CM4520		
								MC14028	(2945)				TC4520B	(3341)	
								CD4028					HDAS16	(2597)	
								F4028					HDAS8	(2597)	
								MM74C42					MM7150		
								MSM4028					MC78M05	(2990)	
								HCC/HCF4028					μA78M05		
								HEF4028					LM341-5		
								CM4028					LM342-05		
								TC4028B	(3341)				LM78M05		
								CD4049	(2637, 2656)				μPC78M05		
								MC14049	(2939)				MC78M05		
								CD4049					L78M05		
								F4049					L78M05CV		
								MSM4049					SG14005		
								HCC/HCF4049					SG14012		
								HEF4049					SG7805AT		
								CM4049					μA78M05		
								TC4049B	(3341)				TA78M05		
								CD4016	(2639, 2653, 2655)				MC78M06	(2960)	
								CD4066	(2639, 2655, 2658)				μA78M06		
								MC14016	(2945)				LM78M06		
								MC14066	(2945)				MC78M06		
								CD4016					L78M06		
								CD4066					L78M06CV		
								F4016					μA78M06		
								LC4016					TA78M06		
								HCC/HCF4016					MC78M08	(2960)	
								HCC/HCF4066					μA78M08		
								HEF4016					LM78M08		
								HEF4066					MC78M08		
								CM4016					μPC78M08		
								CM4066					MC78M08		
								HCF4016					SGS-Thomson		
								TC4016B	(3341)				L78M12		
								TC4066B	(3341)				L78M12CV		
								PIC7516					μA78M12		
								CD4069	(2637)				TA78M12		
								MC14069	(2939)				MC78M12		
								CD4069					μPC78M12		
								F4069					MC78M12		
								MM54C04					L78M12		
								MM74C04					L78M12CV		
								MSM4069					μA78M12		
								HCC/HCF4069					TA78M12		
								HEF4069					MC78M15	(2961, 2990)	
								CM4069					μA78M15		
								TC4069UB	(3341)				LM341-15		
								CD4071	(2637)				LM342-15		
								CD4071B	(2637)				LM78M15		
								MC14071	(2937)				μPC78M15		
								MC14071B	(2937)				MC78M15		
								CD4071					L78M15		
								CD4071B					L78M15CV		
								F4071					μA78M15		
								MM74C32					TA78M15		
								MSM4071					TA78M15		
								HCC/HCF4071					MC78M18	(2961)	
								HCC/HCF4071B					μA78M18		
								HEF4071					MC78M18		
								CM4071					SGS-Thomson		
								TC4071B					L78M18		
								CD4081	(2637)				TA78M18		
								MC14081	(2937)				MC78M24	(2961)	
								CD4081					μA78M24		
								F4081					MC78M24		
								MM74C08					SGS-Thomson		
								μPC4081					L78M24		
								MSM4081					L78M24CV		
								HCC/HCF4081					μA78M24		
								HEF4081					TA78M24		
								CM4081					MD4332		
								TC4081B					MV4332		
								CD4520	(2638)			Saratoga Semiconductor			
								S4520				SSL2152	TI	TACT2152	
								MC14520	(2942)			SSL2154	TI	TACT2154	
								CD4520				SSL4180	SGS-Thomson		
								F4520					MK41H80		
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SEEQ Technology (Cont'd)				μA723 SGS-Thomson (Cont'd)				μA7808 SGS-Thomson (Cont'd)				μA7912 SGS-Thomson (Cont'd)			
5133		(Cont'd)				L123				L7808				L7912	
	Fujitsu	MBM2764				SFC2723			SiliconG	SG340-8			SiliconG	SG320P-12	
	Intel	M2764			Signetics	μA723				SG7808				SG7912	
		P2764A			SiliconG	SG723				SG7808A				SG7912A	
		2764			TI	μA723				μA7808			TI	μA79M12M	
		2764A				μA723M				Toshiba	TA78008			μA7912	
	Krueger	AD741 (2877)		μA741 AD (2427, 2462)		AD741 (2953, 2989)		μA7812	GoldStar	GL7812			Toshiba	TA78024	
		2764-200 (2877)			Fujitsu	MB3609			IPS	IP140-12		μA7915	GoldStar	IP320-15	(2714)
		2764-250 (2877)			Hitachi	HA17741				IP340-12			IPS	IP7915	
		2764-300 (2877)			MicroPwr	MPOP02				IP7812				Motorola	MC7915 (2961)
		2764-450 (2877)			Motorola	MC1741 (2953, 2989)			Motorola	LM340-12 (2960)			National	μA7915	
		2764A-200 (2877)							National	μA7812				LM320-15	
		2764A-250 (2877)			National	μA741M				LM340-12				LM320T15	
		2764A-300 (2877)				LM741				LM7812				LM7915	
	Mitsubishi	MSL2764			NEC	μPC151				LM7812			NEC	μPC7915	
	National	2764			PMI	OP02				μPC7812			Samsung	MC7915	
	OKI	MSM2764				OP77				SGS-Thomson			SGS-Thomson		
	SEEQ	2764			Raytheon	RM741				L7812				L7915	
	SGS-Thomson	M2764A			Samsung	LM741 (3039)			SiliconG	SG340-12				SG320-15	
										SG7812				SG7915	
	TI	TMS2764 (3326)			Signetics	LM741				SG7812A				SG7915A	
52B23	NCR	NCR52832				LS141				SG7812AT			TI	μA7915	
72720	Microchip	PIC7020 (2902)			SiliconG	μA741				μA7812			Toshiba	TA79015	
	TI	TMS7020			TI	SG741				TA78012			Unitrode	UC320-15	
8023	AD	AD7576 (2416, 2462)				μA741				UC340-12				UC7915	
	Maxim	AD7576				μA741M				UC7812		μ78S05	SiliconG	SG7805	
	NEC	μPD23C1000A			Toshiba	TA7504				GL7815 (2714)		μ78S09	Toshiba	TA78005	
	Plessey	SP4632			Unitrode	PIC7504				IP140-15			SGS-Thomson	L78S09	
		SP4653			GE/Intersil	ICL7611 (2673, 2675)				IP340-15		μ78S12	SGS-Thomson	L78S12	
	Siemens	SDA4212								IP7815				L78S12	
		S062P								IP7815AC		μ78S15	SGS-Thomson	L78S15	
	Telefunken	U684								LAS1515				L78S15	
		U686BS								LM340-15 (2960)		CA3046	GE/RCA	CA3046 (2650)	
8023A	Intel	82C501				HA2720			Motorola	LM340-15 (2961)				CA3146 (2650)	
		82C501				HA2725				μA7815			National	μA3046	
		82C501				ICL7611				LM340-15				μA3086	
		82C501				ICL7611				LM7815				LM3046	
		82C501				MC1776	(2953, 2989)			μPC7815				SL3046	
		82C501				MC1776	(2953)			SGS-Thomson				SL3086	
		82C501				MC3476				L7815				SL3146	
		82C501				MC3476				SG340-15				LA3046	
		82C501				MC3476				SG7815					
		82C501				MC3476				SG7815A					
		82C501				MC3476				μA7815					
		82C501				MC3476				LM340-15					
		82C501				MC3476				LM7815					
		82C501				MC3476				μPC7815					
		82C501				MC3476				SGS-Thomson					
		82C501				MC3476				L7815					
		82C501				MC3476				SG340-15					
		82C501				MC3476				SG7815					
		82C501				MC3476				SG7815A					
		82C501				MC3476				μA7815					
		82C501				MC3476				LM340-15					
		82C501				MC3476				LM7815					
		82C501				MC3476				μPC7815					
		82C501				MC3476				SGS-Thomson					
		82C501				MC3476				L7815					
		82C501				MC3476				SG340-15					
		82C501				MC3476				SG7815					
		82C501				MC3476				SG7815A					
		82C501				MC3476				μA7815					
		82C501				MC3476				LM340-15					
		82C501				MC3476				LM7815					
		82C501				MC3476				μPC7815					
		82C501				MC3476				SGS-Thomson					
		82C501				MC3476				L7815					
		82C501				MC3476				SG340-15					
		82C501				MC3476				SG7815					
		82C501				MC3476				SG7815A					
		82C501				MC3476				μA7815					
		82C501				MC3476				LM340-15					
		82C501				MC3476				LM7815					
		82C501				MC3476				μPC7815					
		82C501				MC3476				SGS-Thomson					
		82C501				MC3476				L7815					
		82C501				MC3476				SG340-15					
		82C501				MC3476				SG7815					
		82C501				MC3476				SG7815A					
		82C501				MC3476				μA7815					
		82C501				MC3476				LM340-15					
		82C501				MC3476				LM7815					
		82C501				MC3476				μPC7815					
		82C501				MC3476				SGS-Thomson					
		82C501				MC3476				L7815					
		82C501				MC3476				SG340-15					
		82C501				MC3476				SG7815					
		82C501				MC3476				SG7815A					
		82C501				MC3476				μA7815					
		82C501				MC3476				LM340-15					
		82C501				MC3476				LM7815					
		82C501				MC3476				μPC7815					
		82C501				MC3476				SGS-Thomson					
		82C501				MC3476				L7815					
		82C501				MC3476				SG340-15					
		82C501				MC3476				SG7815					
		82C501				MC3476				SG7815A					
		82C501				MC3476				μA7815					
		82C501				MC3476				LM340-15					
		82C501				MC3476				LM7815					
		82C501				MC3476				μPC7815					
		82C501				MC3476				SGS-Thomson					
		82C501				MC3476				L7815					
		82C501				MC3476				SG340-15					
		82C501				MC3476				SG7815					
		82C501				MC3476				SG7815A					
		82C501				MC3476				μA7815					
		82C501				MC3476				LM340-15					
		82C501				MC3476				LM7815					
		82C501				MC3476				μPC7815					
		82C501				MC3476				SGS-Thomson					
		82C501				MC3476				L7815					
		82C501				MC3476				SG340-15					
		82C501				MC3476				SG7815					
		82C501				MC3476				SG7815A					
		82C501				MC3476				μA7815					
		82C501				MC3476				LM340-15					
		82C501				MC3476				LM7815					
		82C501				MC3476				μPC7815					
		82C501				MC3476				SGS-Thomson					
		82C501				MC3476				L7815					
		82C501				MC3476				SG340-15					
		82C501				MC3476				SG7815					
		82C501				MC3476									

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ALT CALIBER DIRECTORY

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
SGS-THOMSON (Cont'd)				HCC/HCF4044				HCC/HCF4056 (Cont'd)				HCC/HCF4071 (Cont'd)			
HCC/HCF4028 (Cont'd)				GE/RCA CD4044 (2638)				Motorola MC4056				HCC/HCF4071B			
OKI MSM4028				Motorola MC14044 (2941)				SGS-Thomson HCC/HCF4056B				Solitron CM4071 TC4071B			
Sanyo LC4028				National CD4044				Toshiba TC4056 (3341)				GE/RCA CD4071 (2637)			
Signetics HEF4028				Signetics HEF4044				HCC/HCF4056B GE/RCA CD4056 (2639, 2653, 2656)				Motorola CD4071B (2637)			
Solitron CM4028				Solitron CM4044				Motorola MC14071 (2937)				Motorola MC14071B (2937)			
Toshiba TC4028B (3341)				Toshiba TC4044B (3341)				National CD4071				National CD4071B			
HCC/HCF4029				HCC/HCF4045				Motorola MC4056				OKI MM74C32			
GE/RCA CD40192 (2638)				GE/RCA CD4521B (2638)				SGS-Thomson HCC/HCF4056				Sanyo MSM4071			
Motorola CD4029 (2638)				Gould/AMI S4521				Toshiba TC4056B (3341)				SGS-Thomson HCC/HCF4071			
National MC14029 (2942)				Motorola MC14521 (2946)				HCC/HCF4060 GE/RCA CD4060 (2638)				Signetics HEF4071			
CD40192				National F4521				Motorola MC14060 (2943)				Solitron CM4071			
F40192				Signetics HEF4521				National CD4060				Toshiba TC4071B			
F4029				Solitron CM4045				Signetics HEF4060							
SGS-Thomson HCC/HCF40192				Toshiba TC4521B (3341)				HCC/HCF4063 Fujitsu MB4063				Fujitsu MB4072			
Signetics HEF40192				HCC/HCF4046 GE/RCA CD4046 (2639, 2656)				Motorola MC14046				GE/RCA CD4072 (2637)			
Solitron CM4029				Motorola MC14046				National CD4046				Motorola MC14072B (2637)			
Toshiba TC40192B (3341)				National CD4046				Signetics HEF4060				Motorola MC14072 (2937)			
Toshiba TC4029B (3341)				Solitron CM4046				HCC/HCF4066 GE/RCA CD4016 (2639, 2653, 2655)				National CD4072			
HCC/HCF4030				HCC/HCF4047 GE/RCA CD4047 (2638)				Motorola MC14016 (2945)				F4072			
GE/RCA CD4030 (2637, 2639)				National F4047				Motorola MC14066 (2945)				NEC μ PC4072			
National CD4030				Signetics HEF4047				National CD4016				Signetics HEF4072			
Signetics HEF4030				Solitron CM4047				Sanyo LC4016				Toshiba TC4072B			
Solitron CM4030				Toshiba TC4047B (3341)				SGS-Thomson HCC/HCF4016				HCC/HCF4073 GE/RCA CD4073 (2637)			
Toshiba TC4030B (3341)				HCC/HCF4048 GE/RCA CD4048 (2637)				Signetics HEF4016				Motorola MC14073 (2937)			
HCC/HCF4031				HCC/HCF4049 GE/RCA CD4049 (2637, 2656)				National CD4016				National CD4073			
GE/RCA CD4031 (2638)				Motorola MC14049 (2939)				Sanyo LC4016				Signetics HEF4073			
CD4031B (2638)				National CD4049				SGS-Thomson HCC/HCF4016				Solitron CM4073			
National CD4031				OKI MSM4049				Signetics HEF4016				Toshiba TC4073B			
F4031				Sanyo LC4049				Solitron CM4016				GE/RCA CD4075 (2637)			
HEF4731				Signetics HEF4049				Toshiba TC4016B (3341)				Motorola MC14075 (2937)			
HCC/HCF4032				HCC/HCF4050 GE/RCA CD4050 (2637, 2656)				Unitrode PICT516				National CD4075			
GE/RCA CD4032 (2639)				Motorola MC14050 (2939)				HCC/HCF4067 Motorola MC14067				Signetics HEF4075			
Motorola MC14032 (2947)				National CD4050				Motorola MC14067				Solitron CM4075			
Solitron CM4032				Signetics HEF4050				Signetics HEF4067				Toshiba TC4075B			
Toshiba TC4032B (3341)				Solitron CM4050				HCC/HCF4068 GE/RCA CD4068 (2637)				HCC/HCF4076 GE/RCA CD4076 (2638)			
HCC/HCF4033				HCC/HCF4051 GE/RCA CD4051 (2639, 2655, 2658)				Motorola MC14068 (2937)				Motorola MC14076 (2942)			
GE/RCA CD4033 (2638)				Motorola MC14051 (2945)				National F4050				National CD4076			
Solitron CM4033				National CD4051				HCC/HCF4069 GE/RCA CD4069 (2637)				F4076			
HCC/HCF4034				HCC/HCF4052 GE/RCA CD4052 (2639, 2653, 2655)				Motorola MC14069 (2939)				MM54C173			
GE/RCA CD4034 (2638)				Signetics HEF4051				Motorola MC14069				Signetics HEF4076			
Motorola MC14034 (2943)				Solitron CM4051				National F4069				Solitron CM4076			
National CD4034				Toshiba TC4051B (3341)				OKI MM54C04				Toshiba TC4076B (3341)			
F4034				HCC/HCF4053 GE/RCA CD4053 (2639, 2655, 2658)				Motorola MC14070				Signetics HEF4077			
Solitron CM4034				Motorola MC14050				National CD4070				Motorola MC14077 (2938)			
Toshiba TC4034B (3341)				National CD4050				Signetics HEF4069				National CD4077			
HCC/HCF4035				HCC/HCF4054 GE/RCA CD4054 (2639, 2653, 2656)				Motorola MC14071 (2937)				Raytheon RC4077 (3024)			
GE/RCA CD4035 (2638)				Signetics HEF4050				Motorola MC14071B (2937)				SGS-Thomson HCC/HCF4077B			
Motorola MC14035B (2944)				Solitron CM4050				National CD4071				Signetics HEF4077			
National CD4035B				Toshiba TC4050B (3341)				Signetics HEF4070				Solitron CM4077			
F4035				HCC/HCF4055 GE/RCA CD4055 (2639, 2653, 2656)				Motorola MC14071B (2937)				Toshiba TC4077B (3341)			
Signetics HEF4035				Motorola MC14051 (2945)				OKI MM54C04				GE/RCA CD4078 (2637)			
Solitron CM4035				National CD4051				Motorola MC14069				Motorola MC14078 (2938)			
Toshiba TC4035B				Signetics HEF4051				National CD4069				National CD4077			
HCC/HCF4038				HCC/HCF4056 GE/RCA CD4056 (2639, 2653, 2656)				Signetics HEF4069				F4077			
GE/RCA CD4038 (2639)				Motorola MC14051 (2945)				Motorola MC14070				Raytheon RC4077 (3024)			
Motorola MC14038 (2947)				National CD4051				Signetics HEF4070				SGS-Thomson HCC/HCF4077B			
Solitron CM4038				Signetics HEF4051				Motorola MC14071 (2937)				Signetics HEF4077			
Toshiba TC4038B (3341)				Solitron CM4051				National CD4070				Solitron CM4077			
HCC/HCF4040				HCC/HCF4057 GE/RCA CD4057 (2639, 2653, 2656)				Motorola MC14071B (2937)				Toshiba TC4077B (3341)			
GE/RCA CD4040 (2638)				Motorola MC14051 (2945)				OKI MM54C04				GE/RCA CD4077 (2637, 2639)			
Motorola MC14040 (2943)				National CD4051				Motorola MC14071 (2937)				Motorola MC14077B (2938)			
National CD4040				Signetics HEF4051				Signetics HEF4070				National CD4077			
F4040				Solitron CM4051				Motorola MC14071B (2937)				Raytheon RC4077 (3024)			
Signetics HEF4040				Toshiba TC4051B (3341)				OKI MM74C32				SGS-Thomson HCC/HCF4077			
Solitron CM4040				HCC/HCF4058 GE/RCA CD4058 (2639, 2653, 2656)				Motorola MC14071B (2937)				Signetics HEF4077			
Toshiba TC4040B (3341)				Motorola MC14051 (2945)				National CD4071				Solitron CM4077			
HCC/HCF4041				HCC/HCF4059 GE/RCA CD4059 (2639, 2653, 2656)				Signetics HEF4070				Toshiba TC4077B (3341)			
GE/RCA CD4041 (2637, 2656)				Motorola MC14051 (2945)				Motorola MC14070				GE/RCA CD4077 (2637, 2639)			
National CD4041				Signetics HEF4051				National CD4070				Motorola MC14077 (2938)			
Signetics HEF4041				Solitron CM4051				Signetics HEF4070				National CD4077			
Solitron CM4041				Toshiba TC4051B (3341)				OKI MM74C86				Raytheon RC4077 (3024)			
HCC/HCF4042				HCC/HCF4060 GE/RCA CD4060 (2638)				Motorola MC14070				SGS-Thomson HCC/HCF4077			
GE/RCA CD4042 (2638)				Motorola MC14042 (2941)				Signetics HEF4070				Signetics HEF4077			
Motorola MC14042 (2941)				National CD4042				Motorola MC14071 (2937)				Motorola MC14077B (2938)			
National CD4042				Signetics HEF4042				Signetics HEF4070				National CD4077			
Signetics HEF4042				Solitron CM4042				Motorola MC14071B (2937)				Raytheon RC4077 (3024)			
Solitron CM4042				Toshiba TC4042B (3341)				National CD4071B				SGS-Thomson HCC/HCF4077			
Toshiba TC4042B (3341)				HCC/HCF4061 GE/RCA CD4041 (2637, 2656)				Motorola MC14071B (2937)				Signetics HEF4077			
HCC/HCF4043				HCC/HCF4062 GE/RCA CD4042 (2638)				Motorola MC14071B (2937)				Motorola MC14077 (2938)			
GE/RCA CD4043 (2638)				Motorola MC14043 (2941)				OKI MM74C32				National CD4077			
Motorola MC14043 (2941)				National CD4043				Motorola MC14071B (2937)				Raytheon RC4077 (3024)			
National CD4043				Signetics HEF4043				Signetics HEF4070				SGS-Thomson HCC/HCF4077			
Signetics HEF4043				Solitron CM4043				Motorola MC14071B (2937)				Signetics HEF4077			
Solitron CM4043				Toshiba TC4043B (3341)				OKI MM74C32				Motorola MC14078 (2938)			
Toshiba TC4043B (3341)				HCC/HCF4063 GE/RCA CD4043 (2638)				SGS-Thomson HCC/HCF4071B				Signetics HEF4078			
(Continued)				(Continued)				Signetics HEF4071				Solitron CM4078			
(Continued)				(Continued)				(Continued)				Toshiba TC4078B (3341)			
(Continued)				(Continued)				(Continued)				(Continued)			

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
SGS-THOMSON (Cont'd)				HCC/HCF4094B (Cont'd)				HCC/HCF4515				HCF4503 (Cont'd)			
HCC/HCF4081	GE/RCA Motorola National	CD4081 MC14081 CD4081 F4081 MM74C08 μPC4081 MSM4081 LC4081 HEF4081 CM4081 TC4081B	(2637) (2937)	HCC/HCF4094B	National SGS-Thomson	CD4094B HCC/HCF4094	(Cont'd)	HCC/HCF4515	GE/RCA Motorola National	CD4515 MC14515 CD4515 F4515 HEF4515 CM4515 TC4515B	(2637) (2945)	HCF4503	National	CD4503 F40097B TC4503B	(Cont'd)
HCC/HCF4082	GE/RCA Motorola National	CD4082 MC14082 CD4082 F4082 μPC4082 HEF4082 TC4082B	(2637) (2937)	HCC/HCF4097	Signetics Toshiba	HEF4094 TC4094B	(3341)	HCC/HCF4516	GE/RCA Motorola National	CD4516 MC14516 CD4516 F4516 HEF4516 CM4516 TC4516B	(2638) (2942)	LF155	Toshiba AD	AD381 AD544	(2428, 2462) (2427, 2462)
HCC/HCF4085	SGS-Thomson	HCC/HCF4085B	(3341)	HCC/HCF4098	Motorola National	MC14097 F4097		HCC/HCF4517	GE/RCA Motorola National	CD4517 MC14517 HEF4517	(2638, 2653) (2944)	Burr-Brown	OPA606	OPA606	(2540, 2543)
HCC/HCF4085B	SGS-Thomson	HCC/HCF4085B	(3341)	HCC/HCF4099	GE/RCA Motorola National	CD4099B MC14099 MC14099B	(2638) (2941) (2941)	HCC/HCF4518	GE/RCA Motorola National	CD4518 MC14518 CD4518 F4518 HEF4518 CM4518 TC4518B	(2638) (2942)	LinearTech	LF155 LT1022 LT1055 LT1056 OP15 MP155 LF155 LF353 LF411 LM110 LM210 LM310	LF155 LT1022 LT1055 LT1056 OP15 MP155 LF155 LF353 LF411 LM110 LM210 LM310	
HCC/HCF4086	GE/RCA Motorola SGS-Thomson	CD4086B MC14086B HCC/HCF4086B	(2637) (2938)	HCC/HCF4099B	GE/RCA Motorola National	CD4099B MC14099 MC14099B	(2638) (2941) (2941)	HCC/HCF4520	GE/RCA Gould/AMI Motorola National	CD4520 S4520 MC14520 CD4520 F4520 MSM4520 LC4520 HEF4520 CM4520 TC4520B	(2638) (2942)	NEC PMI	OP15 OP215 OP42 OP43 PM155 LF353 LF411	OP15 OP215 OP42 OP43 PM155 LF353 LF411	
HCC/HCF4086B	SGS-Thomson	HCC/HCF4086B	(3341)	HCC/HCF4502	GE/RCA Motorola SGS-Thomson	CD4502 CD4502B MC14502 MC14502B	(2637) (2637) (2939) (2939)	HCC/HCF4527	GE/RCA Motorola National	CD4527 MC14527 CD4527 F4527 HEF4527 TC4527B	(2639) (2947)	TI	AD	AD544	(2427, 2462)
HCC/HCF4086B	SGS-Thomson	HCC/HCF4086B	(3341)	HCC/HCF4502B	SGS-Thomson	HCC/HCF4502B		HCC/HCF4532	GE/RCA Motorola National	CD4532 MC14532 F4532 HEF4532 TC4532B	(2637) (2946)	Burr-Brown	OPA156A	OPA156A	(2540, 2542)
HCC/HCF4089	GE/RCA National Sharp	CD4089 CD4089 LR4089	(2639)	HCC/HCF4502B	Signetics Toshiba Unicorn	HEF4502 TC4502B UC4502	(3341)	HCC/HCF4536	GE/RCA Motorola National	CD4536 MC14536 CD4536 F4536 HEF4536 TC4536B	(2638) (2946)	LinearTech	LF156 LF156A MP156 LF156 LF156A OPA101 OP16 OP43 PM156 PM156A TL081	LF156 LF156A MP156 LF156 LF156A OPA101 OP16 OP43 PM156 PM156A TL081	
HCC/HCF4093	GE/RCA Motorola	CD4093B MC14093 MC14093B	(2637) (2937, 2940) (2937, 2940)	HCC/HCF4508	GE/RCA Motorola Signetics Toshiba	CD4508 MC14508 HEF4508 TC4508B	(2638) (2941) (3341)	HCC/HCF4538	GE/RCA Motorola National	CD4538 MC14538 CD4538 F4538 HEF4538 TC4538B	(2638, 2653) (2946)	MicroPwr National	LF156 LF156A MP156 LF156 LF156A OPA101 OP16 OP43 PM156 PM156A TL081	LF156 LF156A MP156 LF156 LF156A OPA101 OP16 OP43 PM156 PM156A TL081	
HCC/HCF4093B	SGS-Thomson	HCC/HCF4093B	(3341)	HCC/HCF4510	GE/RCA Motorola National	CD4510 MC14510 CD4510 F4510 HEF4510 CM4510 TC4510B	(2638) (2942)	HCC/HCF4555	GE/RCA Motorola National	CD4555 MC14555 F4555 HEF4555 TC4555B	(2637, 2639) (2945)	TI	GE/RCA CA081	CA081	(2647)
HCC/HCF4094	GE/RCA Motorola	CD4094B MC14094 MC14094B	(2638, 2656, 2658) (2944) (2944)	HCC/HCF4511	GE/RCA Motorola National	CD4511 MC14511 CD4511 F4511 μPD4511 HEF4511 CM4511 TC4511B	(2656, 2658) (2946, 2985)	HCC/HCF4556	GE/RCA Motorola National	CD4556 MC14556 F4556 HEF4556 TC4556B	(2637, 2639) (2945)	SGS-Thomson	TL081 XR082	TL081 XR082	(2619)
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4512	GE/RCA Motorola National	CD4512 MC14512 CD4512 F4512 HEF4512 CM4512 TC4512B	(2653) (2944)	HCC/HCF4558	GE/RCA Motorola National	CD4558 MC14558 F4558 HEF4558 TC4558B	(2639) (2946)	Exar Fujitsu GE/RCA SGS-Thomson	MB47082 CA082	MB47082 CA082	(2647)
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4514	GE/RCA Motorola National	CD4514 MC14514 CD4514 F4514 HEF4514 CM4514 TC4514B	(2637) (2945)	HCC/HCF4559	GE/RCA Motorola National	CD4559 MC14559 F4559 HEF4559 TC4559B	(2637, 2639) (2945)	TI	HA17082	HA17082	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4515	GE/RCA Motorola National	CD4515 MC14515 CD4515 F4515 HEF4515 CM4515 TC4515B	(2638) (2942)	HCC/HCF4560	GE/RCA Motorola National	CD4560 MC14560 F4560 HEF4560 TC4560B	(2638, 2653) (2946)	LinearTech	LF355 LF355 LF355 OP15 OP43 PM355 LF356 LF356 LF356 μPC356 μPC813 OP16 PM356 AD101 AD101 LM101 LM101	LF355 LF355 LF355 OP15 OP43 PM355 LF356 LF356 LF356 μPC356 μPC813 OP16 PM356 AD101 AD101 LM101 LM101	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4516	GE/RCA Motorola National	CD4516 MC14516 CD4516 F4516 HEF4516 CM4516 TC4516B	(2638) (2942)	HCC/HCF4561	GE/RCA Motorola National	CD4561 MC14561 F4561 HEF4561 TC4561B	(2638, 2653) (2946)	Motorola	LF355 LF355 LF355 OP15 OP43 PM355 LF356 LF356 LF356 μPC356 μPC813 OP16 PM356 AD101 AD101 LM101 LM101	LF355 LF355 LF355 OP15 OP43 PM355 LF356 LF356 LF356 μPC356 μPC813 OP16 PM356 AD101 AD101 LM101 LM101	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4517	GE/RCA Motorola National	CD4517 MC14517 CD4517 F4517 HEF4517 CM4517 TC4517B	(2638) (2942)	HCC/HCF4562	GE/RCA Motorola National	CD4562 MC14562 F4562 HEF4562 TC4562B	(2638, 2653) (2946)	National	LM101	LM101	(2952)
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4518	GE/RCA Motorola National	CD4518 MC14518 CD4518 F4518 HEF4518 CM4518 TC4518B	(2638) (2942)	HCC/HCF4563	GE/RCA Motorola National	CD4563 MC14563 F4563 HEF4563 TC4563B	(2638, 2653) (2946)	LinearTech	LF355 LF355 LF355 OP15 OP43 PM355 LF356 LF356 LF356 μPC356 μPC813 OP16 PM356 AD101 AD101 LM101 LM101	LF355 LF355 LF355 OP15 OP43 PM355 LF356 LF356 LF356 μPC356 μPC813 OP16 PM356 AD101 AD101 LM101 LM101	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4519	GE/RCA Motorola National	CD4519 MC14519 CD4519 F4519 HEF4519 CM4519 TC4519B	(2638) (2942)	HCC/HCF4564	GE/RCA Motorola National	CD4564 MC14564 F4564 HEF4564 TC4564B	(2638, 2653) (2946)	Motorola	LM101	LM101	(2952)
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4520	GE/RCA Motorola National	CD4520 MC14520 CD4520 F4520 HEF4520 CM4520 TC4520B	(2638) (2942)	HCC/HCF4565	GE/RCA Motorola National	CD4565 MC14565 F4565 HEF4565 TC4565B	(2638, 2653) (2946)	Raytheon SGS-Thomson	LS101 SG101 LM104 SG104 LM105 LM105 μA105 LM105 SG105 AD741S	LS101 SG101 LM104 SG104 LM105 LM105 μA105 LM105 SG105 AD741S	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4521	GE/RCA Motorola National	CD4521 MC14521 CD4521 F4521 HEF4521 CM4521 TC4521B	(2638) (2942)	HCC/HCF4566	GE/RCA Motorola National	CD4566 MC14566 F4566 HEF4566 TC4566B	(2638, 2653) (2946)	SGS-Thomson	LM101	LM101	(2952)
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4522	GE/RCA Motorola National	CD4522 MC14522 CD4522 F4522 HEF4522 CM4522 TC4522B	(2638) (2942)	HCC/HCF4567	GE/RCA Motorola National	CD4567 MC14567 F4567 HEF4567 TC4567B	(2638, 2653) (2946)	TI	AD	AD741S	(2427, 2462)
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4523	GE/RCA Motorola National	CD4523 MC14523 CD4523 F4523 HEF4523 CM4523 TC4523B	(2638) (2942)	HCC/HCF4568	GE/RCA Motorola National	CD4568 MC14568 F4568 HEF4568 TC4568B	(2638, 2653) (2946)	Burr-Brown	3500	3500	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4524	GE/RCA Motorola National	CD4524 MC14524 CD4524 F4524 HEF4524 CM4524 TC4524B	(2638) (2942)	HCC/HCF4569	GE/RCA Motorola National	CD4569 MC14569 F4569 HEF4569 TC4569B	(2638, 2653) (2946)	LinearTech	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4525	GE/RCA Motorola National	CD4525 MC14525 CD4525 F4525 HEF4525 CM4525 TC4525B	(2638) (2942)	HCC/HCF4570	GE/RCA Motorola National	CD4570 MC14570 F4570 HEF4570 TC4570B	(2638, 2653) (2946)	National	LH741A	LH741A	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4526	GE/RCA Motorola National	CD4526 MC14526 CD4526 F4526 HEF4526 CM4526 TC4526B	(2638) (2942)	HCC/HCF4571	GE/RCA Motorola National	CD4571 MC14571 F4571 HEF4571 TC4571B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4527	GE/RCA Motorola National	CD4527 MC14527 CD4527 F4527 HEF4527 CM4527 TC4527B	(2638) (2942)	HCC/HCF4572	GE/RCA Motorola National	CD4572 MC14572 F4572 HEF4572 TC4572B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4528	GE/RCA Motorola National	CD4528 MC14528 CD4528 F4528 HEF4528 CM4528 TC4528B	(2638) (2942)	HCC/HCF4573	GE/RCA Motorola National	CD4573 MC14573 F4573 HEF4573 TC4573B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4529	GE/RCA Motorola National	CD4529 MC14529 CD4529 F4529 HEF4529 CM4529 TC4529B	(2638) (2942)	HCC/HCF4574	GE/RCA Motorola National	CD4574 MC14574 F4574 HEF4574 TC4574B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4530	GE/RCA Motorola National	CD4530 MC14530 CD4530 F4530 HEF4530 CM4530 TC4530B	(2638) (2942)	HCC/HCF4575	GE/RCA Motorola National	CD4575 MC14575 F4575 HEF4575 TC4575B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4531	GE/RCA Motorola National	CD4531 MC14531 CD4531 F4531 HEF4531 CM4531 TC4531B	(2638) (2942)	HCC/HCF4576	GE/RCA Motorola National	CD4576 MC14576 F4576 HEF4576 TC4576B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4532	GE/RCA Motorola National	CD4532 MC14532 CD4532 F4532 HEF4532 CM4532 TC4532B	(2638) (2942)	HCC/HCF4577	GE/RCA Motorola National	CD4577 MC14577 F4577 HEF4577 TC4577B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4533	GE/RCA Motorola National	CD4533 MC14533 CD4533 F4533 HEF4533 CM4533 TC4533B	(2638) (2942)	HCC/HCF4578	GE/RCA Motorola National	CD4578 MC14578 F4578 HEF4578 TC4578B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4534	GE/RCA Motorola National	CD4534 MC14534 CD4534 F4534 HEF4534 CM4534 TC4534B	(2638) (2942)	HCC/HCF4579	GE/RCA Motorola National	CD4579 MC14579 F4579 HEF4579 TC4579B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4535	GE/RCA Motorola National	CD4535 MC14535 CD4535 F4535 HEF4535 CM4535 TC4535B	(2638) (2942)	HCC/HCF4580	GE/RCA Motorola National	CD4580 MC14580 F4580 HEF4580 TC4580B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4536	GE/RCA Motorola National	CD4536 MC14536 CD4536 F4536 HEF4536 CM4536 TC4536B	(2638) (2942)	HCC/HCF4581	GE/RCA Motorola National	CD4581 MC14581 F4581 HEF4581 TC4581B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4537	GE/RCA Motorola National	CD4537 MC14537 CD4537 F4537 HEF4537 CM4537 TC4537B	(2638) (2942)	HCC/HCF4582	GE/RCA Motorola National	CD4582 MC14582 F4582 HEF4582 TC4582B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4538	GE/RCA Motorola National	CD4538 MC14538 CD4538 F4538 HEF4538 CM4538 TC4538B	(2638) (2942)	HCC/HCF4583	GE/RCA Motorola National	CD4583 MC14583 F4583 HEF4583 TC4583B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4539	GE/RCA Motorola National	CD4539 MC14539 CD4539 F4539 HEF4539 CM4539 TC4539B	(2638) (2942)	HCC/HCF4584	GE/RCA Motorola National	CD4584 MC14584 F4584 HEF4584 TC4584B	(2638, 2653) (2946)	Motorola	LM107	LM107	
HCC/HCF4094B	SGS-Thomson	HCC/HCF4094B	(3341)	HCC/HCF4540	GE/RCA Motorola National	CD4540 MC14540 CD4540 F4540 HEF4540 CM4540 TC4540B	(2638) (2942)	HCC/HCF4585	GE/RCA Motorola National	CD4585 MC14585 F4585 HEF4585 TC4585B	(2638, 2653) (2946)	Motorola	LM107	LM107	
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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
SGS-THOMSON (Cont'd)				LM217 (Cont'd)				LM2903 (Cont'd)				LM3046 (Cont'd)			
LM107	PMI	OP02 OP77 PM741	(Cont'd)	LM218	Unitrode VTC	UC217 VM217	(3385)	LM2903	LinearTech Motorola	LM311 LM2903	(2958, 2989)	LM3046	Sanyo SGS-Thomson	LA3046 CA3046 SFC2046	(Cont'd)
	Raytheon	RC741	(3024)	LM219	National	LM218 OP42 LM218 LM219 LM319			National	μ A311 LM2903 LM311			SiliconG	TBA331 SG3046 SG3146 SG3821 ULN2046	
LM109	SiliconG TI IPS	SN74154 IP140-5			NEC PMI	μ PC319 PM219 PM319			NEC PMI	μ PC311 PM211		LM311	Sprague AD GE/RCA	AD311 CA311	(2470) (2648)
	Motorola	LM109	(2959)		Signetics	LM219			Raytheon SGS-Thomson	LM311			LinearTech	LM311	
	National	μ A109 LM109		LM223	IPS	IP223				LM311			Motorola	LM2903	(2958, 2989)
	SGS-Thomson	SFC2109			Motorola	LM223	(2960)		Signetics	LM2903 LM311				LM311	(2958, 2989)
LM111	SiliconG AD	SG109 AD111	(2470)		National	μ A223 LM223 SH223			SiliconG TI	SG311 LM2903 LM311			National	μ A311 LM2903 LM311	
	LinearTech	LM111		LM239	SiliconG	SG223			Toshiba	TA75393					
	Motorola	LM111	(2958)		GE/RCA	CA239	(2648)	LM2904	GE/RCA	CA2904	(2647)		NEC	μ PC311	
	National	μ A111 LM111			Motorola	LM239	(2958, 2989)		Motorola	LM2904	(2955, 2989)		PMI	PM211	
	PMI	PM111			National	μ A239 μ A250 LM239			National	LM2904			Raytheon	LM311	
	Raytheon	LM111	(3025)		PMI	CMP04			TI	LM2904			SGS-Thomson	LM2903	
	Signetics	LM111				PM139		LM2930	Toshiba	TA75358			Signetics	LM2903	
	SiliconG	SG111			Raytheon	PM239		LM2930A	National	LM2930				LM311	
LM117	TI	TL111			Signetics	LM239		LM2931	National	LM2930A			SiliconG	SG311	
	IPS	IP117			TI	LM239		LM2931A	National	LM2931A			TI	LM2903	
	Lambda	LLM117		LM246	Exar	XR246	(2619)	LM2935	National	LM2935		LM317	Toshiba	TA75393	(2714)
	LinearTech	LM117			National	LM246		LM301	AD	AD301			GoldStar	GL317	
	MCE	MCELM117		LM248	National	LM248			GE/Intersil	AD301			IPS	IP317	
	Motorola	LM117	(2962)		PMI	PM248			GE/RCA	CA301A	(2647)		Lambda	LLM317	
	National	μ A117 LM117		LM255	MicroPwr	MP255			LinearTech	LM301			LinearTech	LM317	
	SiliconG	SG117			National	LF255			Motorola	LM301	(2952, 2989)		Motorola	LM317	(2962, 2989)
	TI	TL117			PMI	PM155			National	μ A301			National	μ A317	
LM123	Unitrode	UC117			National	PM255				μ A301A			NEC	LM317	
	IPS	IP123		LM256	Solitron	LF256			NEC	LM301			SGS-Thomson	PC317	
	Lambda	LAS1405			GE/RCA	CA258A	(2647)		PMI	μ PC301				TDB0117	
	LinearTech	LM123		LM258	Motorola	LM258	(2955, 2989)		Raytheon	OP77		LM318	SiliconG	SG317	
	Motorola	LM123	(2960)			LM258A			SGS-Thomson	LM301A	(3024)		TI	LM317	
	National	μ A123 μ A138 LM123 SH123	(2959)		National	OP221			PMI	OP77			Unitrode	UC317	(2462, 2470)
		LM123			Signetics	LM258			SGS-Thomson	LM301			AD	AD518	(2714)
	SiliconG	SG123			TI	LM258				LM301A			GoldStar	GL317	
LM137	IPS	IP137		LM2901	Cypress	CY7C901	(2590)		SiliconG	SG301			LinearTech	LM318	
	LinearTech	LM137			IDT	IDT39C01			TI	μ A301				LT1023	
	MCE	MCELM137			Motorola	LM2901	(2958, 2989)			LM301			National	LM318	
	Motorola	LM137	(2962)			MC3302	(2958)		Toshiba	LM301A			NEC	μ PC317	
	National	LM137			National	μ A2901		LM301A	AD	AD301			PMI	OP421	
	SiliconG	SG137				μ A3302			GE/Intersil	AD301			Signetics	NE530	
		SG137A				LM2901			GE/RCA	CA301A	(2647)			NE538	
	Unitrode	UC137				LM3302			LinearTech	LM301				SE530	
LM201	GE/RCA	CA748	(2647)		PMI	CMP04			Motorola	LM301A	(2952, 2989)		TI	LM318	
	Motorola	LM201	(2952, 2989)		Raytheon	PM139				LM301A		LM319	PMI	PM219	
		MC1748	(2952)		SGS-Thomson	PM339			National	μ A301			Signetics	LM319	
	National	μ A201 LM748				RC3302				μ A301A			IPS	IP123-5	
	PMI	OP06 OP77 PM1008			Signetics	MC3302			NEC	μ PC301			Lambda	IP323	
	SGS-Thomson	LM748				LM2901			PMI	μ PC301A			LinearTech	LA51405	
		LS148			SiliconG	SG324A			Raytheon	OP77				LT323	
	SiliconG	SG201			TI	LM2901			SGS-Thomson	LM301	(3024)		Micropac	M78H05	
	TI	μ A748 LM201		LM2902	Toshiba	TA75339				LM301			Motorola	LM323	(2960)
		LM748			GoldStar	GL324	(2714)		SiliconG	SG301			National	μ A323	
		SN72748P			Hitachi	HA17902			TI	μ A301				μ A78H05	
		LM204			Motorola	LM2902	(2956, 2989)			LM301				LM323	
LM204	National	LM204				MC33174	(2957, 2990)			LM301A				SH0323	
	SGS-Thomson	LS204							Toshiba	TA7506				SH323	
	SiliconG	SG204			National	μ A2902		LM304	National	LM304		LM324	SiliconG	SG323	
LM211	AD	AD211	(2470)			μ A324			SiliconG	SG304			Exar	XR3403	(2619)
	Motorola	LM211	(2958, 2989)			LM2902		LM3045	National	μ A3045			Fujitsu	XR3503	
	National	LM211			NEC	LM324				LM3045			GE/RCA	CA224	(2647)
	PMI	PM211				μ PC324			Sanyo	LA3045				CA324	(2647, 2653, 2658)
	Signetics	LM211			PMI	μ PC451			Sprague	ULS2045	(2650)			LM324	(2647)
	SiliconG	SG211				OP400			GE/RCA	CA3046	(2650)		Hitachi	HA17324	
	TI	LM211			Raytheon	OP421			Motorola	CA3146	(2951, 2990)		Motorola	LM324	(2956, 2989)
LM217	IPS	IP217			TI	LM2902				MC3346				LM324	(2957, 2990)
	MCE	MCELM217				LM2902			National	μ A3046				MC33174	
	Motorola	LM217	(2962)			LM324				μ A3086			National	μ A324	
	National	LM217		LM2903	Toshiba	TA75902			Plessey	SL3046				μ A3403	
	SiliconG	SG217			AD	AD311	(2470)			SL3086				LM224	
		SG217A			GE/RCA	CA311	(2648)			SL3146				LM324	
			(Continued)			LM311					(Continued)				(Continued)

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
SGS-THOMSON (Cont'd)				LM723 (Cont'd) (3039)				LS141 (Cont'd)				L165 (Cont'd)				
LM324			(Cont'd)	Samsung SGS-Thomson	LM723			LS148	Toshiba Unitrode GE/RCA Motorola	TA7504 PIC7504 CA748 LM201		L201	SiliconG Sprague Exar	SG1173 ULN3751 XR2001 XR2001C XR2201	(2619) (2619) (2619)	
	NEC	μPC3403			μA723 L123 SFC2723								Mitsubishi	M54524	(2984)	
	PMI	OP400		Signetics	μA723								Motorola	ULN2001		
	Raytheon	HA14741		SiliconG	SG723				National	μA201			National	μA9665		
		LM248		TI	μA723				PMI	LM748			Sanyo	LB1231		
		LM348	(3025)		μA723M					OP06			SGS-Thomson	ULN2001		
	Samsung	LM324	(3039)	AD	AD741	(2427, 2462)				OP77				SG2001		
LM324A	Signetics	MC3403							SGS-Thomson	PM1008			SiliconG	ULN2001	(3258)	
	SiliconG	SG324		Fujitsu	MB3609					LM201			Sprague	ULQ2001		
	National	LM324A		Hitachi	HA17741					LM748				ULQ2001		
	Samsung	LM324A	(3039)	MicroPwr	MPOPO2					SG201			TI	ULS2001		
LM337	TI	IP337		Motorola	MC1741	(2953, 2989)			SiliconG	μA748			TI	ULN2001		
	IPS	IP337							TI	LM201				ULN2001A		
	LinearTech	LM337		National	μA741M					LM748			Toshiba	TD62001		
		LT337			LM741					LM201				TD62101		
	MCE	MC337		NEC	μPC151				LS204	SN72748P				TD62101		
	Motorola	LM337	(2962)	PMI	μPC741					LM204			L202	XR2002C	(2619)	
	National	SG337			OP02									XR2202	(2619)	
	SiliconG	SG337A		Raytheon	PM741					LM204				Mitsubishi	M54525	
		LM337		SGS-Thomson	RM741					SG204				Motorola	MC1412	(2984)
	TI	LM337							LS285A	ICL8069			National	μA9666		
	Unitrode	UC337			LM741	(3039)				MP5010				MC1412		
LM339	Fujitsu	MB4204		Signetics	μA741					LM285			NEC	μPA2002		
	GE/RCA	CA339	(2648, 2653)	SiliconG	SG741					LS285A			Sanyo	LB1232		
		CA339A	(2648, 2653)	TI	μA741				LS356	PBL3781			SGS-Thomson	ULN2002		
		LM339			μA741M					GL6981				SG2002		
	GoldStar	GL339	(2714)	Toshiba	TA7504				LS4558	XR1458			SiliconG	ULN2002	(3258)	
	Motorola	LM339	(2958, 2989)	Unitrode	PIC7504	(2647)				XR4558	(2619)		Sprague	ULS2002		
		LM339		GE/RCA	CA748	(2952, 2989)				CA1558	(2647)		TI	ULN2002		
	National	μA339		Motorola	LM201	(2952, 2989)				GL4558	(2714)			ULN2002A		
	LM339	μPC137			MC1748	(2952)				HA17458			Toshiba	TD62002		
	NEC	μPC177		National	μA201					HA17558			Exar	XR2003C	(2619)	
		μPC339			LM748					MC1558	(2955)			XR2203	(2619)	
	PMI	CMP04			OP06					MC4558	(2955, 2990)			Mitsubishi	M52523	
		PM139			OP77									M54523		
		PM339			PM1008								Motorola	MC1413	(2984, 2989)	
		PM339A		SGS-Thomson	LM201					SE4558				ULN2003		
	Raytheon	LM339	(3025)		LS148					μA1458			National	μA9667		
	TI	LM339			SG201					μA4558				MC1413		
	Toshiba	TA75339		SiliconG	μA748					LM1458			Sanyo	LB1233		
LM346	National	LM346		TI	LM201					LM1558			SGS-Thomson	ULN2003		
LM358	Fujitsu	MB47358			LM748					μPC1458				SG2003		
	GE/RCA	CA358A	(2647, 2653)		SN72748P	(2714)				μPC4558			SiliconG	ULN2003	(3258)	
		LM358	(2647)	LM7809	GoldStar	GL7809				OP14			Sprague	ULS2003		
	GoldStar	GL358	(2714)		Hitachi	HA17809				OP270			TI	ULN2003		
	Hitachi	HA17358			Motorola	MC7809				RC1458			Toshiba	TD62003		
	Motorola	LM358	(2954, 2989)		National	μA7809				RC4558	(3024)			TD62103		
		LM358				LM7809				RM1558				XR2204	(2619)	
	National	LM358		LM7809	NEC	μPC7809				RM4558	(3024)			M54526		
		LM358A			TI	μA7809				MC4558	(3039)		L204	MC1416	(2984)	
	NEC	μPC1251			Toshiba	TA78009				MC1458				ULN2004		
		μPC358			AD	AD101	(2470)			MC1558			Sanyo	LB1234		
	PMI	OP221			GE/Intersil	AD101				NE4558			SGS-Thomson	ULN2004		
	Sanyo	LA6358			LinearTech	LM101				SA4558				SG2004		
	Signetics	LM358			Motorola	LM101	(2952)			SE4558				ULS2004		
		NE532			National	μA101				MC1458			TI	ULN2004A		
	TI	LM348			PMI	OP77				MC1558				ULN2004A		
		LM358			Raytheon	LM101	(3024)			MC4558C			Toshiba	TD62004		
	Toshiba	TA75358			SGS-Thomson	LM101				RC4558				TD62104		
	GoldStar	GL393	(2714)			SG101				RV4558				L293D	(3322)	
	Hitachi	HA17393			SiliconG	AD741	(2427, 2462)			TL4558				L290B		
	Motorola	LM393	(2958, 2989)							TA75458				L291B		
		LM393								TA75558				L292		
	National	LM393								MB3752				IP293		
	NEC	μPC393								MB723				PL293		
		μPC393C								LM723	(2651, 2659)			TI		
	Sanyo	LA6393								CA723				SN754410	(3322)	
	Signetics	LM393												L295		
	Sprague	LM393												L296		
	TI	LM393												L298	(3322)	
	Toshiba	TA75393												TLP298	(3322)	
	Fujitsu	MB3752												L298		
		MB723												ULN2821	(3258)	
	GE/Intersil	LM723	(2651, 2659)											ULS2821		
	GE/RCA	CA723												DM5445		
		LM723												S042		
		HA17723												NE602	(3155)	
	Hitachi	MC1723	(2962, 2989)											SA602		
	Motorola	LM723												SM602		
		LM723												SN5445		
	National	μA723												PIC602		
		μA723M													(Continued)	
		LM723														
	Raytheon	RC723														
		RM723														
		LM723														
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• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
SGS-THOMSON (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
L603	SiliconG Sprague	SG2823 ULN2823 ULS2823	(3258)	L78M08CV	TI Toshiba National	μ A78M08 TA78M08 μ A78M09 LM78M09	(2959)	L7805	GoldStar IPS Motorola National	GL7805 IP7805 MC7805 LM7805	(2714) (2959)	L7818	Motorola National	MC7818 μ A7818 LM7818	(2961)
L604	AD Dionics Maxim MicroPwr Motorola Siemens Signetics Sprague	AD7628 DI604A AD7628 MP7628 MC12020 SO41P NE604 ULN3820	(2413)	L78M09	TI Toshiba National	μ A78M09 TA78M09 μ A78M10 LM78M10		L7806	NEC Samsung SGS-Thomson	μ PC7805 LM7805 MC7805		L7820	NEC Samsung SGS-Thomson	μ PC7818 MC7818 μ A7818 SG7818 SG7818A	
L6222	GE/RCA Hitachi IPS National TI	CA3219 HAI3007 IP3658 DS3658 SN75437	(2651)	L78M10	TI Toshiba National	μ A78M10 TA78M10 LM78M12 LM342-12 LM78M12 μ PC78M12 MC78M12	(2960, 2990)	L7806	GoldStar Motorola National	GL7806 MC7806 μ A7806 LM7806	(2714) (2960)	L7824	Crystal Maxim National	CS7820 AD7820 MAX150 μ A7820 DS7820 LM7820	(2414, 2416, 2462)
L702B	SGS-Thomson	L702N L702SP		L78M12	Motorola National	MC78M12 μ A78M12 LM341-12 LM342-12 LM78M12 μ PC78M12 MC78M12	(2960, 2990)	L7806	NEC Samsung SGS-Thomson	μ A7806 LM7806 μ PC7806 MC7806		L7824	PMI Samsung SiliconG	PM0820 KAD0820 SG7820 SG7820A	
L702N	SGS-Thomson	L702B L702SP		L78M12CV	TI Toshiba Motorola	μ A78M12 TA78M12 MC78M12	(2960, 2990)	L7806	NEC Samsung SGS-Thomson	μ PC7806 MC7806		L7824	Siliconix TI	SI7820 μ A7820 SN55182	
L702SP	SGS-Thomson	L702B L702N		L78M15	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-12 LM342-12 LM78M12 LM78M12 μ PC78M12 MC78M12	(2961, 2990)	L7808	GoldStar Hitachi Motorola	GL7808 HA17808 MC08 MC7808	(2714) (2960)	L7824	AD	AD7824 GL7824 AD7824	(2414, 2416, 2462)
L78M05	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15	TI Toshiba Motorola	L78M12 μ A78M12 TA78M12 MC78M15	(2961, 2990)	L7808	NEC Samsung SGS-Thomson	μ A7808 LM7808 μ PC7808 MC7808		L7824	NEC Samsung SGS-Thomson	LM7824 μ PC7824 MC7824	(2961)
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7810	NEC Samsung SGS-Thomson	μ A7808 LM7808 μ PC7808 MC7808		L7824	SiliconG	μ A7824 SG7824 SG7824A	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7810	TI Toshiba GoldStar IPS	μ A7810 TA78010 GL7812 IP140-12 IP340-12 IP7812 IP7812AC		L7824	TI	μ A7824 LM340-24 TA78024	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	Motorola National	LM340-12 MC7812	(2960) (2960)	L7824	Toshiba SGS-Thomson	TA78024	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	NEC Samsung SGS-Thomson	μ A7812 LM340-12 LM7812 LM7812 μ PC7812 MC7812		L7824	IPS	μ A7824 SG7824 SG7824A	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	Motorola National	LM340-12 MC7812	(2960) (2960)	L7824	Motorola National	MC7905 μ A7905 LM7905 MC7905	(2959)
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	NEC Samsung SGS-Thomson	μ A7812 LM340-12 LM7812 LM7812 μ PC7812 MC7812		L7824	NEC Samsung SGS-Thomson	μ A7905 LM7905 MC7905	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	Motorola National	LM340-12 MC7812	(2960) (2960)	L7824	TI	μ A7905 UC7905 MC7906	(2960)
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	NEC Samsung SGS-Thomson	μ A7812 LM340-12 LM7812 LM7812 μ PC7812 MC7812		L7824	Motorola National	MC7906 μ A7906 LM7906 MC7906	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	Motorola National	LM340-12 MC7812	(2960) (2960)	L7824	Samsung TI	μ A7906 TA78006 MC7908	(2960)
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	NEC Samsung SGS-Thomson	μ A7812 LM340-12 LM7812 LM7812 μ PC7812 MC7812		L7824	Motorola National	MC7908 μ A7908 LM7908 MC7908	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	TI Toshiba Unitrode	μ A7812 TA78012 UC340-12 UC7812		L7824	Samsung SiliconG	MC7908 SG7908 SG7908A	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	GoldStar IPS	GL7815 IP140-15 IP340-15 IP7815	(2714)	L7824	TI	μ A7908 LM7908 MC7908	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	GoldStar IPS	GL7815 IP140-15 IP340-15 IP7815	(2714)	L7824	Toshiba GoldStar National	TA79008 GL7909 μ A7909 LM7909	(2714)
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	Lambda Motorola	LM340-15 MC7815	(2960) (2961)	L7824	NEC TI	μ A7909 LM7909 MC7909	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	NEC Samsung SGS-Thomson	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	Toshiba Inmos	TA79009 IMS2820	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	NEC Samsung SGS-Thomson	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	Intel	PS1C259H	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	NEC Samsung SGS-Thomson	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	GoldStar IPS	GL7912 IP320-12 IP7912	(2714)
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	TI	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	Motorola National	MC7912 μ A79M12 μ A79M12M	(2960)
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	TI	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	NEC Samsung	μ A7912 LM320MP12 LM79M12 LM7912 μ PC7912 MC7912	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	Toshiba Unitrode	TA78015 UC340-15 UC7815		L7824	NEC Samsung	μ A7912 LM320MP12 LM79M12 LM7912 μ PC7912 MC7912	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	TI	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	NEC Samsung	μ A7912 LM320MP12 LM79M12 LM7912 μ PC7912 MC7912	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	TI	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	NEC Samsung	μ A7912 LM320MP12 LM79M12 LM7912 μ PC7912 MC7912	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	TI	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	NEC Samsung	μ A7912 LM320MP12 LM79M12 LM7912 μ PC7912 MC7912	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	TI	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	NEC Samsung	μ A7912 LM320MP12 LM79M12 LM7912 μ PC7912 MC7912	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	TI	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	NEC Samsung	μ A7912 LM320MP12 LM79M12 LM7912 μ PC7912 MC7912	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	NEC Samsung Sanyo SGS-Thomson	μ A78M15 LM341-15 LM342-15 LM78M15 LM78M15 μ PC78M15 MC78M15 L78M15	(2961, 2990)	L7812	TI	μ A7815 LM340-15 LM7815 LM7815 μ PC7815 MC7815		L7824	NEC Samsung	μ A7912 LM320MP12 LM79M12 LM7912 μ PC7912 MC7912	
L78M05CV	Motorola National	MC78M05 μ A78M05 LM341-5 LM342-05 LM78M05 μ PC78M05 MC78M05 L78M05	(2990)	L78M15CV	TI Toshiba Motorola	L78M15CV μ A78M15 TA78M15 MC78M15	(2961, 2990)	L7812	TI	μ A7815 LM340-15 LM7815 LM78					

ALT SOURCE DIRECTORY

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◆ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page					
SGS-THOMSON (Cont'd)				MK45H64 (Cont'd)				MK4564 (Cont'd)				MK5089 (Cont'd)								
MK41L68	IDT	(Cont'd)	(2836)	Intel	Krueger	M2164A	(2877)	MK4564	Vitellic	V51C64	(2580)	MK5089	STC	STC5089	(2580)					
						4164-120				GR281				TI		TCM5089				
						4164-150				NVR2				UMC		UM5089				
						4164-200				CY6116				CTI		52981				
						MT4264				CY7C128				National		TP50981				
						MCM4164				IH6116				Samsung		K55804				
						MCM4164C				CDM6116				National		TP5116				
						MCM6665				CDM6116A				SGS-Thomson		5116				
						F4164				GM76C28				Sharp		M5116				
						F64K				HM6516				National		LH5116				
						NMC4164				HM65162				CTI		5151				
						MSM3764				HM6716				National		MA556				
						MN4164				HM6719				SGS-Thomson		TP5156				
						MN4864				HY61C16A				SGS-Thomson		5156				
						KM4164A				HY6116A				GoldStar		M5156				
						KM4164B				IMS1433				MMI		GM6371				
						SSM7164				IDT6116				Xicor		GM6373				
						MKB4564				IDT6116A				MMI		M2018-70				
						TS4164				IDT6116L				Xicor		XC2018-70				
						HYB4164				IDT6116S				GoldStar		GM6375				
						SMJ4164				IDT6166				ICT		PEEL18CV8				
						SM4164				81C28				MMI		PALC16L8Q-25				
						TMS4164				2128-100				Samsung		PAL16L8D-4				
						TMM4164				2128-120				MK5376		GoldStar	CPL16L8L-25			
						TMM4164A				2128-150						GM6376	(3031)			
V51C64	2128-200	ICT	GM6376	PEEL18CV8																
67C4501	6116-120	MMI	PEEL18CV8	(4257)																
CY7C412	6116-150	MMI	PALC16R8D-25																	
CY7C420	6116-200	Samsung	PAL16R8D-4	CPL16R8L-25																
DS2009	6116LP-120	MK5380	AMD	AM5380																
DS2009	6116LP-150		LogicDev	L5380																
IDT7201	6116LP-200	National	TP5380																	
IDT7201A	(2877)	NCR	NCR5380																	
IDT7201SA	(2877)	Samsung	NMOS5380																	
IDT7201SA	(2877)	CMD Micro	K553C80																	
67L4501	(2877)	Intel	G8912B																	
MS7201	(2877)	MK5912	ID2912	2912																
KM75C01A	(2877)		National	TP3040																
SSL7201	(2877)	Plessey	MV8912																	
SG4501	(2877)	SGS-Thomson	ETC5040																	
UC4501	(2877)	TI	TCM2912C																	
UM4501	(2877)	Intel	1101																	
CD4502	(2877)	National	MM1101																	
CD4502B	(2877)	NCM	NCM1101Z																	
MC14502	(2877)	Cypress	CY6116																	
MC14502B	(2877)	MK6116	CY7C128	(2580)																
MC14502B	(2877)		GE/Intersil	IH6116																
MK4501	AMD	(2836)	(2835)	Siemens	TI	Toshiba	(3286)	MK4501	Intel	Krueger	(2877)	MK4501	Vitellic	V51C64	(2835)					
																4164-120	GR281	TI	TCM5089	
																4164-150	NVR2	UMC	UM5089	
																4164-200	CY6116	CTI	52981	
																MT4264	CY7C128	National	TP50981	
																MCM4164	IH6116	Samsung	K55804	
																MCM4164C	CDM6116	National	TP5116	
																MCM6665	CDM6116A	SGS-Thomson	5116	
																F4164	GM76C28	Sharp	M5116	
																F64K	HM6516	National	LH5116	
																NMC4164	HM65162	CTI	5151	
																MSM3764	HM6716	National	MA556	
																MN4164	HM6719	SGS-Thomson	TP5156	
																MN4864	HY61C16A	SGS-Thomson	5156	
																KM4164A	HY6116A	GoldStar	M5156	
																KM4164B	IMS1433	MMI	GM6371	
																SSM7164	IDT6116	Xicor	GM6373	
																MKB4564	IDT6116A	MMI	M2018-70	
																TS4164	IDT6116L	Xicor	XC2018-70	
																HYB4164	IDT6116S	GoldStar	GM6375	
																SMJ4164	IDT6166	ICT	PEEL18CV8	
																SM4164	81C28	MMI	PALC16L8Q-25	
																TMS4164	2128-100	Samsung	PAL16L8D-4	
																TMM4164	2128-120	MK5376	GoldStar	CPL16L8L-25
																TMM4164A	2128-150		GM6376	(3031)
V51C64	2128-200	ICT	GM6376	PEEL18CV8																
67C4501	6116-120	MMI	PEEL18CV8	(4257)																
CY7C412	6116-150	MMI	PALC16R8D-25																	
CY7C420	6116-200	Samsung	PAL16R8D-4	CPL16R8L-25																
DS2009	6116LP-120	MK5380	AMD	AM5380																
DS2009	6116LP-150		LogicDev	L5380																
IDT7201	6116LP-200	National	TP5380																	
IDT7201A	(2877)	NCR	NCR5380																	
IDT7201SA	(2877)	Samsung	NMOS5380																	
IDT7201SA	(2877)	CMD Micro	K553C80																	
67L4501	(2877)	Intel	G8912B																	
MS7201	(2877)	MK5912	ID2912	2912																
KM75C01A	(2877)		National	TP3040																
SSL7201	(2877)	Plessey	MV8912																	
SG4501	(2877)	SGS-Thomson	ETC5040																	
UC4501	(2877)	TI	TCM2912C																	
UM4501	(2877)	Intel	1101																	
CD4502	(2877)	National	MM1101																	
CD4502B	(2877)	NCM	NCM1101Z																	
MC14502	(2877)	Cypress	CY6116																	
MC14502B	(2877)	MK6116	CY7C128	(2580)																
MC14502B	(2877)		GE/Intersil	IH6116																
MK4502	Intel	(2836)	(2835)	Siemens	TI	Toshiba	(3286)	MK4502	Intel	Krueger	(2877)	MK4502	Vitellic	V51C64	(2835)					
																4164-120	GR281	TI	TCM5089	
																4164-150	NVR2	UMC	UM5089	
																4164-200	CY6116	CTI	52981	
																MT4264	CY7C128	National	TP50981	
																MCM4164	IH6116	Samsung	K55804	
																MCM4164C	CDM6116	National	TP5116	
																MCM6665	CDM6116A	SGS-Thomson	5116	
																F4164	GM76C28	Sharp	M5116	
																F64K	HM6516	National	LH5116	
																NMC4164	HM65162	CTI	5151	
																MSM3764	HM6716	National	MA556	
																MN4164	HM6719	SGS-Thomson	TP5156	
																MN4864	HY61C16A	SGS-Thomson	5156	
																KM4164A	HY6116A	GoldStar	M5156	
																KM4164B	IMS1433	MMI	GM6371	
																SSM7164	IDT6116	Xicor	GM6373	
																MKB4564	IDT6116A	MMI	M2018-70	
																TS4164	IDT6116L	Xicor	XC2018-70	
																HYB4164	IDT6116S	GoldStar	GM6375	
																SMJ4164	IDT6166	ICT	PEEL18CV8	
																SM4164	81C28	MMI	PALC16L8Q-25	
																TMS4164	2128-100	Samsung	PAL16L8D-4	
																TMM4164	2128-120	MK5376	GoldStar	CPL16L8L-25
																TMM4164A	2128-150		GM6376	(3031)
V51C64	2128-200	ICT	GM6376	PEEL18CV8																
67C4501	6116-120	MMI	PEEL18CV8	(4257)																
CY7C412	6116-150	MMI	PALC16R8D-25																	
CY7C420	6116-200	Samsung	PAL16R8D-4	CPL16R8L-25																
DS2009	6116LP-120	MK5380	AMD	AM5380																
DS2009	6116LP-150		LogicDev	L5380																
IDT7201	6116LP-200	National	TP5380																	
IDT7201A	(2877)	NCR	NCR5380																	
IDT7201SA	(2877)	Samsung	NMOS5380																	
IDT7201SA	(2877)	CMD Micro	K553C80																	
67L4501	(2877)	Intel	G8912B																	
MS7201	(2877)	MK5912	ID2912	2912																
KM75C01A	(2877)		National	TP3040																
SSL7201	(2877)	Plessey	MV8912																	
SG4501	(2877)	SGS-Thomson	ETC5040																	
UC4501	(2877)	TI	TCM2912C																	
UM4501	(2877)	Intel	1101																	
CD4502	(2877)	National	MM1101																	
CD4502B	(2877)	NCM	NCM1101Z																	
MC14502	(2877)	Cypress	CY6116																	
MC14502B	(2877)	MK6116	CY7C128	(2580)																
MC14502B	(2877)		GE/Intersil	IH6116																
MK4503	AMD	(2836)	(2835)	Siemens	TI	Toshiba	(3286)	MK4503	Intel	Krueger	(2877)	MK4503	Vitellic	V51C64	(2835)					
																4164-120	GR281	TI	TCM5089	
																4164-150	NVR2	UMC	UM5089	
																4164-200	CY6116	CTI	52981	
																MT4264	CY7C128	National	TP50981	
																MCM4164	IH6116	Samsung	K55804	
																MCM4164C	CDM6116	National	TP5116	
																MCM6665	CDM6116A	SGS-Thomson	5116	
																F4164	GM76C28	Sharp	M5116	
																F64K	HM6516	National	LH5116	
																NMC4164	HM65162	CTI	5151	
																MSM3764	HM6716	National	MA556	
																MN4164	HM6719	SGS-Thomson	TP5156	
																MN4864	HY61C16A	SGS-Thomson	5156	
																KM4164A	HY6116A	GoldStar	M5156	
																KM4164B	IMS1433	MMI	GM6371	
																SSM7164	IDT6116	Xicor	GM6373	
																MKB4564	IDT6116A	MMI	M2018-70	
																TS4164	IDT6116L	Xicor	XC2018-70	
																HYB4164	IDT6116S	GoldStar	GM6375	
																SMJ4164	IDT6166	ICT	PEEL18CV8	
																SM4164	81C28	MMI	PALC16L8Q-25	
																TMS4164	2128-100	Samsung	PAL16L8D-4	
																TMM4164	2128-120	MK5376	GoldStar	CPL16L8L-25
																TMM4164A	2128-150		GM6376	(3031)
V51C64	2128-200	ICT	GM6376	PEEL18CV8																
67C4501	6116-120	MMI	PEEL18CV8	(4257)																
CY7C412	6116-150	MMI	PALC16R8D-25																	
CY7C420	6116-200	Samsung	PAL16R8D-4	CPL16R8L-25																
DS2009	6116LP-120	MK5380	AMD	AM5380																
DS2009	6116LP-150		LogicDev	L5380																
IDT7201	6116LP-200	National	TP5380																	
IDT7201A	(2877)	NCR	NCR5380																	
IDT7201SA	(2877)	Samsung	NMOS5380																	
IDT7201SA	(2877)	CMD Micro	K553C80																	
67L4501	(2877)	Intel	G8912B																	
MS7201	(2877)	MK5912	ID2912	2912																
KM75C01A	(2877)		National	TP3040																
SSL7201	(2877)	Plessey	MV8912																	
SG4501	(2877)	SGS-Thomson	ETC5040																	
UC4501	(2877)	TI	TCM2912C																	
UM4501	(2877)	Intel	1101																	
CD4502	(2877)	National	MM1101																	
CD4502B	(2877)	NCM	NCM1101Z																	
MC14502	(2877)	Cypress	CY6116																	
MC14502B	(2877)	MK6116	CY7C128	(2580)																
MC14502B	(2877)		GE/Intersil	IH6116																
MK4504	AMD	(2836)	(2835)	Siemens	TI	Toshiba	(3286)	MK4504	Intel	Krueger	(2877)	MK4504	Vitellic	V51C64	(2835)					
																4164-120	GR281	TI	TCM5089	
																4164-150	NVR2	UMC	UM5089	
																4164-200	CY6116	CTI	52981	
																MT4264	CY7C128	National	TP50981	
																MCM4164	IH6116	Samsung	K55804	
																MCM4164C	CDM6116	National	TP5116	
																MCM6665	CDM6116A	SGS-Thomson	5116	
																F4164	GM76C28	Sharp	M5116	
																F64K	HM6516	National	LH5116	
																NMC4164	HM65162	CTI	5151	
																MSM3764	HM6716	National	MA556	
																MN4164	HM6719	SGS-Thomson	TP5156	
																MN4864	HY61C16A	SGS-Thomson	5156	
																KM4164A	HY6116A	GoldStar	M5156	
																KM4164B	IMS1433	MMI	GM6371	
																SSM7164	IDT6116	Xicor	GM6373	
																MKB4564	IDT6116A	MMI	M2018-70	
																TS4164	IDT6116L	Xicor	XC2018-70	
																HYB4164	IDT6116S	GoldStar	GM6375	
																SMJ4164	IDT6166	ICT	PEEL18CV8	
																SM4164	81C28	MMI	PALC16L8Q-25	
																TMS4164	2128-100	Samsung	PAL16L8D-4	
																TMM4164	2128-120	MK5376	GoldStar	CPL16L8L-25
																TMM4164A	2128-150		GM6376	(3031)
V51C64	2128-200	ICT	GM6376	PEEL18CV8																
67C4501	6116-120	MMI	PEEL18CV8	(4257)																
CY7C412	6116-150	MMI	PALC16R8D-25																	
CY7C420	6116-200	Samsung	PAL16R8D-4	CPL16R8L-25																
DS2009	6116LP-120	MK5380	AMD	AM5380																
DS2009	6116LP-150		LogicDev	L5380																
IDT7201	6116LP-200	National	TP5380																	
IDT7201A	(2877)	NCR	NCR5380																	
IDT7201SA	(2877)	Samsung	NMOS5380																	
IDT7201SA	(2877)	CMD Micro	K553C80																	
67L4501	(2877)	Intel	G8912B																	
MS7201	(2877)	MK5912	ID2912	2912																
KM75C01A	(2877)		National	TP3040																
SSL7201	(2877)	Plessey	MV8912																	
SG4501	(2877)	SGS-Thomson	ETC5040																	
UC4501	(2877)	TI	TCM2912C																	
UM4501	(2877)	Intel	1101																	
CD4502	(2877)	National	MM1101																	
CD4502B	(2877)	NCM	NCM1101Z																	
MC14502	(2877)	Cypress	CY6116																	
MC14502B	(2877)	MK6116	CY7C128	(2580)																
MC14502B	(2877)		GE/Intersil	IH6116																
MK4505	AMD	(2836)	(2835)	Siemens	TI	Toshiba	(3286)	MK4505	Intel	Krueger	(2877)	MK4505	Vitellic	V51C64	(2835)					
																4164-120	GR281	TI	TCM5089	
																4164-150	NVR2	UMC	UM5089	
																4164-200	CY6116	CTI	52981	
																MT4264	CY7C128	National	TP50981	
																MCM4164	IH6116	Samsung	K55804	
																MCM4164C	CDM6116	National	TP5116	
																MCM6665	CDM6116A	SGS-Thomson	5116	
																F4164	GM76C28	Sharp	M5116	
																F64K	HM6516	National	LH5116	
																NMC4164	HM65162	CTI	5151	
																MSM3764	HM6716	National	MA556	
																MN4164	HM6719	SGS-Thomson	TP5156	
																MN4864	HY61C16A	SGS-Thomson	5156	
																KM4164A	HY6116A	GoldStar	M5156	
																KM4164B	IMS1433	MMI	GM6371	
																SSM7164	IDT6116	Xicor	GM6373	
																MKB				

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
SGS-THOMSON (Cont'd)				M27C1024 (Cont'd)				M4116 (Cont'd)				M74HCT244 (Cont'd)			
MK6116	MicronTech	MT5C1608	(Cont'd)	M27128	VLSI Tech	NEC	(2877)	M5116	OKI	MSM3716	(2640, 2653)	M74HCT245	Supertex	74HCT244	(2640, 2653)
		MS8725				OKI				HYB4116				SN74HCT244	
	Mitsubishi	M5M116			AMD	VT27C1024			Siemens	2690			Toshiba	TC74HCT244A	
		M5M5116	AMD			STC	74HCT245								
		M5M5117			Intel	AM27128A			Toshiba	TMM416			CMD Micro	G74SC245	
		M5M5118				N27128A				TP5116				GE/RCA	CD74HCT245
		M58275				M27128			National	5116					
		M58275				P27128				LH5116				Hitachi	HD74HCT245
	Motorola	MCM2016				27128			CTI	MA556			Micrel	MIC74HCT245	
		MCM2016H				P27128A				TP5156				Motorola	MC74HCT245
		MCM2018P			Krueger	27128A			National	5156			National	MM74HCT245	
		MCM6116				27128-200 (2877)				SGS-Thomson				Plessey	MV74HCT245
		MCM6116				27128-250 (2877)				MK5156			Signetics	74HCT245 (3057)	
		MMC2116				27128-300 (2877)				Lansdale	ML5450				Supertex
	National	MSM2128				27128-450 (2877)			TI	DM5450			TI	SN74HCT245	
		MSM5126				27128A-200 (2877)				SN5450				Toshiba	TC74HCT245A
	OKI	MSM5128				27128A-250 (2877)			Lansdale	ML5451			CTI	74HCT373	
		MSM5129				27128A-300 (2877)				DM5451				CMD Micro	G74SC373
	Performance	P4C116			Mitsubishi	M5L27128			National	SN5451			GE/RCA	CD74HCT373	
		S-MOS	SMC6116			27128				MM5480				Hitachi	HD74HCT373
	Saratoga	SSM6116			SEQ	M27128			National	MM5481					
		SGS-Thomson				27128				ML5486				Micrel	MIC74HCT373
						TMM24128			Lansdale	ML5486			National	MM74HCT373	
						HM6617 (2752)				DM5486				Plessey	MV74HCT373
		ET2128			Krueger	2716-350 (2877)				5486					
		MK2817				2716-450 (2877)				Signetics	5486				Signetics
		LH5115				2716T-350 (2877)			CMD Micro	G8912B			TI	SN74HCT373	
		NE5517				2716T-450 (2877)				Intel	ID2912				Toshiba
	Sony	CKX5814P				MM2716			National	TP3040			CTI	74HCT374	
		UDN6116				MSM2716				Plessey	MV8912				CMD Micro
	Sprague	STC2018			National	AM27256			SGS-Thomson	ETC5040			GE/RCA	CD74HCT374	
		STC6116				27256				TCM2912C				Hitachi	HD74HCT374
	STC	SMJ68CE16			AMD	27256				GE/RCA	CD74HCT04 (2639)				
		TC5517B				27256-200 (2877)				Motorola	MC74HCT04				
	TI	TMM2015A			Krueger	27256-250 (2877)				Motorola	MM72HCT04		Micrel	MIC74HCT374	
		TMM2018				27256-300 (2877)				Signetics	74HCT04 (3057)				Motorola
	Toshiba	TMM2018AP				MSL27256				TI	SN74HCT04		National	MM74HCT374	
		UM6116				TMM27256				Toshiba	TC74HCT04A				
	UMC	V61C16			Mitsubishi	AM2732				CTI	74HCT137		Plessey	MV74HCT374	
		V62C16				M2732				GE/RCA	CD74HCT137				
	VLSI Tech	VT20C18 (3343, 3345, 3349)			AMD	2732							Signetics	74HCT374 (3057)	
						2732A				Plessey	MV74HCT137				
					Krueger	2732-250 (2877)				74HCT137			Supertex	74HCT374	
						2732-300 (2877)				TI	SN74HCT137				
	AMD	AM7990				2732-350 (2877)				TI	TC74HCT137		CTI	74HCT540	
		AM7991				2732-450 (2877)				Toshiba	74HCT138				
	AMD	AM7992				2732A-250 (2877)				GE/RCA	CD74HCT138				
		Motorola	MC68901 (2926)			2732A-300 (2877)				National	MM74HCT138				
	CMD Micro	G8865				2732A-350 (2877)				Plessey	MV74HCT138		Toshiba	TC74HCT540	
		Mitel	MT8865			2732A-450 (2877)				Signetics	74HCT138 (3057)				
	Plessey	MV8865				2732A-450 (2877)				TI	SN74HCT138		TI	SN74HCT540	
		CMD Micro	G8912B			2732A-450 (2877)				Toshiba	TC74HCT138A				
	Intel	ID2912			National	MM2732				CTI	74HCT240		CTI	74HCT541	
		2912				NMC2732				GE/RCA	CD74HCT240				
	National	TP3040				MSM2732				Hitachi	HD74HCT240		Micrel	MIC74HCT541	
		Plessey	MV8912			TMS2732A (3326)				Microl	MIC74HCT240				
	SGS-Thomson					AM2764				Motorola	MC74HCT240		National	MM74HCT541	
						TMM324C				National	MM74HCT240				
		ETC5040				AM2764A				Plessey	MV74HCT240		Plessey	MV74HCT541	
		TI	TCM2912C			M2764				Signetics	74HCT240 (3057)				
	GoldStar	GM62093 (2713)				MBM2764				Supertex	74HCT240		TI	SN74HCT541	
		Mitel	MT8812			2764				Supertex	74HCT240				
	AD	AD108 (2470)				2764A				TI	SN74HCT240A		Toshiba	TC74HCT541	
		GE/Intersil	LM108			2764A-200 (2877)				TI	SN74HCT240				
	LinearTech	LM108				2764-300 (2877)				Toshiba	74HCT241		CTI	74HCT563	
		MicroPwr	MP108			2764A-250 (2877)				GE/RCA	CD74HCT241				
	Motorola	LM108 (2952)			Krueger	2764-450 (2877)				Hitachi	HD74HCT241		Micrel	MIC74HCT563	
		National	uA108			2764A-450 (2877)				Micrel	MIC74HCT241				
						2764A-200 (2877)				Motorola	MC74HCT241		National	MM74HCT563	
			uA208			2764A-300 (2877)				Motorola	MM74HCT241				
	PMI	LM108				2764A-450 (2877)				Plessey	MV74HCT241		Plessey	MV74HCT564	
		OP97				2764A-450 (2877)				Supertex	74HCT241 (3057)				
		PM1008				2764A-450 (2877)				Supertex	74HCT241		Signetics	74HCT564 (3057)	
		PM108				2764A-450 (2877)				TI	SN74HCT241				
	SiliconSys	SS108				2764A-450 (2877)				Toshiba	TC74HCT241A		Toshiba	TC74HCT564	
		LM208				2764A-450 (2877)				CTI	74HCT244				
	TI					M5L2764				GE/RCA	CD74HCT244 (2640, 2653)		CTI	74HCT573	
		Motorola	MC145026 (2991)			2764				Hitachi	HD74HCT244				
	Motorola	MC145027 (2941, 2991)				MSM2764A				Micrel	MIC74HCT244		GE/RCA	CD74HCT573	
		Motorola	MC145027 (2941, 2991)			2764				Motorola	MM74HCT244				
	GE/RCA	CD22100 (2645)				5133				Motorola	MM74HCT244				
		Motorola	MC1452100			TMS2764 (3326)				Plessey	MV74HCT241				
	SiliconSys	SS22100				RO9464				Signetics	74HCT241 (3057)				
		Gould/AMI	S2560			MS58334				Supertex	74HCT241				
	National	TDA2560				MM52164				TI	SN74HCT241		Micrel	MIC74HCT564	
		Plessey	TDA2560			26S64				Toshiba	TC74HCT241A				
	Supertex	CM2560				2664				CTI	74HCT244		Plessey	MV74HCT564	
		Gould/AMI	S2569			F3870				GE/RCA	CD74HCT244				
	AMD	AM27C1024				F3872				Hitachi	HD74HCT244		Signetics	74HCT564 (3057)	
		Atmel	AT72C1024			ITT	ITT4116				Micrel			MIC74HCT244	
	Fujitsu	MBM27C1024				4116-120 (2877)				Motorola	MC74HCT244		TI	SN74HCT564	
		Hitachi	HN27C1024			Krueger	4116-150 (2877)				Motorola			MM74HCT244	
		HN27C1024G				4116-200 (2877)				National	MM74HCT244		Toshiba	TC74HCT564	
		27C1024				F16K				Plessey	MV74HCT244				
	National	uPD27C1024				F4116				Samsung	74HCT244		National	MIC74HCT573	
		NMC27C1024				MM5290				Signetics	74HCT244 (3057)				Plessey
(Continued)				(Continued)				(Continued)				(Continued)			

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
SGS-THOMSON (Cont'd)				M74HC10	Signetics TI	74HC10 (3057)	(Cont'd)	M74HC137	GE/RCA	CD74HC137 (2640)	(2640)	M74HC157	TI	SN74HC157 (3340)	(Cont'd)
M74HCT573	Signetics Supertex TI	74HCT573 (3057)	(Cont'd)	M74HC107	Toshiba GE/RCA	74HC10A (3340)	(2640)		Hitachi	HD74HC137		M74HC158	Toshiba	TC74HC157A (3340)	
M74HCT574	Toshiba CTI	74HCT574 (2641)			Hitachi	HD74HC107			National	MM74HC137			Hitachi	HD74HC158	
	GE/RCA	CD74HCT574 (2641)			Motorola	MC74HC107	(2941)		Signetics TI	74HC137 (3057)			Motorola	MC74HC158	(2944)
	Micrel	MC74HCT574			National	MM74HC107		M74HC138	GE/RCA	CD74HC138 (2640)	(2640)		National	MM74HC158	
	National	MM74HCT574			Signetics TI	74HC107 (3057)			Hitachi	HD74HC138			Signetics TI	74HC158 (3057)	
	Plessey	MM74HCT574			Toshiba	TC74HC107 (3340)			Motorola	MC74HC138	(2945)		Toshiba	TC74HC158A (3340)	
	Signetics	74HCT574 (3057)		M74HC109	GE/RCA	CD74HC109 (2640)			National	MM74HC138		M74HC160	GE/RCA	CD74HC160 (2640)	
	Supertex	74HCT574			Hitachi	HD74HC109			Signetics TI	74HC138 (3057)			Motorola	MC74HC160 (2942)	
	TI	SN74HCT574			Motorola	MC74HC109	(2941)		Hitachi	HD74HC138			National	MM74HC160	
M74HCT620	Toshiba	TC74HCT574			National	MM74HC109		M74HC139	GE/RCA	CD74HC139 (2640)	(2640)		Signetics TI	74HC160 (3057)	
	Motorola	MC74HCT620			Signetics TI	74HC109 (3057)			Hitachi	HD74HC139			Toshiba	TC74HC160A (3340)	
M74HCT640	TI	SN74HCT620			Toshiba	TC74HC109A (3340)			Motorola	MC74HC139	(2945)	M74HC161	GE/RCA	CD74HC161 (2640)	
	GE/RCA	CD74HCT640 (2641)		M74HC11	GE/RCA	CD74HC11 (2640)			National	MM74HC139			Hitachi	HD74HC161	
	Hitachi	HD74HCT640			Hitachi	HD74HC11			Signetics TI	74HC139 (3057)			Motorola	MC74HC161	(2942)
	Motorola	MC74HCT640			Motorola	MC74HC11 (2937)			Hitachi	HD74HC139			National	MM74HC161	
	National	MM74HCT640			National	MM74HC11			Motorola	MC74HC139	(2945)		Signetics TI	74HC161 (3057)	
	Signetics	74HCT640 (3057)			Signetics	74HC11 (3057)			Toshiba	TC74HC139A (3340)			Toshiba	TC74HC161A (3340)	
M74HCT643	Toshiba	TC74HCT640A			TI	SN74HC11		M74HC14	GE/RCA	CD74HC14 (2640)	(2640)				
	GE/RCA	CD74HCT643 (2641)			Toshiba	TC74HC11A (3340)			Hitachi	HD74HC14		M74HC162	GE/RCA	CD74HC162 (2640)	
	Motorola	MC74HCT643			GE/RCA	CD74HC112 (2640)			National	MM74HC14			Hitachi	HD74HC162	
	Signetics	74HCT643 (3057)		M74HC112	Hitachi	HD74HC112			Signetics TI	74HC14 (3057)			Motorola	MC74HC162	(2942)
	TI	SN74HCT643A			Motorola	MC74HC112 (2941)			Toshiba	TC74HC14A (3340)			National	MM74HC162	
M74HCT646	GE/RCA	CD74HCT646 (2641)			National	MM74HC112		M74HC147	GE/RCA	CD74HC147 (2640)	(2640)		Signetics TI	74HC162 (3057)	
	Signetics	74HCT646 (3057)			Signetics	74HC112 (3057)			Hitachi	HD74HC147			Toshiba	TC74HC162A (3340)	
	TI	SN74HCT646A			TI	SN74HC112			Motorola	MC74HC147		M74HC163	GE/RCA	CD74HC163 (2640)	
M74HCT648	GE/RCA	CD74HCT648 (2641)			Toshiba	TC74HC112 (3340)			National	MM74HC147			Hitachi	HD74HC163	
	Signetics	74HCT648 (3057)		M74HC113	Hitachi	HD74HC113			Signetics TI	74HC147 (3057)			Motorola	MC74HC163	(2942)
	TI	SN74HCT648			Motorola	MC74HC113 (2941)			Hitachi	HD74HC147			National	MM74HC163	
	Toshiba	TC74HCT648A			National	MM74HC113			Motorola	MC74HC147			Signetics TI	74HC163 (3057)	
M74HCT651	GE/RCA	CD74HCT651			Signetics	74HC113			TI	SN74HC147			Toshiba	TC74HC163A (3340)	
M74HCT652	GE/RCA	CD74HCT652			TI	SN74HC113		M74HC148	Hitachi	HD74HC148			National	MM74HC163	
M74HC004	GE/RCA	CD74HC004 (2642, 2649)			Toshiba	TC74HC113 (3340)			TI	SN74HC148			Signetics TI	74HC163 (3057)	
	Motorola	MC74HC004 (2939)		M74HC123	GE/RCA	CD74HC123 (2640)			Toshiba	TC74HC148 (3340)			Toshiba	TC74HC163A (3340)	
	National	MM74HC004			Hitachi	HD74HC123		M74HC151	Hitachi	HD74HC151					
	Signetics	74HC004			Motorola	MC74HC123A			Motorola	MC74HC151 (2944)		M74HC164	GE/RCA	CD74HC164 (2640)	
	TI	SN74HC004			National	MM74HC123			National	MM74HC151			Hitachi	HD74HC164	
	Toshiba	TC74HC004A			Signetics TI	74HC123 (3057)			Signetics TI	74HC151 (3057)			Motorola	MC74HC164 (2943)	
M74HC00	GE/RCA	CD74HC00 (2639, 2653)			Toshiba	TC74HC123 (3340)			TI	SN74HC151			National	MM74HC164	
	Hitachi	HD74HC00		M74HC125	GE/RCA	CD74HC125 (2640)			Toshiba	TC74HC151A (3340)			Signetics TI	74HC164 (3057)	
	Motorola	MC74HC00 (2937)			Hitachi	HD74HC125		M74HC153	Universal	US74HC151 (2640)			Toshiba	TC74HC164A (3340)	
	National	MM74HC00			Motorola	MC74HC125 (2939)			GE/RCA	CD74HC153 (2640)		M74HC165	GE/RCA	CD74HC165 (2640)	
	Signetics	74HC00 (3057)			National	MM74HC125			Hitachi	HD74HC153			Hitachi	HD74HC165	
	TI	SN74HC00			Signetics	74HC125 (3057)			Motorola	MC74HC153 (2944)			Motorola	MC74HC165 (2943)	
	Toshiba	TC74HC00A (3340)			TI	SN74HC125			National	MM74HC153			National	MM74HC165	
M74HC02	GE/RCA	CD74HC02 (2639)			Toshiba	TC74HC125A (3340)			Signetics TI	74HC153 (3057)			Signetics TI	74HC165 (3057)	
	Hitachi	HD74HC02		M74HC126	GE/RCA	CD74HC126 (2640)			Toshiba	TC74HC153 (3340)			Toshiba	TC74HC165A (3340)	
	Motorola	MC74HC02 (2938)			National	MM74HC126		M74HC154	Hitachi	HD74HC154					
	National	MM74HC02			Signetics	74HC126 (3057)			Motorola	MC74HC154 (2945)		M74HC166	GE/RCA	CD74HC166 (2640)	
	Signetics	74HC02 (3057)			TI	SN74HC126			National	MM74HC154			Motorola	MC74HC166	
	TI	SN74HC02			Toshiba	TC74HC126A (3340)			Signetics TI	74HC154 (3057)			National	MM74HC166	
	Toshiba	TC74HC02A (3340)			Motorola	MC74HC126 (2939)			TI	SN74HC154			Signetics TI	74HC166 (3057)	
M74HC03	GE/RCA	CD74HC03 (2639)			National	MM74HC126			Toshiba	TC74HC154A (3340)			TI	SN74HC166	
	Motorola	MC74HC03 (2937)			Signetics	74HC126 (3057)							Toshiba	TC74HC166A (3340)	
	National	MM74HC03			TI	SN74HC126									
	Signetics	74HC03 (3057)			Toshiba	TC74HC126A (3340)									
	TI	SN74HC03			Motorola	MC74HC131 (2640)		M74HC155	Motorola	MC74HC155					
	Toshiba	TC74HC03A (3340)			Hitachi	HD74HC131			National	MM74HC155					
M74HC04	GE/RCA	CD74HC04 (2639)		M74HC131	Motorola	MC74HC131 (2640)			Signetics TI	74HC155 (3057)			Motorola	MC74HC166	
	Hitachi	HD74HC04		M74HC132	GE/RCA	CD74HC132 (2640)			TI	SN74HC155			National	MM74HC166	
	Motorola	MC74HC04 (2939)			Hitachi	HD74HC132			Toshiba	TC74HC155 (3340)			Signetics TI	74HC166 (3057)	
	National	MM74HC04			Motorola	MC74HC132 (2937, 2940)							TI	SN74HC166	
	Signetics	74HC04 (3057)			National	MM74HC132							Toshiba	TC74HC166A (3340)	
	TI	SN74HC04			Signetics	74HC132 (3057)									
	Toshiba	TC74HC04A (3340)			TI	SN74HC132									
M74HC08	GE/RCA	CD74HC08 (2639)			Toshiba	TC74HC132A (3340)									
	Hitachi	HD74HC08			Motorola	MC74HC133 (2937)		M74HC157	GE/RCA	CD74HC157 (2640, 2653)	(2640, 2653)				
	Motorola	MC74HC08 (2937)			National	MM74HC133			Hitachi	HD74HC157					
	National	MM74HC08			Signetics	74HC133 (3057)			Motorola	MC74HC157 (2944)					
	Signetics	74HC08 (3057)			TI	SN74HC133			National	MM74HC157					
	TI	SN74HC08			Toshiba	TC74HC133A (3340)			Signetics	74HC157 (3057)	(Continued)				
	Toshiba	TC74HC08A (3340)													
M74HC10	GE/RCA	CD74HC10 (2640)													
	Hitachi	HD74HC10													
	Motorola	MC74HC10 (2937)													
	National	MM74HC10													
		(Continued)													

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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
SGS-THOMSON (Cont'd)				M74HC21	(Cont'd)			M74HC251	(Cont'd)			M74HC299	(Cont'd)		
M74HC174	National Signetics TI Toshiba	MM74HC174 74HC174 SN74HC174 TC74HC174A	(3057) (3057) (3057) (3440)	M74HC221	Signetics TI Toshiba GE/RCA	74HC221 SN74HC221 TC74HC221A CD74HC221	(3057) (3340) (2640) (2640)	M74HC253	Motorola National Signetics TI Toshiba	MC74HC251 MM74HC251 74HC251 SN74HC251 TC74HC251A	(2944) (3057) (3057) (3340) (3340)	M74HC30	GE/RCA Hitachi Motorola	CD74HC299 HD74HC299 MC74HC299	(2640) (2944) (2944)
M74HC175	GE/RCA Hitachi Motorola	CD74HC175 HD74HC175 MC74HC175	(2640) (2640) (2942)	M74HC237	Hitachi Motorola National Signetics TI Toshiba GE/RCA	HD74HC221 MC74HC221A MM74HC221 MM74HC221A 74HC221 SN74HC221 TC74HC221 CD74HC237	(3057) (3057) (3340) (2640) (2640) (2640) (2945)	M74HC257	Hitachi Motorola National Signetics TI Toshiba	HD74HC253 MC74HC253 MM74HC253 74HC253 SN74HC253 TC74HC253A	(2640) (2944) (3057) (3057) (3340) (3340)	M74HC32	GE/RCA Hitachi Motorola National Signetics TI	CD74HC30 HD74HC30 MC74HC30 MM74HC30 74HC30 SN74HC30	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC181	GE/RCA Motorola National Signetics TI Toshiba	CD74HC181 MC74HC181 MM74HC181 74HC181 SN74HC181 TC74HC181	(2640) (3057) (3057) (3340) (3340) (3340)	M74HC238	Motorola National Signetics TI Toshiba	MC74HC237 SN74HC237 TC74HC237A	(2640) (3340) (3340)	M74HC257	Hitachi Motorola National Signetics TI Toshiba	HD74HC257 MC74HC257 MM74HC257 74HC257 SN74HC257 TC74HC257A	(2640, 2653) (2944) (3057) (3057) (3340) (3340)	M74HC32	GE/RCA Hitachi Motorola National Signetics TI	CD74HC32 HD74HC32 MC74HC32 MM74HC32 74HC32 SN74HC32	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC182	GE/RCA Motorola National Signetics TI Toshiba	CD74HC182 MC74HC182 MM74HC182 74HC182 SN74HC182 TC74HC182	(2640) (3057) (3057) (3340) (3340) (3340)	M74HC240	GE/RCA Hitachi Motorola	CD74HC182 HD74HC182 MC74HC182	(2640) (2640) (2939)	M74HC257	Hitachi Motorola National Signetics TI Toshiba	HD74HC257 MC74HC257 MM74HC257 74HC257 SN74HC257 TC74HC257A	(2640, 2653) (2944) (3057) (3057) (3340) (3340)	M74HC323	GE/RCA Hitachi Motorola National Signetics TI	CD74HC32 HD74HC32 MC74HC32 MM74HC32 74HC32 SN74HC32	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC190	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC190 HD74HC190 MC74HC190 MM74HC190 74HC190 SN74HC190 TC74HC190	(2640) (3057) (3057) (3340) (3340) (3340) (3340)	M74HC241	GE/RCA Hitachi Motorola	CD74HC190 HD74HC190 MC74HC190	(2640) (2939) (2939)	M74HC258	Hitachi Motorola National Signetics TI Toshiba	HD74HC258 MC74HC258 MM74HC258 74HC258 SN74HC258 TC74HC258A	(2640) (2944) (3057) (3057) (3340) (3340)	M74HC354	GE/RCA Hitachi Motorola	CD74HC323 HD74HC323 MC74HC323 MM74HC323 74HC323 SN74HC323	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC191	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC191 HD74HC191 MC74HC191 MM74HC191 74HC191 SN74HC191 TC74HC191	(2640) (3057) (3057) (3340) (3340) (3340) (3340)	M74HC242	GE/RCA Hitachi Motorola	CD74HC191 HD74HC191 MC74HC191	(2640) (2939) (2939)	M74HC266	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC191 HD74HC191 MC74HC191	(2640) (2939) (2939)	M74HC354	GE/RCA Hitachi Motorola	CD74HC323 HD74HC323 MC74HC323 MM74HC323 74HC323 SN74HC323	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC192	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC192 HD74HC192 MC74HC192 MM74HC192 74HC192 SN74HC192 TC74HC192A	(2640) (3057) (3057) (3340) (3340) (3340) (3340)	M74HC243	GE/RCA Hitachi Motorola	CD74HC192 HD74HC192 MC74HC192	(2640) (2939) (2939)	M74HC27	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC192 HD74HC192 MC74HC192	(2640) (2939) (2939)	M74HC356	GE/RCA Hitachi Motorola	CD74HC323 HD74HC323 MC74HC323 MM74HC323 74HC323 SN74HC323	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC193	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC193 HD74HC193 MC74HC193 MM74HC193 74HC193 SN74HC193 TC74HC193A	(2640) (3057) (3057) (3340) (3340) (3340) (3340)	M74HC244	GE/RCA Hitachi Motorola	CD74HC193 HD74HC193 MC74HC193	(2640) (2939) (2939)	M74HC273	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC193 HD74HC193 MC74HC193	(2640) (2939) (2939)	M74HC365	GE/RCA Hitachi Motorola	CD74HC323 HD74HC323 MC74HC323 MM74HC323 74HC323 SN74HC323	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC194	GE/RCA Hitachi Motorola	CD74HC194 HD74HC194 MC74HC194	(2640) (2944) (2944)	M74HC245	GE/RCA Hitachi Motorola	CD74HC194 HD74HC194 MC74HC194	(2640) (2939) (2939)	M74HC280	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC194 HD74HC194 MC74HC194	(2640) (2939) (2939)	M74HC366	GE/RCA Hitachi Motorola	CD74HC323 HD74HC323 MC74HC323 MM74HC323 74HC323 SN74HC323	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC195	GE/RCA Hitachi Motorola	CD74HC195 HD74HC195 MC74HC195	(2640) (2944) (2944)	M74HC251	GE/RCA Hitachi	CD74HC195 HD74HC195	(2640) (2944)	M74HC283	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC195 HD74HC195 MC74HC195	(2640) (2944) (2944)	M74HC367	GE/RCA Hitachi Motorola	CD74HC323 HD74HC323 MC74HC323 MM74HC323 74HC323 SN74HC323	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC20	GE/RCA Hitachi Motorola National Signetics TI Toshiba	CD74HC20 HD74HC20 MC74HC20 MM74HC20 74HC20 SN74HC20 TC74HC20A	(2640) (2937) (2937) (3057) (3057) (3340) (3340)	M74HC251	GE/RCA Hitachi	CD74HC20 HD74HC20	(2640) (2944)	M74HC292	Motorola National Signetics TI Toshiba	CD74HC20 HD74HC20 MC74HC20	(2640) (2937) (2937)	M74HC373	GE/RCA Hitachi Motorola	CD74HC323 HD74HC323 MC74HC323 MM74HC323 74HC323 SN74HC323	(2640) (2937) (2937) (3057) (3057) (3057)
M74HC21	GE/RCA Hitachi Motorola	CD74HC21 HD74HC21 MC74HC21	(2640) (2944) (2944)	M74HC251	GE/RCA Hitachi	CD74HC21 HD74HC21	(2640) (2944)	M74HC294	Motorola National Signetics TI Toshiba	CD74HC21 HD74HC21 MC74HC21	(2640) (2944) (2944)	M74HC373	GE/RCA Hitachi Motorola	CD74HC323 HD74HC323 MC74HC323 MM74HC323 74HC323 SN74HC323	(2640) (2937) (2937) (3057) (3057) (3057)

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
SGS-THOMSON (Cont'd)				M74HC4024	GE/RCA	CD74HC4024 (2641)		M74HC4075	(Cont'd)			M74HC4543	(Cont'd)			
M74HC373	Signetics Supertex TI Toshiba	74HC373 74HC373 SN74HC373 TC74HC373A	(3057) (3340) (2653)	Hitachi Motorola	HD74HC4024 MC74HC4024	(2943)		Sharp Signetics STC TI	LH5167 74HC4075 STC2167 SMJ61CD16			IDT MicronTech Motorola	IDT71682 IDT71782 MT5C1607 MC74HC4543			
M74HC374	GE/RCA	CD74HC374	(2641, 2653)	National Signetics TI Toshiba	MM74HC4024 74HC4024 SN74HC4024 TC74HC4024	(3057) (3340)		Toshiba	SN74HC4075 TC74HC4075A			National Performance Saratoga Signetics Toshiba	MM74HC4543 P4C1682 SSM6172 74HC4543 TC74HC4543A	(2946) (3340)		
	Hitachi Motorola	HD74HC374 MC74HC374	(2942)	M74HC4028 M74HC4040	Motorola GE/RCA	MC74HC4028 CD74HC4040	(2641)	M74HC4078	Motorola	MC74HC4078	(2938)		VLSI Tech	VT20C72	(3343, 3345, 3351)	
	National Signetics TI Toshiba	MM74HC374 74HC374 SN74HC374 TC74HC374A	(3057) (3340)	Hitachi Motorola	HD74HC4040 MC74HC4040	(2943)		National TI Toshiba	MM74HC4078 SN74HC4078A TC74HC4078			M74HC533	GE/RCA	CD74HC533	(2641)	
M74HC375	Hitachi TI Toshiba	HD74HC375 SN74HC375 TC74HC375A	(3340)	National Signetics TI Toshiba	MM74HC4040 74HC4040 SN74HC4040 TC74HC4040	(3057) (3340)		M74HC4094	Cypress GE/RCA	CY7C186 CD74HC4094	(2580) (2641)		Hitachi Motorola	HD74HC533 MC74HC533	(2941)	
M74HC377	GE/RCA	CD74HC377	(2641)	M74HC4049	GE/RCA	CD74HC4049	(2641)		MicronTech Mitsubishi Mosel Motorola Performance	MT5C6408 M5M5178 MS6264 MCM61L64 P4C164			National Signetics TI Toshiba	MM74HC533 74HC533 SN74HC533 TC74HC533A	(3057) (3340)	
	Hitachi Motorola Signetics TI Toshiba	HD74HC377 MC74HC377 74HC377 SN74HC377 TC74HC377	(3057) (3340)		Motorola	MC74HC4049	(2939)		Motorola Signetics TI Toshiba	MCM61L64 P4C164 74HC4094 SMJ68CE64 TC5585 TC5588 TC74HC4094A		M74HC534	GE/RCA	CD74HC534	(2641)	
M74HC386	Motorola TI Toshiba	MC74HC386 SN74HC386 TC74HC386A	(3340)	M74HC4050	GE/RCA	CD74HC4050	(2641)						Hitachi Motorola	HD74HC534 MC74HC534	(2942)	
M74HC390	GE/RCA	CD74HC390	(2641)		Motorola	MC74HC4050	(2939)	M74HC4102	VLSI Tech	VT20C98			National Signetics TI Toshiba	MM74HC534 74HC534 SN74HC534 TC74HC534A	(3057) (3340)	
	Hitachi Motorola	HD74HC390 MC74HC390	(2942)		National Signetics TI Toshiba	MC84HC4050 MM74HC4050 74HC4050 TC74HC4050	(3057) (3340)	M74HC4103	Motorola	MC74HC4103						
	National Signetics TI Toshiba	MM74HC390 74HC390 SN74HC390 TC74HC390A	(3057) (3340)	M74HC4051	GE/RCA	CD74HC4051	(2641, 2655)		Hitachi Motorola National Signetics TI Toshiba	HD74HC42 MM74HC42 74HC42 SN74HC42 TC74HC42A	(2945) (3057) (3340)		National Signetics TI Toshiba	MM74HC540 74HC540 SN74HC540 TC74HC540A	(2940) (3057) (3340)	
M74HC393	GE/RCA	CD74HC393	(2641)		Motorola	MC74HC4051	(2945)	M74HC423	GE/RCA	CD74HC423						
	Hitachi Motorola	HD74HC393 MC74HC393	(2942)		National Signetics TI Toshiba	MM74HC4051 74HC4051 SN74HC4051 TC74HC4051A	(3057) (3340)	M74HC4511	Motorola	MC74HC4511	(2641)		M74HC541	GE/RCA	CD74HC541	(2641)
	National Signetics TI Toshiba	MM74HC393 74HC393 SN74HC393 TC74HC393A	(3057) (3340)	M74HC4052	GE/RCA	CD74HC4052	(2641, 2655)		National Signetics TI Toshiba	MM74HC4511 74HC4511 SN74HC4511 TC74HC4511	(2946) (3057) (3340)		Hitachi Motorola	HD74HC541 MC74HC541	(2940)	
M74HC4002	GE/RCA	CD74HC4002	(2641)		Motorola	MC74HC4052	(2945)						National Signetics TI Toshiba	MM74HC541 74HC541 SN74HC541 TC74HC541A	(3057) (3340)	
	Motorola	MC74HC4002	(2938)		National Signetics TI Toshiba	MM74HC4052 74HC4052 SN74HC4052 TC74HC4052A	(3057) (3340)	M74HC4514	GE/RCA	CD74HC4514	(2641)		M74HC563	GE/RCA	CD74HC563	(2641)
	National Signetics TI Toshiba	MM74HC4002 74HC4002 SN74HC4002 TC74HC4002A	(3057) (3340)	M74HC4053	GE/RCA	CD74HC4053	(2641, 2655)		Hitachi Motorola	HD74HC4514 MC74HC4514	(2945)			Hitachi Motorola	HD74HC563 MC74HC563	(2942)
M74HC4010	Motorola	MC74HC4010	(2642)		Motorola	MC74HC4053	(2945)		National Signetics TI Toshiba	MM74HC4514 74HC4514 SN74HC4514 TC74HC4514A	(3057) (3340)			National Signetics TI Toshiba	MM74HC563 74HC563 SN74HC563 TC74HC563A	(3057) (3340)
M74HC40102	GE/RCA	CD74HC40102	(2642)		National Signetics TI Toshiba	MM74HC4053 74HC4053 SN74HC4053 TC74HC4053A	(3057) (3340)	M74HC4518	Cypress	CY7C171 CD74HC4518	(2580) (2641)		M74HC564	GE/RCA	CD74HC564	(2641)
	Signetics Toshiba	74HC40102 TC74HC40102	(3057) (3340)		Motorola	MC74HC4060	(2641)		GE/RCA	CD74HC4518	(2641)			Hitachi Motorola	HD74HC564 MC74HC564	(2942)
M74HC40103	GE/RCA	CD74HC40103	(2642)		Motorola	MC74HC4060	(2943)		IDT	IDT71681 IDT71781				National Signetics TI Toshiba	MM74HC564 74HC564 SN74HC564 TC74HC564A	(3057) (3340)
	Signetics Toshiba	74HC40103 TC74HC40103	(3057) (3340)		National Signetics TI Toshiba	MM74HC4060 74HC4060 SN74HC4060 TC74HC4060A	(3057) (3340)		MicronTech Motorola Performance Saratoga Signetics Toshiba	MT5C1606 MC74HC4518 P4C1681 SSM6171 74HC4518 TC74HC4518			M74HC573	GE/RCA	CD74HC573	(2641)
M74HC4017	GE/RCA	CD74HC4017	(2641)		Motorola	MC74HC4066	(2641)		VLSI Tech	VT20C71	(3343, 3345, 3351)			Hitachi Motorola	HD74HC573 MC74HC573	(2941)
	Motorola	MC74HC4017	(2943)		Motorola	MC74HC4066	(2945)							National Signetics TI Toshiba	MM74HC573 74HC573 SN74HC573 TC74HC573A	(3057) (3340)
	National Signetics TI Toshiba	MM74HC4017 74HC4017 SN74HC4017 TC74HC4017	(3057) (3340)		National Signetics TI Toshiba	MM74HC4066 74HC4066 SN74HC4066 TC74HC4066A	(3057) (3340)	M74HC4520	GE/RCA	CD74HC4520	(2641)		M74HC574	GE/RCA	CD74HC574	(2641)
M74HC4020	GE/RCA	CD74HC4020	(2641)		Motorola	MC74HC4072			Motorola	MC74HC4520				Hitachi Motorola	HD74HC574 MC74HC574	(2942)
	Hitachi Motorola	HD74HC4020 MC74HC4020	(2943)	M74HC4072 M74HC4075	Motorola Cypress GE/RCA	MC74HC4072 CY7C167 CDM5167 CD74HC4075	(2580) (2641)	M74HC4538	GE/RCA	CD74HC4538	(2641)			National Signetics TI Toshiba	MM74HC574 74HC574 SN74HC574 TC74HC574A	(3057) (3340)
	National Signetics TI Toshiba	MM74HC4020 74HC4020 SN74HC4020 TC74HC4020	(3057) (3340)		Inmos Matra-Harris Motorola	IMS1400 HM65263 MC74HC4075	(2937)		Motorola National Signetics TI Toshiba	MC74HC4538 MM74HC4538 74HC4538 SN74HC4538 TC74HC4538A	(3057) (3340)			National Signetics TI Toshiba	MM74HC574 74HC574 SN74HC574 TC74HC574A	(3057) (3340)
M74HC4022	Toshiba	TC74HC4022	(3340)		National Panasonic	MM74HC4075 MN74HC4075	(Continued)		Cypress	CY7C172 CD74HC4543	(2580) (2641, 2653)		M74HC590	Hitachi Motorola	HD74HC590 MC74HC590	(Continued)

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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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SGS-THOMSON (Cont'd)				M74HC670	GE/RCA	CD74HC670 (2641)		M9346	Microchip National	ER5911 COP495	(Cont'd)	SFC2709	National	LM1709	(Cont'd)
M74HC590		(Cont'd)		Signetics	74HC670 (3057)							SFC2709	NEC	LM1709	
	National	MM74HC590		Ti	SN74HC670								PMI	μPC55	
M74HC595	Toshiba	TC74HC590 (3340)		GE/RCA	CD74HC688 (2641, 2649)			NCR	NCR59308				TI	μA709	
	Cypress	CY7C164 (2580)		Motorola	MC74HC688 (2946)			SGS-Thomson	NCR59346			SFC2723	Fujitsu	MB3752	
	Hitachi	HD74HC595												MB723	
	Inmos	IMS1620 (2794)		National	MM74HC688								GE/Intersil	LM723	
	MicronTech	MT5C6404		Signetics	74HC688 (3057)			Sierra	SC22011				GE/RCA	CA723 (2651, 2657, 2659)	
	Motorola	MC74HC595 (2944)		TI	SN74HC688			Exar	XR5555 (2619)						
				Toshiba	TC74HC688A (3340)			GE/Intersil	NE555						
	National	MM74HC595							SE555						
	Performance	P4C188		M74HC690	TI	SN74HC690		NE555	SE555				Hitachi	HA17723	
	TI	SMJ64C64		Toshiba	TC74HC690 (3340)				CA555 (2656)				Motorola	MC1723 (2962, 2989)	
		SN74HC595		TI	SN74HC691			GoldStar	GLC555 (2713)						
	Toshiba	TC74HC595A (3340)		Toshiba	TC74HC691 (3340)				GL555 (2713)				National	μA723	
	Vitellic	V61C62		TI	SN74HC692			Hitachi	HA17555					μA723M	
M74HC597	VLSI Tech	CT64KS4		Toshiba	TC74HC692 (3340)			Mitsubishi	M5E555					LM723	
	GE/RCA	CD74HC597 (2641)		TI	SN74HC693				M51841				Raytheon	RC723	
	Hitachi	HD74HC597		Toshiba	TC74HC693 (3340)				M51848					RM723	
	Motorola	MC74HC597 (2944)		TI	SN74HC696			Motorola	MC1455 (2989)				Samsung	LM723 (3039)	
				Toshiba	TC74HC696 (3340)			National	μA555				SGS-Thomson		
	National	MM74HC597		TI	SN74HC697				LM555					μA723	
	Signetics	74HC597 (3057)		Toshiba	TC74HC697 (3340)			NEC	μPC1555					LM723	
	TI	SN74HC597		Toshiba	TC74HC698 (3340)				μPC617					LI23	
	Toshiba	TC74HC597A (3340)		TI	SN74HC699				μPD555				Signetics	μA723	
				Toshiba	TC74HC699 (3340)			Raytheon	RC555				SiliconG	SG723	
M74HC620	Hitachi	HD74HC620		GE/RCA	CD74HC7266 (2642)				RM555				TI	μA723	
	Motorola	MC74HC620		Motorola	MC74HC7266 (2938)			Samsung	NE555 (3039)			SFC2812	Motorola	MC78L12 (2960, 2990)	
	National	MM74HC620						Sanyo	LB8555						
	TI	SN74HC620		National	MM74HC7266			Signetics	NE555				National	μA78L12	
	Toshiba	TC74HC620 (3340)		TI	SN74HC7266				SE555					μA78L12A	
M74HC623	Hitachi	HD74HC623		Toshiba	TC74HC7266A (3340)				SE555					LM340LA-12	
	Motorola	MC74HC623						TI	SE555M			SFC2812	NEC	LM78L12	
	National	MM74HC623		M74HC7292	Toshiba	TC74HC7292 (3340)			TLC555 (3325)				TI	μPC78L12	
	TI	SN74HC623		M74HC7294	National	MM74HC7294		NE556	TA7555				Toshiba	TA78L012	
	Toshiba	TC74HC623 (3340)		Toshiba	TC74HC7294 (3340)			Samsung	M5E556				National	LM103-1.8	
M74HC640	GE/RCA	CD74HC640 (2641)		M74HC73	GE/RCA	CD74HC73 (2640)			NE556			SG103-1.8	TeledyneS	TSC103-1.8	
	Hitachi	HD74HC640		Hitachi	HD74HC73			TI	NE556				Cherry Semi	CS1524	
	Motorola	MC74HC640 (2940)		Motorola	MC74HC73 (2941)			Samsung	KA2413				Exar	XR1524 (2619)	
				National	MM74HC73			Ericsson	PBL3717				IPS	IP1524	
	National	MM74HC640		Signetics	74HC73 (3057)			SGS-Thomson					LinearTech	IP1524B	
	TI	SN74HC640		TI	SN74HC73				TA3717					SG1524	
	Toshiba	TC74HC640 (3340)		Toshiba	TC74HC73A (3340)			Unitrode	UC3717					SG1524	
				GE/RCA	CD74HC74 (2640)			GE/RCA	CA3018 (2650)				National	μA1524	
M74HC643	GE/RCA	CD74HC643 (2641)		Hitachi	HD74HC74			National	LM3018					LM1524	
	Hitachi	HD74HC643		Motorola	MC74HC74 (2941)			SFC2046	CA3046 (2650)				SGS-Thomson	SG1524A	
	Motorola	MC74HC643		National	MM74HC74				CA3146 (2650)					SG1524A	
	National	MM74HC643		Signetics	74HC74 (3057)			Motorola	MC3346 (2951, 2990)				SiliconG	UC1524A	
	Signetics	74HC643 (3057)		TI	SN74HC74				μA3046					SG1524B	
	TI	SN74HC643		Toshiba	TC74HC74A (3340)			National	μA3086				Unitrode	UC1524	
	Toshiba	TC74HC643A (3340)		GE/RCA	CD74HC75 (2640)				LM3046				UC1524A		
M74HC646	GE/RCA	CD74HC646 (2641)		Hitachi	HD74HC75			Plessey	SL3046			SG1524A	Cherry Semi	CS1524	
	Hitachi	HD74HC646		Motorola	MC74HC75 (2941)				SL3086				Exar	XR1524 (2619)	
	Motorola	MC74HC646 (2940)		National	MM74HC75				SL3146				IPS	IP1524	
				Signetics	74HC75 (3057)			Sanyo	LA3046				LinearTech	IP1524B	
	TI	SN74HC646		TI	SN74HC75			SGS-Thomson						LT1524	
	Toshiba	TC74HC646A (3340)		Toshiba	TC74HC75A (3340)				CA3046					SG1524	
M74HC648	GE/RCA	CD74HC648 (2641)		GE/RCA	CD74HC76				LM3046				National	μA1524	
	Hitachi	HD74HC648		Hitachi	HD74HC76				TBA331					LM1524	
	Motorola	MC74HC648 (2940)		Motorola	MC74HC76 (2941)			SiliconG	SG3046				SGS-Thomson	SG1524	
				National	MM74HC76				SG3146					UC1524A	
	National	MM74HC646		TI	SN74HC76				SG3821					SG1524	
	Signetics	74HC646 (3057)		Toshiba	TC74HC76A (3340)			Sprague	ULN2046				SiliconG	SG1524	
	TI	SN74HC646		Hitachi	HD74HC77			GE/RCA	CA3054 (2649, 2655)				Unitrode	UC1524B	
	Toshiba	TC74HC646A (3340)		National	MM74HC77				HC3054					SG1524B	
M74HC651	GE/RCA	CD74HC651 (3340)		TI	SN74HC77			Matra-Harris	CA3054 (2951)			SG1527	Cherry Semi	CS1527A	
	Hitachi	HD74HC651		Toshiba	TC74HC77A (3340)			Motorola	CA3054				IPS	IP1527A	
	Motorola	MC74HC651		GE/RCA	CD74HC85 (2640)			National	μA3054				LinearTech	LT1527	
	TI	SN74HC651		Motorola	MC74HC85 (2946)				LM3054					LM1527A	
	Toshiba	TC74HC651A (3340)		National	MM74HC85			Sprague	TP3054					SG1527	
M74HC652	GE/RCA	CD74HC652 (3340)		Signetics	74HC85 (3057)				ULN2054				Motorola	SG1527A (2964)	
	Hitachi	HD74HC652		TI	SN74HC85				ULN3054				SGS-Thomson		
	Motorola	MC74HC652		Toshiba	TC74HC85A (3340)				CA3086 (2650)					SG1527A	
	TI	SN74HC652		GE/RCA	CD74HC86 (2640)			National	LM3086					SG1527A	
	Toshiba	TC74HC652A (3340)		Hitachi	HD74HC86			Sanyo	LA3086				TI	TL1527	
				Motorola	MC74HC86 (2938)			SiliconG	SG3086				Unitrode	UC1527	
				National	MM74HC86				SG3886					UC1527A	
				Signetics	74HC86 (3057)				ULN2086					SG1527A	
				TI	SN74HC86			SFC2109	IP140-5					SG1527A	
				Toshiba	TC74HC86 (3340)				LM109				Cherry Semi	CS1527A	
				NCR	NCR59306			Motorola	μA109				IPS	IP1527A	
				Catalyst	CAT93C46			National	LM109				LinearTech	LT1527	
				EXEL	XLS93C46			SGS-Thomson	LM109					LT1527A	
				Gould/AMI	S93C46				SG109				Motorola	SG1527A (2964)	
				Hyundai	HY93C46 (2778)				MC1709 (2952)				SGS-Thomson		
				ICT	93C46 (2876)				μA709						
					93C46C (2876)										

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SGS-THOMSON (Cont'd)				T54LS151	Motorola National	SN54LS151 (2944) DM54LS151 54LS151		T54LS181	Motorola National Signetics TI	SN54LS181 (2947) 54LS181 54LS181 SN54LS181		T54LS27	Motorola National	SN54LS27 (2938) DM54LS27 54LS27 SN54LS27	
T54LS03	TI	SN54LS03	(Cont'd)		Signetics TI	SN54LS151		T54LS190	Motorola National Signetics TI	SN54LS190 (2942) DM54LS190 54LS190 SN54LS190		T54LS273	Motorola National Signetics TI	SN54LS273 (2942) 54LS273 54LS273 SN54LS273	
T54LS04	Motorola National	SN54LS04 (2939) DM54LS04 54LS04		T54LS152	Cypress Hitachi	CY7C166 (2580) HM6789 HM6789P		T54LS191	Motorola National Signetics TI	SN54LS191 (2942) DM54LS191 54LS191 SN54LS191		T54LS279	Motorola National	SN54LS279 (2941) DM54LS279 54LS279 SN54LS279	
T54LS05	Motorola National	SN54LS05 (2939) DM54LS05 54LS05			Inmos IDT	IMS1624 (2795) IDT6198 MT5C6405 M5M5189 M5M5189AP		T54LS192	Motorola National	SN54LS192 (2942) DM54LS192 54LS192 54LS192		T54LS28	Motorola National Signetics TI	SN54LS28 (2938) 54LS28 54LS28 SN54LS28	
T54LS08	Motorola National	SN54LS08 (2937) DM54LS08 54LS08			Motorola National NEC	MCM6290 54LS152 μPD4363		T54LS193	Motorola National	SN54LS193 (2942) DM54LS193 54LS193 54LS193		T54LS280	Motorola TI	SN54LS280 (2947) SN54LS280	
T54LS09	Motorola National	SN54LS09 (2937) DM54LS09 54LS09			Sony Saratoga	SSM7166 CKS465P			Signetics TI	SN54LS192		T54LS283	Motorola National	SN54LS283 (2947) DM54LS283 54LS283	
T54LS10	Motorola National	SN54LS10 (2937) DM54LS10 54LS10		T54LS153	Motorola National	TOSHIBA (3335) V61C62 VT65KS4 SN54LS153 DM54LS153 54LS153		T54LS194	Motorola	SN54LS194A (2944) 54LS194A SN54LS194A			Signetics TI	SN54LS283	
	SGS-Thomson	54LS109			Signetics TI	SN54LS153			National Signetics TI	SN54LS194A		T54LS290	Motorola National Signetics TI	SN54LS290 (2942) DM54LS290 54LS290 SN54LS290	
T54LS109	Motorola National	SN54LS109 (2941) DM54LS109 54LS109		T54LS155	Motorola National	SN54LS155 (2945) DM54LS155 54LS155		T54LS195	Motorola	SN54LS195A (2944) 54LS195A 54LS195A		T54LS293	Motorola National Signetics TI	SN54LS293 (2942) DM54LS293 54LS293 SN54LS293	
	SGS-Thomson	54LS109		T54LS156	Motorola National	SN54LS156 (2945) DM54LS156 54LS156		T54LS196	Motorola National	SN54LS196 (2942) DM54LS196 54LS196		T54LS295	Motorola National	SN54LS295A (2942) DM54LS295A 54LS295A	
T54LS11	Motorola National	SN54LS11 (2937) DM54LS11 54LS11		T54LS157	Motorola National	SN54LS157 (2944) DM54LS157 54LS157		T54LS197	Motorola National Signetics TI	SN54LS197 (2942) DM54LS197 54LS197 SN54LS197		T54LS298	Motorola National	SN54LS298 (2944) DM54LS298 54LS298	
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T54LS113	National	54LS113			Signetics TI	SN54LS158			Signetics TI	SN54LS20			Signetics TI	54LS298	
T54LS114	National	54LS114			Signetics TI	SN54LS158		T54LS21	Motorola National	SN54LS21 (2937) DM54LS21 54LS21		T54LS30	Motorola National	SN54LS30 (2937) DM54LS30 54LS30	
T54LS125	Motorola	SN54LS125 (2939) SN54LS125A (2939)		T54LS160	Motorola	SN54LS160A (2942) 54LS160A 54LS160A			TI	SN54LS21			Signetics TI	54LS30	
	National	DM54LS125			National Signetics TI	54LS160A		T54LS22	National	SN54LS22		T54LS32	Motorola National	SN54LS32 (2937) DM54LS32 54LS32	
T54LS126	Motorola National	SN54LS126 (2939) DM54LS126 54LS126		T54LS161	Motorola	SN54LS161A (2942) DM54LS161A 54LS161A		T54LS240	Motorola National	SN54LS240 (2939) DM54LS240 54LS240			Signetics TI	54LS32	
	SGS-Thomson	54LS126			National	DM54LS161A			TI	SN54LS22		T54LS33	Motorola National	SN54LS33 (2938) DM54LS33 54LS33	
T54LS13	Motorola National	SN54LS13 (2940) DM54LS13 54LS13		T54LS162	Motorola	SN54LS162A (2942) DM54LS162A 54LS162A		T54LS241	Motorola National	SN54LS241 (2939) DM54LS241 54LS241			TI	SN54LS32	
T54LS132	Motorola	SN54LS132 (2937, 2940) DM54LS132 54LS132			National	DM54LS162A		T54LS244	Motorola National	SN54LS244 (2939) DM54LS244 54LS244		T54LS352	Motorola National	SN54LS352 (2938) DM54LS352 54LS352	
	National	DM54LS132		T54LS163	Motorola	SN54LS163A (2942) DM54LS163A 54LS163A			TI	SN54LS244			TI	SN54LS352	
T54LS133	Motorola National	SN54LS133 (2937) DM54LS133 54LS133			National	DM54LS163A		T54LS251	Motorola National Signetics TI	SN54LS251 (2944) DM54LS251 54LS251 SN54LS251		T54LS353	Motorola National	SN54LS353 (2938) DM54LS353 54LS353	
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	Signetics TI	SN54LS136			TI	SN54LS164		T54LS253	Motorola National	SN54LS253 (2944) DM54LS253 DM7214 54LS253		T54LS354	Motorola National	SN54LS354 (2939) DM54LS354 54LS354	
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T54LS139	Motorola National	SN54LS139 (2945) DM54LS139 54LS139			TI	SN54LS169B			National	DM54LS257			National Signetics	54LS365A 54LS365A	
	Signetics TI	SN54LS139		T54LS170	National	DM54LS170		T54LS259	Motorola National	SN54LS259 (2941) DM54LS259 54LS259		T54LS366	Motorola	SN54LS366A (2939) DM54LS366A 54LS366A	
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	Signetics TI	SN54LS14			Signetics TI	SN54LS174		T54LS260	Motorola	SN54LS260A (2938) 54LS260A 54LS260A			Signetics TI	54LS366A	
T54LS15	Motorola National	SN54LS15 (2937) DM54LS15 54LS15		T54LS175	Motorola National	SN54LS175 (2942) DM54LS175 54LS175			National Signetics	54LS260A		T54LS367	Motorola	SN54LS367A (2939) DM54LS367A 54LS367A	
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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
SGS-THOMSON (Cont'd)				T54LS92	Motorola	SN54LS92 (2942)		T74LS112	(Cont'd)			T74LS151	(Cont'd)		
T54LS368	Motorola	SN54LS368A (2939)		T54LS93	Motorola	SN54LS93 (2942)		T74LS113	Panasonic	DN74LS112	(3057)	T74LS151	Motorola	SN74LS151 (2944)	
	National	DM54LS368			Signetics	TI			Hitachi	DM74LS112A			Panasonic	DN74LS151	
	Signetics	54LS368			TI	SN54LS93			Motorola	SN74LS113A	(2941)		Signetics	SN74LS151 (3057)	
	TI	SN54LS368A			TI	SN54LS93			National	DM74LS113		T74LS152	Hitachi	HD74LS152	
T54LS37	Motorola	SN54LS37 (2937)		T54LS95	Motorola	SN54LS95B (2944)			Panasonic	DN74LS113			Signetics	74LS152	
	National	DM54LS37			National	DM54LS95B			Signetics	74LS113 (3057)			TI	SN74LS152	
	Signetics	54LS37			Signetics	54LS95B		T74LS114	TI	SN74LS113A			Hitachi	HD74LS153	
	TI	SN54LS37			TI	SN54LS95B			Hitachi	HD74LS114			Motorola	SN74LS153 (2944)	
T54LS373	Motorola	SN54LS373 (2941)		T74LS00	Motorola	SN74LS00 (2937)			Motorola	SN74LS114A	(2942)		National	DM74LS153	
	Signetics	54LS373			National	DM74LS00			National	DM74LS114			Panasonic	DN74LS153	
	TI	SN54LS373			Signetics	74LS00			Panasonic	DN74LS114			Signetics	74LS153 (3057)	
T54LS374	Motorola	SN54LS374 (2942)			TI	SN74LS00	(3057)	T74LS12	Hitachi	HD74LS12			TI	SN74LS153	
	National	DM54LS374			Hitachi	HD74LS01			Motorola	SN74LS12 (2937)		T74LS155	Hitachi	HD74LS155	
	TI	SN54LS374			Motorola	SN74LS01			National	DM74LS12			Motorola	SN74LS155 (2945)	
T54LS377	Motorola	SN54LS377 (2942)		T74LS01	Motorola	SN74LS01			Panasonic	DN74LS12			National	DM74LS155	
	National	DM54LS377			National	DM74LS01			Signetics	74LS12			Panasonic	74LS155	
	Signetics	54LS377			TI	74LS01		T74LS125	TI	SN74LS12			Signetics	74LS155 (3057)	
	TI	SN54LS377			Panasonic	DN74LS01			Motorola	SN74LS125A	(2939)		TI	SN74LS155A	
T54LS378	Motorola	SN54LS378 (2942)			TI	SN74LS01	(3057)		National	DM74LS125		T74LS156	Hitachi	HD74LS156	
	National	DM54LS378			Hitachi	HD74LS02			Panasonic	74LS125A			Motorola	SN74LS156 (2945)	
	Signetics	54LS378		T74LS02	Motorola	SN74LS02 (2938)			Signetics	DN74LS125A			National	DM74LS156	
	TI	SN54LS378			National	DM74LS02			TI	74LS125A (3057)			Panasonic	DN74LS156	
T54LS379	Motorola	SN54LS379 (2942)			TI	74LS02		T74LS126	Motorola	SN74LS126A	(2939)		Signetics	74LS156 (3057)	
	National	DM54LS379			Panasonic	DN74LS02			National	DM74LS126			TI	SN74LS156	
	TI	SN54LS379			TI	SN74LS02			Signetics	74LS126 (3057)		T74LS157	Hitachi	HD74LS157	
T54LS38	Motorola	SN54LS38 (2937)		T74LS03	Motorola	SN74LS03 (2937)			TI	SN74LS126A			Motorola	SN74LS157 (2944)	
	National	DM54LS38			National	DM74LS03			Hitachi	HD74LS13			National	DM74LS157	
	Signetics	54LS38			TI	74LS03		T74LS13	Motorola	SN74LS13 (2940)			Panasonic	DN74LS157	
	TI	SN54LS38			Hitachi	HD74LS03			National	DM74LS13			Signetics	74LS157 (3057)	
T54LS390	Motorola	SN54LS390 (2942)			TI	SN74LS03			Hitachi	HD74LS13			TI	SN74LS157	
	TI	SN54LS390			Panasonic	DN74LS03			Motorola	SN74LS13		T74LS158	Hitachi	HD74LS158	
T54LS393	Motorola	SN54LS393 (2942)			TI	SN74LS03			National	DM74LS13			Motorola	SN74LS158 (2944)	
	TI	SN54LS393			Hitachi	HD74LS04			Panasonic	DN74LS13			National	DM74LS158	
T54LS395	Motorola	SN54LS395 (2944)		T74LS04	Motorola	SN74LS04 (2939)			Signetics	74LS13 (3057)			Panasonic	74LS158	
	National	DM54LS395			National	DM74LS04			TI	SN74LS13			Signetics	DN74LS158	
	Signetics	54LS395			TI	74LS04		T74LS132	Hitachi	HD74LS132			TI	SN74LS158	
	TI	SN54LS395A			Panasonic	DN74LS04			Motorola	SN74LS132 (2937, 2940)			TI	SN74LS158	
T54LS40	Motorola	SN54LS40 (2937)			TI	SN74LS04	(3057)		National	DM74LS132		T74LS160	Hitachi	HD74LS160A	
	National	DM54LS40			Hitachi	HD74LS05			Signetics	74LS132 (3057)			Motorola	SN74LS160A	
	TI	SN54LS40		T74LS05	Motorola	SN74LS05 (2939)			TI	SN74LS132			National	DM74LS160	
T54LS42	Motorola	SN54LS42 (2945)			National	DM74LS05			Motorola	SN74LS133 (2937)			Panasonic	74LS160	
	National	DM54LS42			TI	74LS05			National	74LS133			Signetics	74LS160A (3057)	
	Signetics	54LS42			Panasonic	DN74LS05		T74LS133	SGS-Thomson	TL74LS133			TI	SN74LS160A	
	TI	SN54LS42			TI	SN74LS05	(3057)		Hitachi	HD74LS136			Hitachi	HD74LS161A	
T54LS490	Motorola	SN54LS490 (2942)			Hitachi	HD74LS08			Motorola	SN74LS136 (2938)			Motorola	SN74LS161A	
	National	DM54LS490		T74LS08	Motorola	SN74LS08 (2937)			National	DM74LS136			National	DM74LS161	
	TI	SN54LS490			National	DM74LS08		T74LS136	Hitachi	HD74LS136			TI	74LS161A	
T54LS51	Motorola	SN54LS51 (2938)			TI	74LS08			Signetics	74LS136 (3057)			Panasonic	DN74LS161A	
	National	DM54LS51			Panasonic	DN74LS08			TI	SN74LS136			Signetics	74LS161A (3057)	
	Signetics	54LS51			TI	SN74LS08			Hitachi	HD74LS138			TI	SN74LS161A	
	TI	SN54LS51		T74LS09	Motorola	SN74LS09 (2937)			Motorola	SN74LS138 (2945)		T74LS162	Hitachi	HD74LS162A	
T54LS54	Motorola	SN54LS54 (2938)			National	DM74LS09			National	DM74LS138			Motorola	SN74LS162A	
	National	DM54LS54			TI	74LS09			Panasonic	DN74LS138			National	DM74LS162	
	TI	SN54LS54			Panasonic	DN74LS09		T74LS138	Signetics	74LS138 (3057)			TI	74LS162	
	Signetics	54LS54			TI	SN74LS09			TI	SN74LS138			Panasonic	DN74LS162A	
T54LS55	Motorola	SN54LS55 (2938)			Hitachi	HD74LS10			Hitachi	HD74LS139			Signetics	74LS162A (3057)	
	National	DM54LS55			Motorola	SN74LS10 (2937)		T74LS139	Motorola	SN74LS139 (2945)			TI	SN74LS162A	
	TI	SN54LS55			National	DM74LS10			National	DM74LS139			Hitachi	HD74LS163	
T54LS670	Motorola	SN54LS670 (2943)			TI	74LS10			Panasonic	DN74LS139		T74LS163	Motorola	SN74LS163A	
	National	DM54LS670			Hitachi	HD74LS10			Signetics	74LS139 (3057)			National	DM74LS163	
	Signetics	54LS670			Motorola	SN74LS109 (2941)			TI	SN74LS139A			TI	74LS163	
	TI	SN54LS670			National	DM74LS109		T74LS14	Hitachi	HD74LS14			Panasonic	DN74LS163A	
T54LS74	Motorola	SN54LS74A (2941)			TI	74LS109			Motorola	SN74LS14 (2940)			Signetics	74LS163A (3057)	
	National	DM54LS74			Panasonic	DN74LS109			National	DM74LS14			TI	SN74LS163A	
	Signetics	54LS74			TI	SN74LS109A			Panasonic	DN74LS14			Hitachi	HD74LS164	
	TI	SN54LS74A			Signetics	74LS109 (3057)			Signetics	74LS14 (3057)		T74LS164	Motorola	SN74LS164A	
T54LS83	Motorola	SN54LS83A (2947)			Hitachi	HD74LS11	(2937)		TI	SN74LS14			National	DM74LS164	
	National	DM54LS83A			Motorola	SN74LS11			Hitachi	HD74LS148			Panasonic	DN74LS164	
	Signetics	54LS83A			National	DM74LS11			Motorola	SN74LS148 (2946)			Signetics	74LS164A (3057)	
	TI	SN54LS83A			TI	74LS11		T74LS148	TI	SN74LS148			TI	SN74LS164	
T54LS86	Motorola	SN54LS86 (2938)			Panasonic	DN74LS11			Motorola	SN74LS15 (2937)			National	DM74LS164	
	National	DM54LS86			TI	SN74LS11			National	DM74LS15			Panasonic	74LS164	
	Signetics	54LS86			Hitachi	HD74LS112		T74LS15	TI	SN74LS15			Signetics	74LS164A (3057)	
	TI	SN54LS86A			Motorola	SN74LS112A (2941)			Hitachi	HD74LS151		T74LS165	Motorola	SN74LS165 (2943)	
T54LS90	Motorola	SN54LS90 (2942)			National	DM74LS112			Panasonic	DN74LS151			National	DM74LS165	
	National	DM54LS90			TI	74LS112			Hitachi	HD74LS151A			TI	SN74LS165A	
	Signetics	SN54LS90													
	TI	SN54LS90													

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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
SGS-THOMSON (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
T74LS373	Motorola	SN74LS373 (2941)		T74LS54	Panasonic	DN74LS54	(Cont'd)	UC1524A	IPS	IP1524	(Cont'd)	UC3524A	LinearTech	LT3524	(Cont'd)
	National	74LS373			Signetics	74LS54	(3057)		LinearTech	IP1524B			National	LM3524	
	Panasonic	DN74LS373		T74LS540	Motorola	SN74LS540 (2940)				LT1524			SGS-Thomson	SG3524	
	Signetics	74LS373 (3057)			National	74LS540			National	SG1524			Signetics	SG3524	
T74LS374	TI	SN74LS374 (2942)			Signetics	74LS540 (3057)				μ A1524			SiliconG	SG3524	
	National	DM74LS374		T74LS541	TI	SN74LS540			SGS-Thomson	LM1524				SG3524B	
		74LS374			Motorola	SN74LS541 (2940)				SG1524				Sprague	SG3524
	Signetics	74LS374 (3057)			Signetics	74LS541 (3057)			SiliconG	SG1524A				TI	SG3524
T74LS377	TI	SN74LS377 (2942)		T74LS55	Hitachi	HD74LS55			Unitrode	SG1524B				Toshiba	TA76524
	Motorola	SN74LS377 (2942)			Motorola	SN74LS55 (2938)				UC1524				Unitrode	UC3524
	National	74LS377			National	DM74LS55		UC1840	SiliconG	UC1524A		UC3840	Unitrode	UC3840	
	Signetics	74LS377 (3057)				74LS55			Unitrode	SG1840		UC3842	Motorola	UC3842	(2963, 2991)
	TI	SN74LS377			Panasonic	DN74LS55				UC1840					
T74LS378	AMD	SN74LS378			TI	SN74LS55		UC1842	Cherry Semi	CS1842			SiliconG	SG3842	
	Motorola	SN74LS378 (2942)		T74LS645	Motorola	SN74LS645 (2940)			IPS	IP1842			Sprague	UC3842	
	National	74LS378			Signetics	SN74LS645-1			LinearTech	LT1842			TeledyneS	TSC38C42	
	Signetics	74LS378 (3057)				SN74LS645 (3057)			Motorola	UC1842A		UC3843	Unitrode	UC3842	
	TI	SN74LS378			TI	SN74LS645			SiliconG	SG1842			Cherry Semi	CS3843	
T74LS379	Motorola	SN74LS379 (2942)				SN74LS645-1			TeledyneS	TSC18C42			IPS	IP3843	
	National	74LS379		T74LS670	Motorola	SN74LS670 (2943)			Unitrode	UC1842			SiliconG	SG3843	
	TI	SN74LS379			National	DM74LS670				UC1842A			TeledyneS	TSC38C43	
	Hitachi	HD74LS38				74LS670		UC1843	Cherry Semi	CS1843		UC3846	Unitrode	UC3843	
	Motorola	SN74LS38 (2937)			Signetics	74LS670 (3057)			IPS	IP1843			Ericsson	RL3846	
	National	DM74LS38		T74LS74	Hitachi	HD74LS74A			LinearTech	LT1843			LinearTech	UC3846	
		74LS38			Motorola	SN74LS74A (2941)			Motorola	UC1843A			SiliconG	SG3846	
	Panasonic	DN74LS38			National	DM74LS74			SiliconG	SG1843			Siliconix	SG3846	
	Signetics	74LS38 (3057)				74LS74			TeledyneS	TSC18C43			TeledyneS	TSC170	(3268)
	TI	SN74LS38				74LS74A			Unitrode	UC1843		UC3846	Unitrode	UC3846	
T74LS390	Motorola	SN74LS390 (2942)			Panasonic	DN74LS74A				UC1843A		UC3847	LinearTech	UC3847	
	National	74LS390			Signetics	74LS74		UC1844-45	IPS	IP1844-45			SiliconG	SG3847	
	Panasonic	DN74LS390			TI	SN74LS74A			Motorola	UC1844A			Siliconix	SG3847	
	TI	SN74LS390			Hitachi	HD74LS75				UC1845A			TeledyneS	TSC171	(3268)
	Motorola	SN74LS393 (2942)		T74LS75	Motorola	SN74LS75 (2941)			TeledyneS	TSC18C44			Unitrode	TSC38C47	
	National	74LS393			National	DM74LS75				TSC18C45		UC3847	Unitrode	UC3847	
	Panasonic	DN74LS393			Panasonic	DN74LS75				TSC28C45		ULN2001	Exar	XR2001C	(2619)
	Signetics	74LS393 (3057)			Signetics	74LS75 (3057)			Unitrode	UC1844				XR2201	(2619)
	TI	SN74LS393			TI	SN74LS75				UC1845				XR2201	(2619)
T74LS395	National	DM74LS395		T74LS83	Hitachi	HD74LS83A				UC1845A			Mitsubishi	M54524	
		74LS395			Motorola	SN74LS83A (2947)			UC1846	UC1846			Motorola	MC1411	(2984)
	Panasonic	DN74LS395A			National	DM74LS83A				DM54ALS468			National	ULN2001	
	Signetics	74LS395 (3057)				74LS83A			LinearTech	DM54ALS1034			Sanyo	LB1231	
	TI	SN74LS395A			Panasonic	DN74LS83A			National	SG1846			SGS-Thomson	L201	
T74LS398	Motorola	SN74LS398 (2944)			Signetics	74LS83A (3057)			SiliconG	SG1846				SG2001	
	TI	SN74LS398			TI	SN74LS83A			Siliconix	SG1846				ULN2001	(3258)
	Motorola	SN74LS399 (2944)		T74LS86	Hitachi	HD74LS86			TeledyneS	TSC170 (3268)				ULQ2001	
	TI	SN74LS399			Motorola	SN74LS86 (2938)				TSC18C46				ULS2001	
	TI	SN74LS399			National	DM74LS86				SN54AS1034A				ULN2001	
T74LS40	Hitachi	HD74LS40				74LS86			TI	UC1846				ULN2001A	
	Motorola	SN74LS40 (2937)			Panasonic	DN74LS86		UC2524A	Cherry Semi	CS2524			TI	ULN2001	
	National	DM74LS40			Signetics	74LS86 (3057)			Exar	XR2524 (2619)				ULN2001A	
		74LS40			TI	SN74LS86A			IPS	IP2524				ULN2001	
	Panasonic	DN74LS40		T74LS90	Motorola	SN74LS90 (2942)			LinearTech	LT2524			Toshiba	TD62001	
	Signetics	74LS40 (3057)			National	DM74LS90				SG2524				TD62101	
	TI	SN74LS40				74LS90			National	μ A2524		ULN2002	Exar	XR2002C	(2619)
T74LS42	Hitachi	HD74LS42				74LS90 (3057)				LM2524				XR2202	(2619)
	Motorola	SN74LS42 (2945)			Panasonic	DN74LS90			SGS-Thomson	SG2524				M54525	
	National	DM74LS42			Signetics	74LS90				SG2524			Mitsubishi	MC1412	(2984)
		74LS42			TI	SN74LS90				SG2524B			National	μ A9666	
	Panasonic	DN74LS42		T74LS92	Hitachi	HD74LS92				SG2524B				MC1412	
	Signetics	74LS42 (3057)			Motorola	SN74LS92 (2942)				SG2524			NEC	μ PA2002	
	TI	SN74LS42			National	DM74LS92			TI	UC2524			Sanyo	LB1232	
T74LS47	Hitachi	HD74LS47			Panasonic	DN74LS92			Unitrode	UC2524A			SGS-Thomson		
	Motorola	SN74LS47 (2945)			Signetics	74LS92 (3057)				SG2840				L202	
	National	DM74LS47			TI	SN74LS92		UC2840	SiliconG	SG2840				SG2002	
		74LS47			Hitachi	HD74LS92			Unitrode	UC2840				ULN2002	(3258)
	TI	SN74LS47			Motorola	SN74LS93 (2942)			Cherry Semi	CS2842				ULS2002	
T74LS48	Motorola	SN74LS48 (2945)			National	DM74LS93				CS2842A				ULN2002A	
	National	DM74LS48			Panasonic	DN74LS93				LS2842				ULN2002	
		74LS48			Signetics	74LS93 (3057)				SG2842				ULN2002A	
	TI	SN74LS48			TI	SN74LS93				TSC28C42				TD62002	
T74LS49	Signetics	74LS48			Hitachi	HD74LS95B				UC2842				XR2003C	(2619)
	Motorola	SN74LS49			Motorola	SN74LS95B (2944)		UC2843	Cherry Semi	CS2843			Exar	XR2203	(2619)
	National	DM74LS49			National	DM74LS95B			IPS	IP2843				M52523	
	TI	SN74LS49				74LS95B			SiliconG	SG2843				M54523	
T74LS490	Motorola	SN74LS490 (2942)				DM74LS95B			TeledyneS	TSC28C43			Motorola	MC1413	(2984, 2989)
	National	74LS490			Panasonic	DN74LS95B			Unitrode	UC2843					
	Panasonic	DN74LS490			SGS-Thomson	74LS95B		UC2846	National	DM54ALS519				ULN2003	
	Signetics	74LS490 (3057)				74LS95B (3057)				DM54AS1036			National	μ A9667	
	Hitachi	HD74LS51			TI	SN74LS95B			SiliconG	SG2846				MC1413	
	Motorola	SN74LS51 (2938)		T74LS95B	Hitachi	HD74LS95B			TeledyneS	TSC170 (3268)			Sanyo	LB1233	
	National	DM74LS51			Motorola	SN74LS95B (2944)				TSC28C46			SGS-Thomson		
		74LS51			National	DM74LS95B				SN54AS1036A				L203	
	Panasonic	DN74LS51				74LS95B			TI	UC2846				SG2003	
	Signetics	74LS51 (3057)				DM74LS95B			Unitrode	UC2846				ULN2003	(3258)
	TI	SN74LS51			Panasonic	DN74LS95B			TeledyneS	TSC28C47				ULS2003	
T74LS534	National	74LS534			SGS-Thomson	74LS95			Cherry Semi	CS3524				ULN2003	
	Hitachi	HD74LS54				74LS95B (3057)			Exar	XR3524 (2619)				TD62003	
	Motorola	SN74LS54 (2938)			Signetics	74LS95B (3057)			GE/RCA	CA3524 (2651, 2657, 2659)				TD62103	
	National	DM74LS54			TI	SN74LS95B			IPS	IP3524				TD62103	
		74LS54			Cherry Semi	XR1524 (2619)				IP3524B		ULN2004	Exar	XR2204	(2619)
													Mitsubishi	M54526	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Sharp Electronics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)				
LH52251		(Cont'd)		LH5261	Fujitsu	MB81C71A MB81C87 GM76C64 Hitachi HM6287 HM6787 Hyundai HY62C87 Inmos IMS1600 IMS1601 IDT IDT7187 IDT7187L IDT7187L	(2792) (2793) (2850) (2850)	LH5763	Toshiba Waferscale	TA7644BP WS5C49 WS5C49B WS57C64 μPD424258 KM44C256 KM44C258 V51C105	(3390)	HYB4164	Krueger	4164-150 4164-200	(2877) (2877)	
LH52252	Motorola Performance Cypress Hitachi	MCM6207 P4C1257 CY7C194 HM6208P HM6708 Inmos IMS1820 IDT IDT71258 IDT71258L IDT71258S	(2580)		GoldStar Hitachi			LH64256	NEC Samsung	μPD424258 KM44C256 KM44C258 V51C105			MicronTech Motorola	MT4264 MCM4164 MCM4164C MCM6665		
					Hyundai Inmos			LH64257	Vitelc Fujitsu Hitachi Hyundai MicronTech	MB81C4256 HM514256 HY51C4256 MT4C256			National	F4164 F64K NMC4164 MSM3764		
					Mitsubishi	MT5C6401 M5M5187 M5M5187AP M5M5187P			Mitsubishi Motorola NEC OKI	M5M44C256 MCM514256 μPD424256 MSM41005 MSM514256			OKI Panasonic	MSM3764 MN4164 MN4864		
LH52256	AMD Cypress	AM99C328 CY7C197 CY7C198 CY7C199	(2580) (2580) (2580)		Motorola National	MCM6287 F1600 F1602 μPD4361 MSM5187		LH64258	Samsung Toshiba Hitachi Maxim MicronTech	KM44C256 TC514256 HM514258 IH5148 MT4C4258	(2671)		Samsung	KM4164A KM4164B	(3036) (3036)	
					NEC OKI	μPD43254 MSM52464			Saratoga SGS-Thomson	SSM7164 MKB4564 MK45H64 TS4164						
					NEC OKI Performance S-MOS Saratoga SGS-Thomson	μPD4361 MSM5187 P4C187 SRM2261 SSM7187			Hitachi Hitachi Hitachi Hitachi Hitachi	HM514258 IH5148 MT4C4258 M5M44C258 MCM514258 μPD424258 μPD42458 MSM514257 MSM514258 KM44C258 TMS44C257 TC514258 TC51428 NCM2009Z	(3326)		TI	SMJ4164 SM4164 TMS4164 TMM4164 TMM4164A V51C64 DPD411M	(3286)	
					Signetics TI Toshiba	MK41H87 74HC4515 SMJ61CD64 TC5562 TMM5562 CYPIDC20G10 MB81C88 PEEL20CG10 Hitachi HM7688HP Hyundai HY62C88 ICT	(3057)		OKI	μPD42458 MSM514257 MSM514258 KM44C258 TMS44C257 TC514258 TC51428 NCM2009Z		HYB511000	Dense-Pac Fujitsu	DPD411M MB81C1000 TH2568 GM7C1024 HB561003 HM511000 HM511001 HM51102 HM561003 HY51C1000 HY51C1002	(2608)	
				LH5262	Cypress Fujitsu Gould/AMI Hitachi Hyundai ICT	MT5C6404 M5M5188 M5M5188AP PAL20L8 F100165 PAL20L8 μPD4362C MSM5188A CPL20L8-35	(3031) (3074)	LR3465 LR4089	NCM GE/RCA National SGS-Thomson	CD4089 CD4089 HCC/HCF4089 KS52000	(2639)		Hyundai	HY51C1000 HY51C1002	(2778) (2778)	
					MicronTech Mitsubishi	MT5C6404 M5M5188 M5M5188AP PAL20L8 F100165 PAL20L8 μPD4362C MSM5188A CPL20L8-35	(3031) (3074)	SM4A Z8601	Samsung SGS-Thomson	KS52000 Z8601 Z8601 Z8611 Z8611 Z8681 Z8681		MicronTech	MT1259 MT4C1024 MH25608 MH25609 M5M4C1000 M5M41000S M5M410000 MCM511000 μPD421000 MC421000 MSM41000 MN411000 KM41C1000	(3036) (3326)		
					MMI National	M5M5188AP PAL20L8 F100165 PAL20L8 μPD4362C MSM5188A CPL20L8-35	(3031) (3074)	Z8611	Zilog SGS-Thomson	Z8611 Z8611 Z8681 Z8681		Mitsubishi	MH25608 MH25609 M5M4C1000 M5M41000S M5M410000 MCM511000 μPD421000 MC421000 MSM41000 MN411000 KM41C1000	(3036) (3326)		
					Signetics Sony TI	100165 CXK5464AP TIBPAL20L8 TIBPAL20L8-20	(3031) (3074) (3283)	Z8681	Zilog SGS-Thomson	Z8681 Z8681		Motorola NEC	MCM511000 μPD421000 MC421000 MSM41000 MN411000 KM41C1000	(3036) (3326)		
					VLSI Tech Atmel Crystal Cypress	VT64KS4 AT27HC641 CS203 CY7C261 CY7C263 CY7C264 CD22203 27CX641 27CX642 27HC641	(2585) (2585) (2585) (2645) (2875) (2875) (2908)	Siemens								
LH52259	Vitelc AMD Cypress	DPS412S88 GE/RCA CDM62256 GM76C256 Hitachi HM62256 HM64456 Hyundai HY62C256 Inmos IMS1830 Inova IDT7M856S IDT71256 IDT71256L IDT71256S IDT8M824	(2580) (2580) (2580)		GE/RCA ICT	27CX641 27CX642 27HC641 93Z667 Sharp LSH762 Signetics SiliconSys SSI203 SSI75T203 WS57C49 WS57C49D WS57C49T	(2585) (2585) (2585) (2645) (2875) (2875) (2908)	μAA170 GXB10415	TI Fujitsu Motorola National ITT Krueger	μAA170 MBM10415 MCM10146 DM10415 ITT4116 4116-120 4116-150 4116-200	(2948) (2877) (2877) (2877)		TI	KM41256A TMS4C1024 TMX4C1025 TMX4C1026 TMX4C1029 TM4256FC1 TM5256 TX4C1024 TC511000C TC511000C TC511001C TMM411001C	(3036) (3326)	
					Microchip National Sharp Signetics SiliconSys SSI203 SSI75T203 WS57C49 WS57C49D WS57C49T	(2585) (2585) (2585) (2645) (2875) (2875) (2908)	HYB4116	National	F16K F4116 MM5290 MSM3716 M4116 2690 STC STC4116 TMM416 TMM416 54HCT241 CD54HCT241	(2640) (2877) (2877) (2877)		Toshiba	TM4256FC1 TM5256 TX4C1024 TC511000C TC511000C TC511001C TMM411001C			
					Waferscale	WS57C49 WS57C49D WS57C49T	(3390) (3390) (3390)	HYB41256	Signetics STC Toshiba CTI GE/RCA Krueger	2690 STC4116 TMM416 54HCT241 CD54HCT241 41256-100 41256-120 41256-150	(2640) (2877) (2877) (2877)	HYB511001	Fujitsu Hitachi MicronTech Mitsubishi Motorola NEC OKI TI Toshiba Asahi	MB81C1001 HM511001 MT4C1025 M5M4C1001 MCM511001 μPD421001 MSM41001 TMS4C1025 TC511001 HW101A HW200A HW300A HW300B H300A BHA900 BHT900 BH200 BH700 FH301		
					Microchip National Sharp Signetics SiliconSys SSI203 SSI75T203 WS57C49 WS57C49D WS57C49T	(2585) (2585) (2585) (2645) (2875) (2875) (2908)			National OKI Panasonic Samsung Supertex TI Vitelc	MM54HCT241 MSM37256A MN41256 KM41256A 54HCT241 SN54HCT241 V51C257 V51C257 HA5104 IMS2600 IDT7164 M2164A 4164-120	(3036) (2848)	KS10	Bell	UGN3604 UGN3605K THS102 FDC1795 FDC9795 FDC1797 FDC9797 P80C31 P80C31 P80C31	(3259) (3259)	
					Waferscale	WS57C49 WS57C49D WS57C49T	(3390) (3390) (3390)	HYB4164	Harris Inmos IDT Intel Krueger	HA5104 IMS2600 IDT7164 M2164A 4164-120	(2848)	SAB1795	SMC	FDC1795 FDC9795 FDC1797 FDC9797 P80C31 P80C31 P80C31		
					Microchip National Sharp Signetics SiliconSys SSI203 SSI75T203 WS57C49 WS57C49D WS57C49T	(2585) (2585) (2585) (2645) (2875) (2875) (2908)			National OKI Panasonic Samsung Supertex TI Vitelc	MM54HCT241 MSM37256A MN41256 KM41256A 54HCT241 SN54HCT241 V51C257 V51C257 HA5104 IMS2600 IDT7164 M2164A 4164-120	(3036) (2848)	SAB1797	SMC	FDC1795 FDC9795 FDC1797 FDC9797 P80C31 P80C31 P80C31		
					Waferscale	WS57C49 WS57C49D WS57C49T	(3390) (3390) (3390)						SAB80C31	AMD Fujitsu Intel	MBL80C31 P80C31	(Continued)
LH5261		(Continued)			Atmel GoldStar	AT27HC641 GL3320 GM57HC64 27CX641 27HC64 Microchip NEC Raytheon	(2711) (2875) (2907)								(Continued)	

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ALT CALIBRE DIRECTORY

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				ADC0805	National	ADC0805 ADC0805 ADC0824A		HEF400	National	CD4000 CD4000B	(Cont'd)	HEF4011	Toshiba	TC4011B (3341) TC4011UB (3341)	(Cont'd)
μA723	National	(Cont'd)		ADC0820	Maxim	ADC0820 MP0820			SGS-Thomson	HCC/HCF4000 HCC/HCF4000B		HEF4012	GE/RCA Motorola	CD4012 (2637) MC14012 (2937)	
	Raytheon	μA723M LM723 RC723 RM723			National	ADC0820 PM0820			Solitron	CM4000			SGS-Thomson	HCC/HCF4012 CM4012	
	Samsung	LM723	(3039)	AM26LS30	Samsung	KAD0820		HEF4001	Toshiba	TC4000B (3341)			Solitron	TC4012B (3341)	
	SGS-Thomson	μA723 LM723 L123 SFC2723		AM26LS31	AMD	AM26LS30 AM26LS31 26LS31			Fujitsu	MB4001			GE/RCA	CD4013 (2638, 2656)	
		μA723			Motorola	AM26LS31	(2983)		Motorola	CD4001 (2637) CD4001UB (2637) MC14001 (2938) MC14001UB (2938)		HEF4013	Motorola	MC14013 CD4013 F4013 MM74C74	
	SiliconG	SG723		AM26LS32	TI	AM26LS31 AM26LS32 AM26LS32A			National	CD4001 CD4001UB F4001			National	CD4013 F4013 MM74C74	
μA733	Adv Analog	μA723M A733			AMD	AM26LS32 26LS32			OKI	MM74C02			OKI	MSM4013	
	GE/Intersil	μA733 NE592-8 SE592			Motorola	AM26LS32 μA26LS32 DM26LS32			Sanyo	MSM4001 LC4001B			SGS-Thomson	LC4013	
	Hitachi	HA17733			National	DS26LS32			SGS-Thomson	HCC/HCF4001 CM4001		HEF4014	Solitron	HCC/HCF4013 CM4013	
	Motorola	MC1733	(2953, 2989)		TI	AM26LS32A AM26LS32AM			Solitron	TC4001B (3341)			GE/RCA	CD4014 (2638)	
		NE592	(2991)	AM6012	AMD	AM6012			Toshiba	TC4001UB (3341)			Motorola	MC14014 (2944)	
		SE592			AD	AD6012		HEF4002	Fujitsu	MB4002			National	CD4014 F4014	
	National	μA733 LM733			Exar	XR3464			GE/RCA	CD4002 (2637)			SGS-Thomson	HCC/HCF4014 CM4014	
	Signetics	NE592			Maxim	AM6012			Motorola	MC14002 (2938)		HEF4015	Solitron	TC4014B (3341)	
	SiliconG	SG1401			National	NS8464			National	CD4002			GE/RCA	CD4015 (2638)	
	TI	μA733 μA733M			NEC	μPC6012			SGS-Thomson	F4002			Motorola	MC14015 (2944)	
		NE592			Plessey	ZN6012			Solitron	HCC/HCF4002			National	CD4015	
		NE592-8		• CA3081	PMI	DAC312		HEF4006	Toshiba	TC4002B (3341)			F4015		
		SE592			Raytheon	DAC6012			GE/RCA	CD4006 (2638, 2653)			MM74C164		
μA741	AD	AD741	(2427, 2462)	• CA3082	Sprague	ULN2081			Motorola	MC14006 (2944)			OKI	MSM4015	
					GE/RCA	CA3082 (2650, 2653, 2656)			National	CD4006			Sanyo	LC4015	
	Fujitsu	MB3609		• CA3083	Sprague	ULN2082			SGS-Thomson	F4006B		HEF4016	SGS-Thomson	HCC/HCF4015	
	Hitachi	HA17741			GE/RCA	CA3083 (2650, 2653, 2656)							Solitron	CM4015	
	MicroPwr	MP0P02			SiliconG	SG3083 SG3183		HEF4007	Toshiba	TC4006B (3341)			Toshiba	TC4015B (3341)	
	Motorola	MC1741	(2953, 2989)	• CA3083	Sprague	ULN2083			GE/RCA	CD4007 (2637)			GE/RCA	CD4016 (2639, 2655)	
	National	μA741M		• CA3089	GE/RCA	CA3089 (2653, 2657)			Motorola	MC14007 (2939)			Motorola	MC14016 (2945)	
	NEC	μPC151		• CA3183	GE/RCA	CA3083 (2650, 2653, 2656)			National	CD4007			National	CD4016	
	PMI	μPC741			SiliconG	SG3083 SG3183			SGS-Thomson	F4007			SGS-Thomson	CD4066	
		OP02				ULN2083		HEF4008	HCC/HCF4007				F4016		
		OP77		• CA3183	Sprague	ULN2083			Solitron	CM4007			F4066		
	Raytheon	PM741			AD	ADDAC-08			Toshiba	TC4007UB (3341)			LC4016		
	Samsung	RM741			Datel	AD1408	(2471)		GE/RCA	CD4008 (2639)			LC4066		
	SGS-Thomson	LM741	(3039)		Hitachi	DACIC8B			Motorola	MC14008 (2947)			SGS-Thomson	HCC/HCF4016 HCC/HCF4066	
		μA741				DACIC8BC	(2596)		National	CD4008			Signetics	HEF4066	
		LM741				DACI8BC				F4008			Solitron	CM4066	
	SiliconG	SG741				DAC08B	(2596)			MM74C83			CM4066		
	TI	μA741			Hitachi	HA17008 HA17408			SGS-Thomson	HCC/HCF4008			TC4016B (3341)		
μA747	Toshiba	TA7504			Motorola	DAC08	(2971, 2989)		Solitron	CM4008				TC4066B (3341)	
	Unitrode	PIC7504				MC1408	(2971)	• HEF40098	National	F40098				PIC7516	
	GE/RCA	CA747	(2647)			μA0801			GE/RCA	CD40106 (2637, 2653)			GE/RCA	CD40160 (2638)	
	Hitachi	HA17747				μA0802			Motorola	MC14106 (2940)			Motorola	MC14160B (2942)	
	MicroPwr	MP0P04				DAC08			National	CD40106			National	CD40160	
	Motorola	MC1747	(2954, 2989)			DAC0801				CD4584B			SGS-Thomson	CD40160B	
						DAC0802				CD4584				F40160	
	National	μA747				DAC0806				CD4584B				HCC/HCF40160	
		LM747				DAC0807				F400014				TC40160 (3341)	
	NEC	μPC1418				DAC0808				MM54C14				TC40160B (3341)	
	PMI	OP04				MA0802M				MM74C14				CD40161 (2638)	
		PM747				μPC624								CD40161B (2638)	
	Raytheon	RC747	(3024)		NEC	DAC08	(3017)							MC14016B (2945)	
		RM747	(3024)		PMI	DAC1408								CD40161	
	TeledyneS	TSC747				DAC1508								CD40161B	
	TI	μA747				DAC08	(3025)							F40161	
μA758	GoldStar	GL3130	(2711)		Raytheon	DAC0800								MCN40161	
	National	μA705			Samsung	KDA0801								HCC/HCF40161B	
		LM1800				KDA0802								TC40161 (3341)	
	Sanyo	LA705				KDA0806								TC40161B (3341)	
		LA758				KDA0807								CD40162 (2638)	
	Sprague	ULN3809				KDA0808								MC140162B	
		ULN3812				MC1408								MC14162 (2942)	
	TI	SN76111		• DS8820	Signetics	DS8820									
		SN76116			National	DS8820									
ADC0803	Datel	ADC830	(2595)	• DS8830	TI	DS8830									
	GE/Intersil	ADC0803	(2669)		National	DS8830									
		ADC0803		• DS8880	TI	DS8830									
	National	ADC0803			National	DS8820									
	TeledyneS	TSC8701			TI	SN75182									
	TI	ADC0803			HEF400	CD4000 (2637)									
ADC0804	GE/Intersil	ADC0804	(2669)			CD4000B (2637)									
	National	ADC0804			Motorola	MC14000 (2938)									
	TI	ADC0804				MC14000B (2938)									
						(Continued)									

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
HEF40162	National	CD40162 CD40162B F40162	(Cont'd)	HEF40194	National SGS-Thomson	F40194 HCC/HCF40194 HCC/HCF40194B TC40194B	(Cont'd)	HEF4035	SGS-Thomson	HCC/HCF4035 Solitron CM4035 Toshiba TC4035B	(Cont'd)	HEF4053	SGS-Thomson	HCC/HCF4053 Solitron CM4053 Toshiba TC4053B	(3341)
HEF40163	SGS-Thomson	HCC/HCF40162 HCC/HCF40162B		HEF4020	Toshiba GE/RCA Motorola	CD4020 (2638) MC14020 (2943) National CD4020 F4020		HEF4040	GE/RCA Motorola	CD4040 (2638) MC14040 (2943)		HEF4059	Motorola	MC14569 (2943)	
HEF4017	Toshiba	TC40162 (3341) TC40162B (3341) CD40163 (2638) CD40163B (2638)		HEF4021	National	CD4021 F4021		HEF4041	SGS-Thomson	HCC/HCF4040 Solitron CM4040 Toshiba TC4040B	(3341)	HEF4060	Motorola	MC14060 (2943)	
HEF40174	GE/RCA	CD40174B (2638)		HEF4022	SGS-Thomson	HCC/HCF4020 Solitron CM4020 Toshiba TC4020B	(3341)	HEF4042	GE/RCA	CD4042 (2637, 2656)		HEF4066	Motorola	MC14016 (2945) MC14066 (2945)	
HEF40175	Motorola	MC140174B (2942)		HEF4023	National	CD4022 F4022		HEF4043	SGS-Thomson	HCC/HCF4041 Solitron CM4041 Toshiba TC4041B	(3341)	HEF4067	SGS-Thomson	HCC/HCF4066 HEF4016 CM4016 CM4066 HCF4016	(3341)
HEF4018	SGS-Thomson	HCC/HCF40174 HCC/HCF40174B		HEF4024	SGS-Thomson	HCC/HCF4022 Solitron CM4022 Toshiba TC4022B	(3341)	HEF4044	GE/RCA	CD4042 (2638) Motorola MC14042 (2941)		HEF4068	SGS-Thomson	HCC/HCF4016 HCC/HCF4066 Solitron CM4016 CM4066 HCF4016	(3341)
HEF4019	Toshiba	TC40174B (3341) TC40174B (3341) CD40175 (2638) CD40175 (2942)		HEF4025	GE/RCA	CD4024 (2638) Motorola MC14024 (2943)		HEF4047	SGS-Thomson	HCC/HCF4042 Solitron CM4042 Toshiba TC4042B	(3341)	HEF4069	Unitrode	PIC7516	
HEF40192	Motorola	MC14175 (2639)		HEF4027	National	CD4024 F4024		HEF4049	SGS-Thomson	HCC/HCF4043 Solitron CM4043 Toshiba TC4043B	(3341)	HEF4070	Motorola	MC14067 F4067	
HEF40193	SGS-Thomson	HCC/HCF40175 HCC/HCF40175B		HEF4028	SGS-Thomson	HCC/HCF4023 Solitron CM4023 Toshiba TC4023B	(3341)	HEF4050	GE/RCA	CD4044 (2638) Motorola MC14044 (2941)		HEF4071	SGS-Thomson	HCC/HCF4067 HCC/HCF4068 Solitron CM4068 Toshiba TC4068B	(3341)
HEF40194	Motorola	MC14175B (3341) MC14175B (2638) MC14018 (2943) CD4018 F4018		HEF4029	GE/RCA	CD4024 (2638) Motorola MC14024 (2943)		HEF4051	SGS-Thomson	HCC/HCF4044 Solitron CM4044 Toshiba TC4044B	(3341)	HEF4072	GE/RCA	CD4069 (2637) CD4069 (2939) Solitron CM4069 Toshiba TC4069B	(3341)
HEF40199	SGS-Thomson	HCC/HCF4018 Solitron CM4018 Toshiba TC4018B	(3341)	HEF4030	National	CD4025 F4025		HEF4052	Motorola	MC14049 (2939) National CD4049 F4049		HEF4073	Motorola	MC14070 (2938) National CD4070 F4070 MM74C86	
HEF4020	GE/RCA	CD4019 (2637, 2639)		HEF4031	SGS-Thomson	HCC/HCF4024 Solitron CM4024 Toshiba TC4024B	(3341)	HEF4053	SGS-Thomson	HCC/HCF4047 Solitron CM4047 Toshiba TC4047B	(3341)	HEF4074	SGS-Thomson	HCC/HCF4070 HCC/HCF4071 Solitron CM4070 Toshiba TC4071B	(3341)
HEF4021	National	CD4019 F4019 F4019B		HEF4032	OKI	MM74C76 MSM4027 LC4027		HEF4054	Motorola	MC14050 (2939) National CD4050 F4050		HEF4075	SGS-Thomson	HCC/HCF4072 HCC/HCF4073 Solitron CM4072 Toshiba TC4073B	(3341)
HEF4022	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4033	SGS-Thomson	HCC/HCF4025 Solitron CM4025 Toshiba TC4025B	(3341)	HEF4055	SGS-Thomson	HCC/HCF4050 Solitron CM4050 Toshiba TC4050B	(3341)	HEF4076	Motorola	MC14071 (2937) MC14071B (2937) National CD4071 CD4071B F4071 MM74C32	
HEF4023	Motorola	MC14019 (2942)		HEF4034	SGS-Thomson	HCC/HCF4026 Solitron CM4026 Toshiba TC4026B	(3341)	HEF4056	SGS-Thomson	HCC/HCF4051 Solitron CM4051 Toshiba TC4051B	(3341)	HEF4077	SGS-Thomson	HCC/HCF4074 HCC/HCF4075 Solitron CM4074 Toshiba TC4075B	(3341)
HEF4024	OKI	MSM4019 LC4019		HEF4035	SGS-Thomson	HCC/HCF4027 Solitron CM4027 Toshiba TC4027B	(3341)	HEF4057	SGS-Thomson	HCC/HCF4052 Solitron CM4052 Toshiba TC4052B	(3341)	HEF4078	SGS-Thomson	HCC/HCF4076 HCC/HCF4077 Solitron CM4076 Toshiba TC4077B	(3341)
HEF4025	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4036	SGS-Thomson	HCC/HCF4028 Solitron CM4028 Toshiba TC4028B	(3341)	HEF4058	SGS-Thomson	HCC/HCF4053 Solitron CM4053 Toshiba TC4053B	(3341)	HEF4079	SGS-Thomson	HCC/HCF4078 HCC/HCF4079 Solitron CM4078 Toshiba TC4079B	(3341)
HEF4026	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4037	SGS-Thomson	HCC/HCF4029 Solitron CM4029 Toshiba TC4029B	(3341)	HEF4059	SGS-Thomson	HCC/HCF4054 Solitron CM4054 Toshiba TC4054B	(3341)	HEF4080	SGS-Thomson	HCC/HCF4079 HCC/HCF4080 Solitron CM4079 Toshiba TC4080B	(3341)
HEF4027	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4038	SGS-Thomson	HCC/HCF4030 Solitron CM4030 Toshiba TC4030B	(3341)	HEF4060	SGS-Thomson	HCC/HCF4055 Solitron CM4055 Toshiba TC4055B	(3341)	HEF4081	SGS-Thomson	HCC/HCF4080 HCC/HCF4081 Solitron CM4080 Toshiba TC4081B	(3341)
HEF4028	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4039	SGS-Thomson	HCC/HCF4031 Solitron CM4031 Toshiba TC4031B	(3341)	HEF4061	SGS-Thomson	HCC/HCF4056 Solitron CM4056 Toshiba TC4056B	(3341)	HEF4082	SGS-Thomson	HCC/HCF4081 HCC/HCF4082 Solitron CM4081 Toshiba TC4082B	(3341)
HEF4029	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4040	SGS-Thomson	HCC/HCF4032 Solitron CM4032 Toshiba TC4032B	(3341)	HEF4062	SGS-Thomson	HCC/HCF4057 Solitron CM4057 Toshiba TC4057B	(3341)	HEF4083	SGS-Thomson	HCC/HCF4082 HCC/HCF4083 Solitron CM4082 Toshiba TC4083B	(3341)
HEF4030	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4041	SGS-Thomson	HCC/HCF4033 Solitron CM4033 Toshiba TC4033B	(3341)	HEF4063	SGS-Thomson	HCC/HCF4058 Solitron CM4058 Toshiba TC4058B	(3341)	HEF4084	SGS-Thomson	HCC/HCF4083 HCC/HCF4084 Solitron CM4083 Toshiba TC4084B	(3341)
HEF4031	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4042	SGS-Thomson	HCC/HCF4034 Solitron CM4034 Toshiba TC4034B	(3341)	HEF4064	SGS-Thomson	HCC/HCF4059 Solitron CM4059 Toshiba TC4059B	(3341)	HEF4085	SGS-Thomson	HCC/HCF4084 HCC/HCF4085 Solitron CM4084 Toshiba TC4085B	(3341)
HEF4032	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4043	SGS-Thomson	HCC/HCF4035 Solitron CM4035 Toshiba TC4035B	(3341)	HEF4065	SGS-Thomson	HCC/HCF4060 Solitron CM4060 Toshiba TC4060B	(3341)	HEF4086	SGS-Thomson	HCC/HCF4085 HCC/HCF4086 Solitron CM4085 Toshiba TC4086B	(3341)
HEF4033	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4044	SGS-Thomson	HCC/HCF4036 Solitron CM4036 Toshiba TC4036B	(3341)	HEF4066	SGS-Thomson	HCC/HCF4061 Solitron CM4061 Toshiba TC4061B	(3341)	HEF4087	SGS-Thomson	HCC/HCF4086 HCC/HCF4087 Solitron CM4086 Toshiba TC4087B	(3341)
HEF4034	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4045	SGS-Thomson	HCC/HCF4037 Solitron CM4037 Toshiba TC4037B	(3341)	HEF4067	SGS-Thomson	HCC/HCF4062 Solitron CM4062 Toshiba TC4062B	(3341)	HEF4088	SGS-Thomson	HCC/HCF4087 HCC/HCF4088 Solitron CM4087 Toshiba TC4088B	(3341)
HEF4035	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4046	SGS-Thomson	HCC/HCF4038 Solitron CM4038 Toshiba TC4038B	(3341)	HEF4068	SGS-Thomson	HCC/HCF4063 Solitron CM4063 Toshiba TC4063B	(3341)	HEF4089	SGS-Thomson	HCC/HCF4088 HCC/HCF4089 Solitron CM4088 Toshiba TC4089B	(3341)
HEF4036	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4047	SGS-Thomson	HCC/HCF4039 Solitron CM4039 Toshiba TC4039B	(3341)	HEF4069	SGS-Thomson	HCC/HCF4064 Solitron CM4064 Toshiba TC4064B	(3341)	HEF4090	SGS-Thomson	HCC/HCF4089 HCC/HCF4090 Solitron CM4089 Toshiba TC4090B	(3341)
HEF4037	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4048	SGS-Thomson	HCC/HCF4040 Solitron CM4040 Toshiba TC4040B	(3341)	HEF4070	SGS-Thomson	HCC/HCF4065 Solitron CM4065 Toshiba TC4065B	(3341)	HEF4091	SGS-Thomson	HCC/HCF4090 HCC/HCF4091 Solitron CM4090 Toshiba TC4091B	(3341)
HEF4038	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4049	SGS-Thomson	HCC/HCF4041 Solitron CM4041 Toshiba TC4041B	(3341)	HEF4071	SGS-Thomson	HCC/HCF4066 Solitron CM4066 Toshiba TC4066B	(3341)	HEF4092	SGS-Thomson	HCC/HCF4091 HCC/HCF4092 Solitron CM4091 Toshiba TC4092B	(3341)
HEF4039	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4050	SGS-Thomson	HCC/HCF4042 Solitron CM4042 Toshiba TC4042B	(3341)	HEF4072	SGS-Thomson	HCC/HCF4067 Solitron CM4067 Toshiba TC4067B	(3341)	HEF4093	SGS-Thomson	HCC/HCF4092 HCC/HCF4093 Solitron CM4092 Toshiba TC4093B	(3341)
HEF4040	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4051	SGS-Thomson	HCC/HCF4043 Solitron CM4043 Toshiba TC4043B	(3341)	HEF4073	SGS-Thomson	HCC/HCF4068 Solitron CM4068 Toshiba TC4068B	(3341)	HEF4094	SGS-Thomson	HCC/HCF4093 HCC/HCF4094 Solitron CM4093 Toshiba TC4094B	(3341)
HEF4041	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4052	SGS-Thomson	HCC/HCF4044 Solitron CM4044 Toshiba TC4044B	(3341)	HEF4074	SGS-Thomson	HCC/HCF4069 Solitron CM4069 Toshiba TC4069B	(3341)	HEF4095	SGS-Thomson	HCC/HCF4094 HCC/HCF4095 Solitron CM4094 Toshiba TC4095B	(3341)
HEF4042	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4053	SGS-Thomson	HCC/HCF4045 Solitron CM4045 Toshiba TC4045B	(3341)	HEF4075	SGS-Thomson	HCC/HCF4070 Solitron CM4070 Toshiba TC4070B	(3341)	HEF4096	SGS-Thomson	HCC/HCF4095 HCC/HCF4096 Solitron CM4095 Toshiba TC4096B	(3341)
HEF4043	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4054	SGS-Thomson	HCC/HCF4046 Solitron CM4046 Toshiba TC4046B	(3341)	HEF4076	SGS-Thomson	HCC/HCF4071 Solitron CM4071 Toshiba TC4071B	(3341)	HEF4097	SGS-Thomson	HCC/HCF4096 HCC/HCF4097 Solitron CM4096 Toshiba TC4097B	(3341)
HEF4044	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4055	SGS-Thomson	HCC/HCF4047 Solitron CM4047 Toshiba TC4047B	(3341)	HEF4077	SGS-Thomson	HCC/HCF4072 Solitron CM4072 Toshiba TC4072B	(3341)	HEF4098	SGS-Thomson	HCC/HCF4097 HCC/HCF4098 Solitron CM4097 Toshiba TC4098B	(3341)
HEF4045	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4056	SGS-Thomson	HCC/HCF4048 Solitron CM4048 Toshiba TC4048B	(3341)	HEF4078	SGS-Thomson	HCC/HCF4073 Solitron CM4073 Toshiba TC4073B	(3341)	HEF4099	SGS-Thomson	HCC/HCF4098 HCC/HCF4099 Solitron CM4098 Toshiba TC4099B	(3341)
HEF4046	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4057	SGS-Thomson	HCC/HCF4049 Solitron CM4049 Toshiba TC4049B	(3341)	HEF4079	SGS-Thomson	HCC/HCF4074 Solitron CM4074 Toshiba TC4074B	(3341)	HEF4100	SGS-Thomson	HCC/HCF4099 HCC/HCF4100 Solitron CM4099 Toshiba TC4100B	(3341)
HEF4047	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4058	SGS-Thomson	HCC/HCF4050 Solitron CM4050 Toshiba TC4050B	(3341)	HEF4101	SGS-Thomson	HCC/HCF4075 Solitron CM4075 Toshiba TC4075B	(3341)	HEF4102	SGS-Thomson	HCC/HCF4100 HCC/HCF4101 Solitron CM4100 Toshiba TC4101B	(3341)
HEF4048	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4059	SGS-Thomson	HCC/HCF4051 Solitron CM4051 Toshiba TC4051B	(3341)	HEF4103	SGS-Thomson	HCC/HCF4076 Solitron CM4076 Toshiba TC4076B	(3341)	HEF4104	SGS-Thomson	HCC/HCF4101 HCC/HCF4102 Solitron CM4101 Toshiba TC4102B	(3341)
HEF4049	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4060	SGS-Thomson	HCC/HCF4052 Solitron CM4052 Toshiba TC4052B	(3341)	HEF4105	SGS-Thomson	HCC/HCF4077 Solitron CM4077 Toshiba TC4077B	(3341)	HEF4106	SGS-Thomson	HCC/HCF4102 HCC/HCF4103 Solitron CM4102 Toshiba TC4103B	(3341)
HEF4050	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4061	SGS-Thomson	HCC/HCF4053 Solitron CM4053 Toshiba TC4053B	(3341)	HEF4107	SGS-Thomson	HCC/HCF4078 Solitron CM4078 Toshiba TC4078B	(3341)	HEF4108	SGS-Thomson	HCC/HCF4103 HCC/HCF4104 Solitron CM4103 Toshiba TC4104B	(3341)
HEF4051	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4062	SGS-Thomson	HCC/HCF4054 Solitron CM4054 Toshiba TC4054B	(3341)	HEF4109	SGS-Thomson	HCC/HCF4079 Solitron CM4079 Toshiba TC4079B	(3341)	HEF4110	SGS-Thomson	HCC/HCF4104 HCC/HCF4105 Solitron CM4104 Toshiba TC4105B	(3341)
HEF4052	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4063	SGS-Thomson	HCC/HCF4055 Solitron CM4055 Toshiba TC4055B	(3341)	HEF4111	SGS-Thomson	HCC/HCF4080 Solitron CM4080 Toshiba TC4080B	(3341)	HEF4112	SGS-Thomson	HCC/HCF4105 HCC/HCF4106 Solitron CM4105 Toshiba TC4106B	(3341)
HEF4053	SGS-Thomson	HCC/HCF4019 CM4019 Toshiba TC4019B	(3341)	HEF4064	SGS-Thomson	HCC/HCF4056 Solitron CM4056 Toshiba TC4056B	(3341)	HEF4113	SGS-Thomson	HCC/HCF4081 Solitron CM4081 Toshiba TC4081B	(3341)	HEF4114	SGS-Thomson	HCC/HCF4106 HCC/HCF4107	

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
HEF4073	SGS-Thomson	HCC/HCF4073	(Cont'd)	HEF4094	National	CD4094B	(Cont'd)	HEF4520	SGS-Thomson	HCC/HCF4520	(Cont'd)	HEF4591	GE/RCA	CD4541	(2638)
	Solitron	CM4073			SGS-Thomson	HCC/HCF4094B			Solitron	CM4520		HEF4720	Motorola	MC14541	(2946)
	Toshiba	TC4073B			Toshiba	TC4094B	(3341)	HEF4521	Toshiba	TC4520B	(3341)	HEF4724	National	F4720	
HEF4075	GE/RCA	CD4075	(2637)	HEF4502	GE/RCA	CD4502	(2637)		GE/RCA	CD4521B	(2638)	HEF4731	GE/RCA	CD4031	(2638)
	Motorola	MC14075	(2937)		Motorola	CD4502B	(2637)		Gould/AMI	S4521			National	CD4031B	(2638)
	National	CD4075			Motorola	MC14502	(2939)		Motorola	MC14521	(2946)			CD4031	
		F4075				MC14502B	(2939)		National	F4521				F4031	
	SGS-Thomson	HCC/HCF4075			SGS-Thomson	HCC/HCF4502			SGS-Thomson	HCC/HCF4045			SGS-Thomson	HCC/HCF4031	
	Solitron	CM4075				HCC/HCF4502B		HEF4526	Solitron	CM4045		INS2652	National	INS2652	
HEF4076	Toshiba	TC4075B				MC4502			Toshiba	TC4521B	(3341)	ISP8A/600	National	ISP8A/600	
	GE/RCA	CD4076	(2638)		Toshiba	TC4502B	(3341)		Motorola	MC14526	(2943)	LF198	AMD	LF198	
	Motorola	MC14076	(2942)		Unicorn	UC4502			National	CD4526			LinearTech	LF198	
	National	CD4076		HEF4505	Motorola	MC14505		HEF4527	Toshiba	TC4526B	(3341)	LF355	LinearTech	LF355	(2953)
		F4076		HEF4508	GE/RCA	CD4508	(2638)		GE/RCA	CD4527	(2639)		Motorola	LF355	
		MM54C173			Motorola	MC14508	(2941)		Motorola	MC14527	(2947)		National	LF355	
		MM74C173							National	CD4527			PMI	OP15	
	SGS-Thomson	HCC/HCF4076			SGS-Thomson	HCC/HCF4508				F4527				OP43	
	Solitron	CM4076		HEF4510	Toshiba	TC4508B	(3341)		SGS-Thomson	HCC/HCF4527		LF355	SGS-Thomson	PM355	
	Toshiba	TC4076B	(3341)		GE/RCA	CD4510	(2638)	HEF4528	Toshiba	TC4527B	(3341)	LF356	LinearTech	LF355	
HEF4077	GE/RCA	CD4077	(2637, 2639)		Motorola	MC14510	(2942)		Motorola	MC14528		LF356	Motorola	LF356	(2953)
		CD4077B	(2637, 2639)		National	CD4510			National	CD4528			National	LF356	
	Motorola	MC14077	(2938)		SGS-Thomson	HCC/HCF4510				F4528			NEC	μPC356	
		MC14077B	(2938)		Solitron	CM4510		HEF4531	SGS-Thomson	MM74C221		LF356	PMI	μPC813	
	National	CD4077		HEF4511	Toshiba	TC4510B	(3341)		Toshiba	TC4528B	(3341)	LF356	PMI	OP16	
		F4077			GE/RCA	CD4511	(2656, 2658)		Motorola	MC14531	(2947)	LF356	SGS-Thomson	PM356	
	Raytheon	RC4077	(3024)		Motorola	MC14511	(2946, 2985)	HEF4532	National	F4531		LF356	SGS-Thomson	LF356	
	SGS-Thomson	HCC/HCF4077							SGS-Thomson	HCC/HCF40101		LF398	LinearTech	LF398	
		HCC/HCF4077B			National	CD4511			Toshiba	TC4531B	(3341)		National	LF398	
	Solitron	CM4077			NEC	μPD4511			GE/RCA	CD4532	(2637)		PMI	LM298	
HEF4078	Toshiba	TC4077B	(3341)		SGS-Thomson	HCC/HCF4511		HEF4533	Motorola	MC14532	(2946)	LH2101	Signetics	SMP10	
	GE/RCA	CD4078	(2637)		Solitron	CM4511			National	F4532			TI	LF398	
	Motorola	MC14078	(2938)		Toshiba	TC4511B	(3341)	HEF4534	Toshiba	TC4532B	(3341)	LH2101	GE/Intersil	LH2101	(3024)
	National	F4078		HEF4514	GE/RCA	CD4514	(2637)		Gould/AMI	S4534		LH2308	Raytheon	LM2101	
	SGS-Thomson	HCC/HCF4078			Motorola	MC14514	(2945)		Sprague	UCN5810			GE/Intersil	LH2308	
	Solitron	CM4078			National	CD4514		HEF4538	TI	TL4810		LM101	National	LH2308	
HEF4081	Toshiba	TC4078B	(3341)			F4514			UCN4810A	CD14538B	(2638, 2653)	AD	AD101	AD101	(2470)
	GE/RCA	CD4081	(2637)		SGS-Thomson	HCC/HCF4514			CD14538B	CD4538B	(2638, 2653)	GE/Intersil	LinearTech	LM101	(2952)
	Motorola	MC14081	(2937)	HEF4515	Solitron	CM4514			Motorola	MC14538	(2946)	Motorola	LM101	LM101	
	National	CD4081			Toshiba	TC4514B	(3341)			MC14538B	(2946)	National	μA101	OP77	
		F4081			GE/RCA	CD4515	(2637)		National	CD4538		PMI	OP77	OP77	
		MM74C08			Motorola	MC14515	(2945)			CD4538B		LM101	Raytheon	LM101	(3024)
	NEC	μPC4081			National	CD4515			OKI	MSM4538			SGS-Thomson	LM101	
	OKI	MSM4081				F4515		HEF4539	SGS-Thomson	HCC/HCF4538B		LM101	SiliconG	LS101	
	Sanyo	LC4081			SGS-Thomson	HCC/HCF4515			Toshiba	TC4538B	(3341)	LM111	AD	SG101	(2470)
	SGS-Thomson	HCC/HCF4081			Solitron	CM4515			Motorola	MC14539	(2944)		LinearTech	LM111	
	Solitron	CM4081		HEF4516	Toshiba	TC4515B	(3341)			MC14539B	(2944)		Motorola	LM111	(2958)
HEF4082	Toshiba	TC4081B			GE/RCA	CD4516	(2638)	HEF4543	National	F4539			National	μA111	
	GE/RCA	CD4082	(2637)		Motorola	MC14516	(2942)		Toshiba	TC4539B	(3341)		PMI	LM111	
	Motorola	MC14082	(2937)		National	CD4516			GE/RCA	CD4543	(2639, 2653, 2656)		Raytheon	LM111	(3025)
	National	CD4082				F4516			Motorola	MC14543	(2946, 2985)		SGS-Thomson	LM111	
		F4082			SGS-Thomson	HCC/HCF4516				MC14543B	(2946, 2985)			LM111	
	NEC	μPC4082			Solitron	CM4516			National	CD4543		LM119	SiliconG	SG111	
HEF4085	SGS-Thomson	HCC/HCF4082		HEF4517	Toshiba	TC4516B	(3341)			F4543			TI	TL111	
	Toshiba	TC4082B			GE/RCA	CD4517	(2638, 2653)	HEF4555		TC4543B	(3341)		LinearTech	LM119	
	SGS-Thomson	HCC/HCF4085			Motorola	MC14517	(2944)		Toshiba	CD4555	(2637, 2639)	LM124A	National	LM119	
		HCC/HCF4085B			SGS-Thomson	HCC/HCF4517			GE/RCA	CD4555	(2637, 2639)		PMI	PM119	
	Toshiba	TC4085	(3341)	HEF4518	GE/RCA	CD4518	(2638)	HEF4556	Motorola	MC14555	(2945)	LM124A	GE/RCA	CA124	(2647)
HEF4086B	GE/RCA	CD4085B	(3341)		Motorola	MC14518	(2942)		National	F4555			LinearTech	LT1014	
	Motorola	MC14506	(2938)		National	CD4518			SGS-Thomson	HCC/HCF4555			National	μA124	
	SGS-Thomson	HCC/HCF4086				F4518				TC4555B	(3341)	LM124A	PMI	LM124A	
		HCC/HCF4086B			SGS-Thomson	HCC/HCF4518		HEF4557	Toshiba	CD4556	(2637, 2639)	LM124A		OP400	
	Toshiba	TC4086B	(3341)	HEF4519	Solitron	CM4518			GE/RCA	CD4556	(2639)		OP421	OP421	
HEF4093	GE/RCA	CD4093B	(2637)		Toshiba	TC4518B	(3341)		Motorola	MC14556	(2945)		SG124	SG124	
	Motorola	MC14093	(2937, 2940)		GE/RCA	CD4519B			National	F4556		LM139	TI	LM124	
		MC14093B	(2937, 2940)		Motorola	MC14519	(2938, 2944)		Raytheon	RC4556			GE/RCA	CA139	(2648)
	National	CD4093B				MC14519B	(2938, 2944)		SGS-Thomson	HCC/HCF4556			Motorola	LM139	(2958)
		F4093B								TC4556B	(3341)		National	μA139	
	SGS-Thomson	HCC/HCF4093			National	CD4519		HEF4557	Motorola	MC14557	(2944)		PMI	CMPO4	
		HCC/HCF4093B		HEF4520	Toshiba	TC4519B	(3341)		National	F4557			Raytheon	LM139	(3025)
	Toshiba	TC4093B	(3341)		GE/RCA	CD4520	(2638)	HEF4585		CD4585	(2639)	LM158	Adv Analog	LM139	
HEF4094	GE/RCA	CD4094B	(2638, 2656, 2658)		Gould/AMI	S4520			Motorola	MC14585	(2946)		GE/RCA	CA158A	(2647)
	Motorola	MC14094	(2944)		Motorola	MC14520	(2942)		National	F40085			LinearTech	LT1013	
		MC14094B	(2944)		National	CD4520				MM74C85			Maxim	MAX158	
		(Continued)				F4520			SGS-Thomson	HCC/HCF4585			Motorola	LM158	(2955)
					OKI	MSM4520			Toshiba	TC4585B			National	LM158A	
					Sanyo	LC4520				(Continued)				(Continued)	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				LM2903	AD GE/RCA	AD311 CA311 LM311 LM2903	(2470) (2648)	LM358	GoldStar Hitachi Motorola	GL358 HA17358 LM358	(Cont'd) (2714) (2954, 2989)	MC1458	PMI Raytheon	OP14 OP270 RC1458 RC4558 RM1558 RM4558 MC4558	(Cont'd) (3024) (3024) (3039)
LM158	PMI	OP200 OP221 RM4139 LM158 LT1013	(Cont'd)		LinearTech Motorola	LM311 LM2903	(2958, 2989)		National	LM358 LM358A μPC1251 μPC358 OP221 LA6358			SGS-Thomson	LS4558 MC4558 MC1558 NE4558 SA4558 SE4558	
LM1870 LM193	National Motorola	LM1870 LM193 LM193A LM193	(2958)		National	μA311 LM2903 LM311 μPC311 PM211			PMI SGS-Thomson	LM358 NE532 LM348 LM358			Signetics	MC1558 NE4558 SE4558	
LM211	AD Motorola	AD211 LM211	(2470) (2958, 2989)		Raytheon SGS-Thomson	LM311 LM2903 LM311 SG311 LM2903		LM381	Toshiba National	TA75358 LM381			TI	MC1458 MC1558 MC4558C	
	National PMI SGS-Thomson	LM211 PM211 LM211 SG211 LM211 LM219 LM319			Signetics SiliconG TI	LM311 LM2903 LM311 TA75393		LM382	Signetics	NE542 LM382				TA7558	
LM219	National	LM219 LM319		LM2904	Toshiba GE/RCA Motorola	CA2904 LM2904	(2647) (2955, 2989)	LM387	National Signetics	NE542 NE542			Toshiba	TA75458 TA7558	
	NEC PMI SGS-Thomson	μPC319 PM219 PM319 LM219 CA239 LM239			National SGS-Thomson	LM2904 LM2904 TA75358 LM293		LM393	GoldStar Hitachi Motorola	GL393 HA17393 LM393	(2714) (2958, 2989)	MC1488	Exar GoldStar Motorola	XR1488 XR1489A GD75188 MC1488	(2619) (2619) (2708) (2983, 2989)
LM239	GE/RCA Motorola	CA239 LM239	(2648) (2958, 2989)	LM293	TI Toshiba Motorola	LM2904 LM2904 TA75358 LM293	(2958, 2989)		National NEC	LM393 μPC393 μPC393C LA6393			National	μA1489 μA1489A μA212A μA750 DS1488 DS1489 DS1489A MC1488 MC1489	
	National	μA239 μA250 LM239 CMP04 PM139 PM239 LM239		LM301	National AD AD301 GE/Intersil GE/RCA	LM293 LM293 AD301 AD301 CA301A LM301	(2647)	MC1408	Sprague TI Toshiba AD	LM393 LM393 TA75393 ADDAC-08 AD1408	(2471)		SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1489 SN75188	
	Raytheon SGS-Thomson	LM239 LM239 LM258 LM258 CY7C901 IDT39C01 LM2901		LM301	LinearTech	LM301 LM301A LM301	(2952, 2989)		Datel	DACIC8B DACIC8BC DAC08B DAC08B	(2596) (2596)		Signetics	MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1489 SN75188	
LM258	GE/RCA Motorola	CA258A LM258	(2647) (2955, 2989)	LM301	National	μA301 μA301A LM301 LM301A LM301A			Hitachi	HA17008 HA17408			SiliconG	SG1489 SG1489A SG75188 SG75788 MC1489 SN75188	
	National PMI SGS-Thomson	LM258A OP221 LM258 LM258 CY7C901 IDT39C01 LM2901		LM301	NEC	μPC301 μPC301A OP77			Motorola	DAC08 MC1408 μA0801 μA0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μPC624	(2971, 2989) (2971)		TI	MC1489 SN75188 XR1488 XR1489A GD75188 MC1488 MC1489 SN75188	
LM2901	TI Cypress IDT Motorola	LM2901 CY7C901 IDT39C01 LM2901	(2590)	LM301	PMI Raytheon SGS-Thomson	LM301 LM301 LM301A LM301A LM301A	(3024)		National	μA0801 μA0802 DAC08 DAC0801 DAC0802 DAC0806 DAC0807 DAC0808 MA0802M μPC624		MC1489	Exar GoldStar Motorola	XR1488 XR1489A GD75188 MC1488	(2619) (2619) (2708) (2983, 2989)
	National	μA2901 μA3302 LM2901 LM3302 CMP04 PM139 PM339 LM2901 RC3302		LM301	Toshiba	TA7506 AD AD311 CA311 LM311 LM311 LM2903	(2470) (2648)		NEC PMI	DAC08 DAC1408 DAC1508 DAC08 KDA0800 KDA0801 KDA0802 KDA0806 KDA0807 KDA0808 DAC08	(3017)		National	μA1489 μA1489A μA212A μA750 DS1488 DS1489 DS1489A MC1488 MC1489	
	Raytheon SGS-Thomson	LM2901 RC3302 LM2901 MC3302 MC3302 SG324A LM2901 LM3302 TA75339		LM311	LinearTech Motorola	LM311 LM2903	(2958, 2989)		Raytheon Samsung	DAC08 KDA0800 KDA0801 KDA0802 KDA0806 KDA0807 KDA0808 DAC08	(3025)		SGS-Thomson	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1489 SN75188	
LM2902	GoldStar Hitachi Motorola	GL324 HA17902 LM2902	(2714) (2956, 2989)		National	μA311 LM2903 LM311 SG311 LM2903 LM311 TA75393		MC14558	Signetics GE/RCA	CD4055 2653, 2656	(2639, 2656)		Signetics	MC1488 MC1489 MC1489A SG1489 SG1489A SG75188 SG75788 MC1488 MC1489 SN75188	
	National	μA2902 μA324 LM2902 LM324 μPC324 μPC451 OP400 OP421 LM2902		LM319	Toshiba PMI SGS-Thomson	LM319 PM219 LM319 CA139A LM139A LM3302 LM139A CMP04 PM139A LM139A	(2648) (2958)		Burr-Brown Datel Elantec Harris Motorola	3506 AM460-2 EHA2605 EHA2605 MC1456 MC1456 MC1456 XR1458 XR4558 CA1558 GL4558	(2598) (2598) (2953)		TI	MC1488 MC1489 SN75188 XR1488 XR1489A GD75188 MC1488 MC1489 SN75188	
LM2902	NEC	μPC324 μPC451 OP400 OP421 LM2902		LM339	GE/RCA Motorola	CA139A LM139A LM3302 LM139A CMP04 PM139A LM139A	(2648) (2958)		Exar	XR4558 CA1558 GL4558 HA17458 HA17558 MC1558 MC4558	(2619) (2647) (2714) (2955, 2990)	MC1489A	Exar GoldStar Motorola	XR1488 XR1489A GD75188 MC1488	(2619) (2619) (2708) (2983, 2989)
LM2902	PMI	OP400 OP421 LM2902			National PMI	LM139A CMP04 PM139A LM139A			National	SE4558 μA1458 μA4558 LM1458 LM1558 μPC1458 μPC4558			National	MC1489 MC1489A μA1489 μA1489A μA750 DS1488 DS1489	(2989) (2989)
LM2902	Raytheon SGS-Thomson	LM2902 LM2902 LM324 TA75902		LM358	TI Fujitsu GE/RCA	MB47358 CA358A LM358	(2647, 2653) (2647)		NEC	μPC1458 μPC4558					(Continued)

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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				MC3302 (Cont'd)				NE4558				NE5009			
MC1489A	National	(Cont'd)		Raytheon	LM2901	RC3302		TI	RM4558			NEC	PMI	μPC624	(3017)
									RV4558					DAC08	
				SGS-Thomson	LM2901	MC3302			TL4558			NE5009	Raytheon	DAC1508	(3025)
									TA75458				Samsung	DAC08	
								AD	TA75558					KDA0800	
									ADDAC-08	(2471)				KDA0801	
									AD1408					KDA0802	
									DACIC8B	(2596)				KDA0806	
									DACIC8BC					KDA0807	
									DACIC8BC	(2596)				KDA0808	
									DAC08B			NE5009	Signetics	DAC08	
									HA17008					MC1408	
									HA17408			NE5018	Datel	DACUP8B	(2596)
									DAC08	(2971, 2989)			Signetics	NE5019	
										(2971)				NE5119	
														SE5119	
														DACUP8B	
														NE5018	(3171)
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														SE5119	
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														SE5118	
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Signetics (Cont'd)				NE5517	Krueger	6116LP-150 (2877)	NE5534A	TI	SE5534 SE5534A	(Cont'd)	NE558	Exar Signetics	XR558 SE558		
NE538	Signetics	(Cont'd)				6116LP-200 (2877)	NE5537	LinearTech National	LF398 LF398		NE5601	Exar	XR2001 XR2001C	(2619) (2619)	
		SE530 SE531 SE538 LM318 MC3410 MC3510		Matra-Harris	HM6166 HM65161 HM65162 HM65163 HM65728			PMI Signetics TI	LM298 SMP10 LF398 LF398		NE5601	Mitsubishi Motorola	M54524 MC1411	(2984)	
NE5410	TI						NE5539	AD	AD5539	(2428, 2462)	NE5601	National Sanyo SGS-Thomson	μA9665 LB1231		
NE542	National	LM381		MicronTech	MT5C1608			Motorola	MC5539 LM5539				L201 ULN2001		
NE5501	SiliconG	SG2021		Mitsubishi	MS8725		NE555	Exar	XR555 XR555M	(2619) (2619)	NE5601	SiliconG Sprague	SG2001 ULN2001	(3258)	
NE5502	SiliconG	SG2002			M5M116 M5M5116 M5M5117 M5M5118 M58275			GE/Intersil	SE555				ULQ2001 ULS2001		
NE5502	Sprague	ULN2022	(3258)		M58725			GE/RCA GoldStar	CA555 GLC555	(2656) (2713)	NE5601	TI	ULN2001 ULN2001A		
NE5502	TI	ULS2022		Motorola	MCM2016 MCM2016H MCM2018P			Hitachi Mitsubishi	HA17555 M5E555		NE5601	Toshiba	TD62001 TD62101		
NE5502	Exar	XR2003	(2619)		MCM6116				M51841 M51848		NE5602	Exar	XR2002C XR2202	(2619) (2619)	
NE5503	SiliconG	SG2023		National	MSM2128			Motorola	MC1455	(2989)	NE5602	Mitsubishi Motorola	M54525 MC1412	(2984)	
NE5503	Sprague	ULQ2003	(3258)	OKI	MSM5126 MSM5128 MSM5129			National	μA555 LM555				ULN2002		
NE5503	TI	ULS2023			P4C116			NEC	μPC1555 μPC617		NE5602	National	μA9666 MC1412		
NE5504	SiliconG	SG2024		Performance	SMC6116				μPD555		NE5602	NEC	μPA2002 LB1232		
NE5504	Sprague	ULN2024	(3258)	S-MOS	SSM6116			Raytheon	RC555 RM555			Sanyo SGS-Thomson	L202 ULN2002		
NE5504	TI	ULS2024		Saratoga	SSM6116				LB8555		NE5602	SiliconG Sprague	SG2002 ULN2002	(3258)	
NE5512	Fujitsu	MB3607		SGS-Thomson	ET2128 MK2817 MK6116 LH5115			Samsung	NE555 NE555	(3039)	NE5602	TI	ULS2002 ULN2002		
	GE/RCA	CA1458	(2647)		Sharp	CKX5814P			SGS-Thomson	SE555 SE555	NE5602	Toshiba	TD62002		
	Harris	HA21458			Sony	UDN6116			Signetics	SE555	NE5603	Fujitsu	MB7113		
	MicroPwr	MP0P14		STC	STC2018			TI	NE555		NE5604	National	DM74S387	(2619)	
	Motorola	MC1458	(2954, 2989)		STC6116				SE555M	(3325)	NE5604	Exar	XR2204		
	National	μA1458HC		TI	SMJ68CE16			Toshiba	TA7555		NE5604	Mitsubishi	M54526	(2984)	
	NEC	μPC1458		Toshiba	TC5517B			Exar	XR555 XR555M	(2619) (2619)	NE5604	Motorola	ULN2004		
	PMI	OP14			TMM2015A				SE555		NE5604	Sanyo SGS-Thomson	L204 ULN2004		
	Raytheon	OP215		UMC	TMM2018AP			Hitachi	HA17555		NE5604	SiliconG	SG2004	(3258)	
	Samsung	OP270		Vitelc	UM6116			Mitsubishi	M5E555		NE5604	Sprague	ULS2004		
	SGS-Thomson	RC2041			V61C16			National	μA555 LM555		NE5604	TI	ULN2004 ULN2004A		
		MC1458	(3039)		V62C16			NEC	μPC1555 μPC617		NE5604	Toshiba	TD62004A TD62104		
	Signetics	SA1458		VLSI Tech	VT20C18	(3343, 3345, 3349)		NE555N	GE/RCA GoldStar	(2656) (2713)	NE565	AD	AD565A	(2411, 2462)	
	TI	SE5512		Exar	XR5532			NE555N	Hitachi	GL555 GL555			Harris	HI565A	
	TI	LF412		MicroPwr	MP5532			NE555N	Mitsubishi	SE555	NE5604	SiliconG	ULN2004		
	Toshiba	TA75458		PMI	OP270			NE555N			NE5604	Sprague	ULN2004		
		TA75558		Signetics	NE5532A	(3144)		NE555N	Motorola	(2989)	NE5604	TI	ULN2004		
NE5514	PMI	OP470			SE5532			NE555N	National		NE5604		ULN2004A		
	Raytheon	RC4156	(3025)	TI	SE5532A			NE555N	NEC		NE5604	Toshiba	TD62004		
		RM4156	(3025)		NE5532			NE555N					TD62104		
	Signetics	SE5514		Exar	NE5532A			NE555N	SGS-Thomson				AD565A	(2411, 2462)	
	TI	TL136		MicroPwr	MP5532			NE555N	Raytheon				AD565J	(2411, 2462)	
NE5517	Cypress	XR4156		PMI	OP270			NE555N	Sanyo						
		CY6116		Signetics	NE5532	(3144)		NE555N	SGS-Thomson						
	GE/Intersil	CY7C128	(2580)		SE5532A			NE555N	SE555	(3039)					
	GE/RCA	IH6116	(2670)	TI	SE5532			NE555N	SE555M						
		CDM6116	(2644, 2653)		NE5532A			NE555N	TLC555	(3325)	NE566	Signetics	SE566		
		CDM6116A	(2644, 2653)	NE5533	XR5533			NE555N	TA7555		NE567	Exar	XRL567	(2619)	
	GoldStar	GM76C28	(2696, 2700)	Exar	NE5533A			NE555N	M5E556	(3039)			XR2567	(2619)	
	Harris	HM6516	(2747)	Signetics	XR5533			NE555N	NE556				XR567	(2619)	
		HM65162	(2747)	TI	NE5533			NE555N	SGS-Thomson						
	Hitachi	HM6116		Signetics	XR5533			NE555N	TI						
		HM6716		TI	NE5533			NE555N	NEC						
		HM6719		TI	NE5533			NE555N	Toshiba						
	Hyundai	HY61C16A		AnalogSys	MA332			NE555N	Mitsubishi						
		HY6116A	(2778)	Datel	AM453-2C	(2598)		NE556	NE556						
	Inmos	IMS1433		Raytheon	RM5534			NE556	SGS-Thomson						
	IDT	IDT6116	(2835)	Signetics	NE531			NE556	Cherry Semi						
		IDT6116A	(2835)		NE5534	(3145)		NE556	GoldStar						
		IDT6116L	(2835)		SE5534			NE556	IPS						
		IDT6116S	(2835)		SE5534A			NE556	IP5560C						
		IDT6166			SE5534A			NE556	IP5560C						
	Intel	81C28		NE5534A	MA332			NE556	CS5561						
	Krueger	2128-100	(2877)	AnalogSys	AM453-2C	(2598)		NE556	CS5561N						
		2128-120	(2877)	Datel	RM5534			NE556	CS5561S						
		2128-150	(2877)	Raytheon	NE531			NE556	GL5561						
		2128-200	(2877)	Signetics	NE5534	(3145)		NE556	IP5561						
		6116-120	(2877)		SE5534			NE556	IP5561C						
		6116-150	(2877)		SE5534A			NE556	SE5561						
		6116-200	(2877)		SSM2134			NE556	TC5561						
		6116LP-120	(2877)	SSM Audio	NE5534			NE556	TMM5561						
				TI	NE5534A			NE556	ULN8168						
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Signetics (Cont'd)				SE5512	National	μA1458HC LF412	(Cont'd)	SE555	SGS-Thomson	NE555	(Cont'd)	SG1524	LinearTech	LT1524 SG1524	
SE4558	Toshiba	TA75458	(Cont'd)	NEC	μPC1458	μPC251		Signetics	NE555	NE555		SG1524	National	μA1524 LM1524	
• SE470	Lansdale	SL470		PMI	OP14	OP215		TI	SE555	SE555M		SG1524	SGS-Thomson	SG1524 SG1524A UC1524A	
• SE471	Lansdale	SL471			OP270	RC2041		Toshiba	TA7555	TLC555	(3325)	SG1524	SiliconG	SG1524	
• SE480	Lansdale	SL480		Raytheon	MC1458	(3039)		Elantec	EHA2600	HA17741		SG1524	Unitrode	SG1524B	
• SE481	Lansdale	SL481		SGS-Thomson	μA1458	MC1458		Harris	HA2600	Motorola	(2954)	SG2524	Cherry Semi	CS2524	
• SE490	Lansdale	SL490		Signetics	NE5512	SA1458		Hitachi	HA17741	ML1556		SG2524	Exar	XR2524	(2619)
• SE5008	AD	AD1508	(2471)	TI	LF412	TA75458		TeledyneP	TP1326	SE5561C		SG2524	IPS	IP2524	
	Datel	DACIC8BM		Toshiba	TA75558	OP470		TI	ML1556	CS5561		SG2524	LinearTech	LT2524	
	Motorola	MC1508	(2971)	SE5514	PMI	RC4156	(3025)	Cherry Semi	CS5561N	CS5561S		SG2524	National	μA2524 LM2524	
	National	MC1508		Raytheon	RM4156	(3025)		GoldStar	GL5561	IP5561		SG2524	SGS-Thomson	SG2524	
• SE5009	PMI	DAC1508		Signetics	NE5514	TL136		IPS	IP5561	NE5561	(3184)	SG2524	SiliconG	UC2524A	
	Signetics	MC1508		TI	XR4156	MP5532		Signetics	NE5561	TC5561		SG2524	TI	SG2524B	
	AD	AD1508	(2471)	SE5532	Exar	XR5532		Toshiba	TMM5561	XR558		SG2524	Unitrode	UC2524	
	Datel	DACIC8BM		MicroPwr	MP5532	OP270				NE558				UC2524A	
	Motorola	MC1508	(2971)	PMI	NE5532	(3144)		SE558	Exar	AD565A	(2411, 2462)	SG3524	Cherry Semi	XR3524	(2619)
	National	MC1508		Signetics	NE5532A	(3144)		SE565	Signetics	AD565A	(2411, 2462)		Exar	CA3524	(2651, 2657, 2659)
	PMI	DAC1508		TI	NE5532	NE5532A			AD	AD565J	(2411, 2462)		GE/RCA	CA3524	
	Signetics	MC1508		SE5532A	Exar	XR5532							IPS	IP3524	
SE5019	Signetics	NE5118		MicroPwr	MP5532	OP270							LinearTech	LT3524	
	Signetics	SE5118		PMI	NE5532	(3144)							National	LM3524	
• SE511	Lansdale	SL511		Signetics	NE5532A	(3144)							SGS-Thomson	SG3524	
SE5118	Signetics	NE5118		TI	NE5532	NE5532A								UC3524A	
		SE5019		SE5533	Exar	XR5533							SiliconG	SG3524B	
SE5119	Datel	DACUP8B	(2596)	Signetics	NE5533A	NE5533							Sprague	SG3524	
	Signetics	NE5018	(3171)	TI	NE5533	NE5533A		SE566	National	LM566			TI	SG3524	
		NE5019		SE5533A	Exar	XR5533			Signetics	NE566			Toshiba	TA76524	
		NE5119		Signetics	NE5533	NE5533A		SE567	Exar	XR567	(2619)		Unitrode	UC3524	
• SE526	Lansdale	SL526		SE5533A	Exar	XR5533						SN54F240	Motorola	MC54F240	
SE530	AD	AD518	(2462, 2470)	TI	NE5533	NE5533A							National	54F240	
			(2714)	SE5534	TI	NE5533							Signetics	54F240	
	GoldStar	GL317	(2714)	AnalogSys	MA332	AM453-2C	(2598)						TI	SN54F240	
	LinearTech	LM318		Datel	AM453-2C	(2598)							Motorola	SN74LS645	(2940)
		LT1023		Raytheon	RM5534	NE531							SGS-Thomson	T74LS645	
	National	LM318		Signetics	NE5534	NE5534A	(3145)	SE592	Signetics	NE567				74LS645	(3057)
	NEC	μPC317		SE5534A	SSM Audio	SSM2134				A733				SN74LS645	
	PMI	μPC318		TI	NE5534	NE5534A				μA733				SN74LS645-1	
		OP42		SE5534A	SSM Audio	SSM2134				NE592-8				DS8640	
		OP421		SE5534A	TI	NE5534				SE592				SL3271	
	SGS-Thomson	LM318		SE5534A	SSM Audio	SSM2134				HA17733				SL3281	
	Signetics	NE530		SE5534A	TI	NE5534				MC1733	(2953, 2989)			SL54152	
		NE538		SE5534A	SSM Audio	SSM2134				NE592				SL5447	
		SE531		SE5534A	SSM Audio	SSM2134				SE592				SL5448	
		SE538		SE5534A	SSM Audio	SSM2134				μA733				SL5460	
		SE530		SE5534A	SSM Audio	SSM2134				LM733				SL5480	
		SE538		SE5534A	SSM Audio	SSM2134				μA733				ML54177	
		LM318		SE5534A	SSM Audio	SSM2134				NE592				ML74177	
SE531	AD	AD518	(2462, 2470)	SE5534A	SSM Audio	SSM2134				SG1401				DM54177	
			(2714)	SE5534A	SSM Audio	SSM2134				μA733				DM7281	
	GoldStar	GL317	(2714)	SE5534A	SSM Audio	SSM2134				μA733M				SN54177	
	LinearTech	LM318		SE5534A	SSM Audio	SSM2134				NE592				SL74H101	
		LT1023		SE5534A	SSM Audio	SSM2134				NE592-8				SL74H102	
	National	LM318		SE5534A	SSM Audio	SSM2134				SE592				DP57M464	(2606)
	NEC	μPC317		SE5534A	SSM Audio	SSM2134				SL616				IDT	IDT7M464
	PMI	μPC318		SE5534A	SSM Audio	SSM2134				SL620				Lansdale	SL74H106
		OP42		SE5534A	SSM Audio	SSM2134				SL629				Lansdale	SL74H55
		OP421		SE5534A	SSM Audio	SSM2134				SL631				Lansdale	SL74H61
	SGS-Thomson	LM318		SE5534A	SSM Audio	SSM2134				SL659				Lansdale	SL74H62
	Signetics	NE530		SE5534A	SSM Audio	SSM2134				SL670				Lansdale	SL8704
		NE538		SE5534A	SSM Audio	SSM2134				SL680				Lansdale	SL8705
		SE530		SE5534A	SSM Audio	SSM2134				SL690				Lansdale	SL8706
		SE538		SE5534A	SSM Audio	SSM2134				SL700				Lansdale	RM8709
		SE531		SE5534A	SSM Audio	SSM2134				SL701				Raytheon	RM8709
		LM318		SE5534A	SSM Audio	SSM2134				SL704				National	DM54173
SE5410	Datel	DACIC10BM	(2596)	SE5534A	SSM Audio	SSM2134				SL716					DM7551
				SE5534A	SSM Audio	SSM2134				SL720					54173
				SE5534A	SSM Audio	SSM2134				SL721					RM8710
				SE5534A	SSM Audio	SSM2134				SL727					SN54173
SE5512	Fujitsu	MB3607		SE5534A	SSM Audio	SSM2134				SL730					DS55121
	GE/RCA	CA1458	(2647)	SE5534A	SSM Audio	SSM2134				SL731					SN55121
	Harris	HA21458		SE5534A	SSM Audio	SSM2134				SL732					SL8714
		HA5102		SE5534A	SSM Audio	SSM2134				CS1524					DS55122
	MicroPwr	MPOP14		SE5534A	SSM Audio	SSM2134				XR1524	(2619)				SN55122
	Motorola	MC1458	(2954, 2989)	SE5534A	SSM Audio	SSM2134				IP1524					SL8715
				SE5534A	SSM Audio	SSM2134				IP1524B					SL8716
				SE5534A	SSM Audio	SSM2134									SL8718
				SE5534A	SSM Audio	SSM2134									

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				(Cont'd)											
♦ S8T20	Lansdale	SL8T20		S82S141	MMI	63S485		♦ S8230	Lansdale	RL8230		♦ S8806	Lansdale	SL8806	
S8T22	National	DM8601			National	DM74S474			National	DM8312		♦ S8808	Lansdale	SL8808	
		DM9601		S82S147	Signetics	N82S141		♦ S8230	Raytheon	RC8230		♦ S8815	Lansdale	SL8815	
	Raytheon	9601			AMD	AM27S29		S8231	Intel	8231		♦ S8816	Lansdale	SL8816	
		RF8601			Fujitsu	MB7124			Lansdale	SL8231		♦ S8821	Lansdale	SL8821	
		RF9601			MMI	63S481			Raytheon	RM8231		♦ S8822	Lansdale	SL8822	
	Signetics	N8T22			National	DM74S472		♦ S8232	Lansdale	SL8232		♦ S8825	Lansdale	SL8825	
	TI	SN74122			Raytheon	29623		♦ S8233	Lansdale	SL8233		♦ S8827	Lansdale	SL8827	
♦ S8T26	Lansdale	SL8T26			Signetics	N82S147		♦ S8234	Lansdale	SL8234		♦ S8829	Lansdale	SL8829	
♦ S8T31	Lansdale	SL8T31		S82S16	National	DM54S200		♦ S8235	Lansdale	SL8235		♦ S8844	Lansdale	SL8844	
♦ S8T32	Lansdale	SL8T32		♦ S82S17	National	S82S117		♦ S8241	Lansdale	SL8241		♦ S8855	Lansdale	SL8855	
♦ S8T33	Lansdale	SL8T33				S82S17			Motorola	SN54LS386 (2938)		♦ S8870	Lansdale	SL8870	
♦ S8T35	Lansdale	SL8T35		S82S181	AMD	AM27S181			National	DM54LS386		♦ S8875	Lansdale	SL8875	
♦ S8T36	Lansdale	SL8T36			Cypress	CY7C282M (2585)		♦ S8242	Raytheon	RM8241		♦ S8880	Lansdale	SL8880	
♦ S8T80	Lansdale	SL8T80			Gould/AMI	S25089		♦ S8243	TI	SN54LS386		♦ S8881	Lansdale	SL8881	
♦ S8T90	Lansdale	SL8T90			Hitachi	HN25089		S8250	Lansdale	SL8242		♦ S8885	Lansdale	SL8885	
S8T95	National	DM7095			MMI	63S881			National	SL8243		♦ TBA120	National	TBA120	
	TI	SN54365A			National	DM77LS181				SL8250			Siemens	TBA120	
♦ S8T96	Lansdale	SL8T96				DM77S181				INS8250		♦ TBA530	Telefunken	TBA120	
	National	DM7096				DM77S281				INS8250A			Plessey	TBA530	
	TI	SN54366A				DM87S181		♦ S8251	Raytheon	RM8250		♦ TBA540	Telefunken	TBA530	
S8T97	National	DM7097				DM87S281		S825123	Lansdale	SL8251			Plessey	TBA540	
	TI	SN54367A				93Z451			AMD	AM27LS19		♦ TBA560	Telefunken	TBA540	
S8T98	National	DM7098				93Z451				AM27S19			Plessey	TBA560	
	TI	SN54368A				29631				27S19		♦ TBA750	Telefunken	TBA560	
♦ S8162	Lansdale	SL8162			Raytheon	29631AM			Fujitsu	MB7112		♦ TBA810	Plessey	TBA750	
S82HS187	AMD	AM27S45				29632			MMI	53S081			National	TBA810	
		AM27S45A				29632				63S081			SGS-Thomson	TBA810	
		AM27S47				N82S181			Motorola	MCM27S19				TBA810	
	Cypress	CY7C245 (2585)			Signetics	28586-60			National	DM74S288		♦ TBA920	Telefunken	TDA810	
	Fujitsu	MB7238			TI	28586-60				DM8578			Plessey	TBA920	
		MB7238RA		S82S185	AMD	AM27S185			Signetics	N82S123			SGS-Thomson	TBA920	
	MMI	PLE11RA8				27S185				N82US123				TBA920	
		PLE11RS8				MB7128				82S123				HD74HC298	
		53RA1681			Fujitsu	HN25085		S8252	Lansdale	RL8252		TC74HC298A	Hitachi	HD74HC298	
		53RA1681AS			Hitachi	63S841				SL8252			Motorola	MC74HC298	
		53RS1681			MMI	DM87S185			National	DM8301			National	MM74HC298	
		53RS1681S			National	29651				DM9301			SGS-Thomson	M74HC298	
		63RA1681			Raytheon	29651A				9031				SN74HC298	
		63RA1681AS				N82S185				9301			TI	SN74HC298	
		63RS1681			Signetics	24S81-55		♦ S8260	Raytheon	RC8252		♦ TDA2522	Toshiba	TDA2522	
		63RS1681AS		♦ S82S190	TI	AM27S190		♦ S8261	Lansdale	SL8260			National	TDA2522	
		63RS1681S			AMD	HN25168		S8262	Lansdale	SL8261		♦ TDA2523	Plessey	TDA2522	
	Signetics	N82HS187 (3232)			Hitachi	DM77S190			Raytheon	RC8262			National	TDA2523	
		N82HS197			National	DM87S190				RM8262		♦ TDA2530	Plessey	TDA2523	
		N82HS199				WS57C291	(3390)	♦ S8263	Signetics	N8262 (3076)		♦ TDA2530	Krueger	2532-350 (2877)	
		WS57C45		♦ S82S190	Waferscale	WS57C51	(3390)	♦ S8264	Lansdale	SL8262			National	2532-450 (2877)	
	AMD	AM27S35		S82S195	AMD	AM27S51		♦ S8264	Lansdale	SL8264		♦ TDA2530		2532-450 (2877)	
		AM27S37				AM27S51A		S8266	Lansdale	SL8266				NMC2532	
	Cypress	CY7C235 (2585)			Cypress	CY7C253			Raytheon	RC8266		♦ TDA2530	Plessey	TDA2530	
	MMI	53RS881				N82S195				RM8266		♦ TDA2530	SiemonG	TDA2530	
		63RS881			Signetics	WS57C51B (3390)		♦ S8267	Signetics	N8266 (3076)		♦ TDA2532	Krueger	2532-350 (2877)	
	Motorola	MCM27S35			Waferscale	WS57C51B (3390)		S8270	Lansdale	SL8267		♦ TDA2532	National	2532-450 (2877)	
	National	DM87SR181		♦ S82S212	National	93479			Raytheon	RM8270		♦ TDA2532		NMC2532	
	Signetics	N82HS189 (3233)			Signetics	N82S212		S8271	TI	SN54178				TDA2532	
S82S100	Signetics	N82S100				N82S223			Raytheon	RM8271				TDA2532	
S82S126	AMD	AM27S20		S82S23	MMI	63S080		♦ S8273	Lansdale	SL8273		♦ TDA2532	Plessey	TDA2532	
	MMI	63S140			Signetics	N82S23		♦ S8274	Lansdale	SL8274				TDA2532	
	National	DM54S387				N82US123		♦ S8275	Lansdale	SL8275		♦ TDA2532	Plessey	TDA2530	
S82S129	Signetics	N82S126			TI	TBPSA030		♦ S8277	Lansdale	SL8277		♦ TDA2540	SiemonG	SG2532	
	AMD	AM27S21		S82S25	Signetics	N82S25		S8280	Lansdale	RL8280			Plessey	TDA2540	
		27S21		♦ S82S41	Lansdale	SL8241			National	DM74176			SGS-Thomson	TDA2540	
	Fujitsu	MB7114			Motorola	SN54LS386 (2938)				DM8280		♦ TDA2541		TBA2540	
	MMI	63S141			National	DM54LS386				96176			DataLinear	SP2541	
		63S141A			Raytheon	RM8241			Raytheon	RC8280			Harris	HA2541 (2762)	
	National	DM74S287			TI	SN54LS386				RM8280			Plessey	TDA2541	
	Signetics	N82S129A		S82S129	AMD	AM27S21			Signetics	74176			SGS-Thomson	TDA2541	
		S82S129				27S21		♦ S8281	TI	SN74176		♦ TDA2560		TDA2541	
S82S130	Fujitsu	MB7115			Fujitsu	MB7114		♦ S8284	Lansdale	SL8281			Gould/AMI	S2560	
	MMI	63S240			MMI	63S141		♦ S8285	Lansdale	SL8284			National	TDA2560	
	National	DM74S570				63S141A		♦ S8290	Lansdale	SL8285			Plessey	TDA2560	
S82S131	Signetics	N82S130			National	DM74S287		♦ S8291	Lansdale	SL8290			SGS-Thomson	M2560	
	AMD	AM27S13			Signetics	N82S129A		♦ S8292	Lansdale	SL8291		♦ TDA2591	Supertex	CM2560	
	GE/Intersil	ICL7621 (2673, 2675)		S8202	Lansdale	S82S129		♦ S8293	Lansdale	SL8292			National	TDA2591	
		ICL7621			Raytheon	RM8202		♦ S8415	Lansdale	SL8293		♦ TDA2593	Telefunken	TDA2591	
	Maxim	MP7621		♦ S8203	Lansdale	SL8203		♦ S8416	Lansdale	SL8415			National	TDA2593	
	MicroPwr	63S241		♦ S82147	GE/RCA	CD4508 (2638)		♦ S8417	Lansdale	SL8416			Plessey	TDA2593	
	MMI	DM74S571			Motorola	MC14508 (2941)		♦ S8424	Lansdale	SL8417			SGS-Thomson	TDA2593	
	National	DM74S571A			SGS-Thomson	HCC/HCF4508		♦ S8425	Lansdale	SL8424				TDA2593	
		N82S131				HEF4508		♦ S8440	Lansdale	SL8425		♦ ULN2001	Telefunken	TDA2593	
S82S137	Signetics	N82S137			Signetics	TC4508B (3341)		♦ S8455	Lansdale	SL8440			Exar	XR2001 (2619)	
♦ S82S140	AMD	AM27S30			Toshiba	DM74148		♦ S8470	Lansdale	SL8455				XR2001C (2619)	
	National	DM74S475		♦ S82148	National	DM8318		♦ S8471	Lansdale	SL8470		♦ ULN2001	Mitsubishi	XR2201 (2619)	
		DM77S475				N82148				SL8270				M54524	
		DM87S475		♦ S82148	Signetics	74148 (3057)		♦ S8471	Motorola	SN54LS12 (2937)		♦ ULN2001	Motorola	MC1411 (2984)	
S82S141	AMD	AM27S31				SN74148			National	DM54LS12				ULN2001	
	GE/Intersil	ICL7641 (2673, 2675)		♦ S82148	TI	SL8221		♦ S8480	TI	SN54LS12		♦ ULN2001	National	µA9665	
		ICL7641		♦ S8221	Lansdale	8224		♦ S8481	Lansdale	SL8480			Sanyo	LB1231	
	Harris	HM6642 (2752)		S8224	Intel	DP8224		♦ S8490	Lansdale	SL8481			SGS-Thomson	L201	
	Maxim	ICL7641			National	INS8224				SL8490				ULN2001	

♦ Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				(Cont'd)											
• ULN2001	SiliconG Sprague	SG2001 ULN2001 ULQ2001 ULS2001 ULN2001 ULN2001A	(3258)	100165	VLSI Tech	VT64KS4	(2590)	10158	Motorola	MC10158	(2944)	2332	Commodore	MPS2332	
• ULN2001	TI	TD62001 TD62101		100170	Cypress	CYPLDC20G10		10159	Motorola	MC10159	(2944)	Fujitsu	P51C69		
• ULN2001	Toshiba	XR2203C XR2203C	(2619)		Gould/AMI	PEEL20CG10	(4257)	10160	Motorola	MC10160	(2947)	Hitachi	P51C69		
• ULN2003	Exar	M54523 M54523	(2619)		ICT	PEEL20CG10		10161	Motorola	MC10161	(2945)	Intel	UM2168		
• ULN2003	Mitsubishi	ULN2003 ULN2003			MMI	PAL20R6		10162	Motorola	MC10162	(2945)		Microchip	R09432	
• ULN2003	Motorola	ULN2003 ULN2003	(2984, 2989)		National	F100170		10164	Motorola	MC10164	(2944)	TI	MS8333		
• ULN2003	National	ULN2003 ULN2003		100171	TI	TIBPAL20R6		10165	Motorola	MC10165	(2946)	National	F3532		
• ULN2003	Sanyo	ULN2003 ULN2003		100175	GE/RCA	CD22223	(2646)	10171	Motorola	MC10171	(2945)	NCR	NCR2332		
• ULN2003	SGS-Thomson	ULN2003 ULN2003			National	F100175		10172	Motorola	MC10172	(2945)	Panasonic	MN2332		
• ULN2003	SiliconG	ULN2003 ULN2003	(3258)	100180	SiliconSys	SSI223		10174	Motorola	MC10174	(2944)	Sharp	LH2332		
• ULN2003	TI	ULN2003 ULN2003			Cypress	CY7C510	(2590)	10175	Motorola	MC10175	(2941)	Siemens	SAB8332		
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100181	LSI Logic	L64010	(2888)	10178	Motorola	MC10178	(2942)	Signetics	2632A		
• ULN2004	Mitsubishi	ULN2004 ULN2004	(2984)		National	F100180		10179	Motorola	MC10179	(2947)	SiliconG	SG3532		
• ULN2004	Sanyo	ULN2004 ULN2004			Waterscale	WS59510		10180	Motorola	MC10180	(2947)	Supertex	CM3200		
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100181	Cypress	CY7C164	(2580)	10181	Motorola	MC10181	(2947)	TI	D51C69		
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)		TI	SMJ64C64		10188	Motorola	MC10188	(2939)	Toshiba	P51C69		
• ULN2004	TI	ULN2004 ULN2004		100415	Vitellic	V61C62		10189	Motorola	MC10189	(2939)	VLSI Tech	TMM333P		
• ULN2004	Toshiba	ULN2004 ULN2004			VLSI Tech	CT64KS4		10192	Motorola	MC10192		VLSI Tech	VT2332		
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100422	AMD	AM100415		10210	Motorola	MC10210	(2937)	Weittek	SC8164		
• ULN2004	Mitsubishi	ULN2004 ULN2004	(2984)		Fujitsu	MBM100415		10211	Motorola	MC10211	(2938)	Microchip	R09464		
• ULN2004	Sanyo	ULN2004 ULN2004		100422	National	F100415		10216	Motorola	MC10216	(2946)	Mitsubishi	MS8334		
• ULN2004	SGS-Thomson	ULN2004 ULN2004			Fujitsu	MBM100422		10231	Motorola	MC10231	(2942)	National	MM52164		
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100422	Motorola	DM100422		10415	Motorola	MC10415	(2948)	Signetics	2664		
• ULN2004	TI	ULN2004 ULN2004			National	F100422		10422	Motorola	MC10422		Commodore	MPS2332		
• ULN2004	Toshiba	ULN2004 ULN2004		100422	NEC	MBM100422A		10470	Motorola	MC10470		Fujitsu	P51C69		
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	Immos	IMS2800		10470	Motorola	MC10470		Hitachi	UM2168		
• ULN2004	SGS-Thomson	ULN2004 ULN2004			NEC	IMS2801		10474	Motorola	MC10474		Intel	51C69		
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	NEC	µPB100422		10474	Motorola	MC10474		Microchip	R09432		
• ULN2004	TI	ULN2004 ULN2004		100470	Fujitsu	MBM100470A		10474	Motorola	MC10474		Mitsubishi	MS8333		
• ULN2004	Toshiba	ULN2004 ULN2004		100470	Immos	IMS2800		10474	Motorola	MC10474		National	F3532		
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	NEC	µPB100470		10474	Motorola	MC10474		NCR	NM52132		
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	Vitellic	V51C256		10474	Motorola	MC10474		NCR	NCR2332		
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	AMD	V51C257		10474	Motorola	MC10474		Panasonic	MN2332		
• ULN2004	TI	ULN2004 ULN2004		100470	Fujitsu	MBM100474		10474	Motorola	MC10474		Sharp	LH2332		
• ULN2004	Toshiba	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Siemens	SAB8332		
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	National	MBM100474A		10474	Motorola	MC10474		Signetics	SAB8332		
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		TI	2332		
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	NEC	MBM100474A		10474	Motorola	MC10474		SiliconG	SG3532		
• ULN2004	TI	ULN2004 ULN2004		100470	Saratoga	SSM100474		10474	Motorola	MC10474		Supertex	CM3200		
• ULN2004	Toshiba	ULN2004 ULN2004		100470	AMD	MBM100474A		10474	Motorola	MC10474		TI	D51C69		
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Toshiba	P51C69		
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		VLSI Tech	TMM333P		
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Microchip	R09464		
• ULN2004	TI	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Mitsubishi	MS8334		
• ULN2004	Toshiba	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		National	MM52164		
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Signetics	2664		
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		ITT	ITT4116		
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-120	(2877)	
• ULN2004	TI	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-150	(2877)	
• ULN2004	Toshiba	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	TI	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Toshiba	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	TI	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Toshiba	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	TI	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Toshiba	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	TI	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Toshiba	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	TI	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Toshiba	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	Exar	ULN2004 ULN2004	(2619)	100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SGS-Thomson	ULN2004 ULN2004		100470	NEC	MBM100474A		10474	Motorola	MC10474		Krueger	4116-200	(2877)	
• ULN2004	SiliconG	ULN2004 ULN2004	(3258)	1004											

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				54AC11151	TI	54AC11151		54F32	Motorola	MC54F32 (2937)		54HCT191	GE/RCA	CD54HCT191 (2640)	
27C256		(Cont'd)		54AC11153	TI	54AC11153		54F32	National	SN54F32		54HCT192	National	MM54HCT191	
	Sony	CKX54256P		54AC11157	TI	54AC11157		54F333	Motorola	MC54F333		54HCT193	GE/RCA	CD54HCT192 (2640)	
	TI	SMJ27C256 (3286)		54AC11158	TI	54AC11158		54F373	Motorola	MC54F373 (2941)					
		TMS27C256 (3326)		54AC11161	TI	54AC11161		54F374	National	54F373		54HCT194	GE/RCA	CD54HCT193 (2640)	
		TMS27PC256 (3326)		54AC11163	TI	54AC11163			Motorola	MC54F374 (2942)		54HCT195	GE/RCA	CD54HCT194 (2640)	
	Toshiba	TC54256		54AC11169	TI	54AC11169		54F521	Motorola	MC54F521 (2946)		54HCT20	GE/RCA	CD54HCT195 (2640)	
		TC57256		54AC11175	TI	54AC11175			National	SN54F521		54HCT221	GE/RCA	CD54HCT20 (2640)	
	VLSI Tech	VT27C256		54AC11191	TI	54AC11191		54F534	Motorola	MC54F534 (2942)		54HCT238	CTI	54HCT238 (2640)	
	Waferscale	WS27C256 (3390)		54AC11194	TI	54AC11194			National	SN54F534			GE/RCA	CD54HCT238 (2640)	
		WS57C256 (3390)		54AC11238	TI	54AC11238		54F620	Motorola	MC54F620			GE/RCA	CD54HCT238 (2640)	
		WS57C256F (3390)		54AC11240	TI	54AC11240			National	SN54F620		54HCT240	CTI	54HCT240 (2640)	
27C64	Fujitsu	MBM27C64		54AC11241	TI	54AC11241		54HCT00	GE/RCA	CD54HCT00 (2639, 2653)			GE/RCA	CD54HCT240 (2640)	
	Intel	M27C64		54AC11244	TI	54AC11244			Motorola	MC54HCT00			GE/RCA	CD54HCT240 (2640)	
		87C64		54AC11245	TI	54AC11245		54HCT02	GE/RCA	CD54HCT02 (2639)			GE/RCA	CD54HCT240 (2640)	
	Krueger	27C64-200		54AC11251	TI	54AC11251		54HCT04	GE/RCA	CD54HCT04 (2639)			GE/RCA	CD54HCT240 (2640)	
		27C64-250		54AC11253	TI	54AC11253			Motorola	MC54HCT04			GE/RCA	CD54HCT240 (2640)	
		27C64-300		54AC11257	TI	54AC11257			National	SN54HCT04			GE/RCA	CD54HCT240 (2640)	
	Microchip	27C64 (2911)		54AC11258	TI	54AC11258			Motorola	MC54HCT04			GE/RCA	CD54HCT240 (2640)	
	OKI	MSM27C64		54AC11280	TI	54AC11280			National	SN54HCT04			GE/RCA	CD54HCT240 (2640)	
	S-MOS	SPM27C64		54AC11352	TI	54AC11352			Motorola	MC54HCT04			GE/RCA	CD54HCT240 (2640)	
	SGS-Thomson	TS27C64		54AC11353	TI	54AC11353			National	SN54HCT04			GE/RCA	CD54HCT240 (2640)	
		TMS27C64 (3326)		54AC11373	TI	54AC11373			Motorola	MC54HCT04			GE/RCA	CD54HCT240 (2640)	
	VLSI Tech	VT27C64		54AC11374	TI	54AC11374			National	SN54HCT04			GE/RCA	CD54HCT240 (2640)	
	Waferscale	WS27C64		54AC11520	TI	54AC11520			Motorola	MC54HCT08 (2639)			GE/RCA	CD54HCT241 (2640)	
	Atmel	AT27HC64		54AC11533	TI	54AC11533			National	SN54HCT08			GE/RCA	CD54HCT241 (2640)	
	Crystal	CS203		54AC11534	TI	54AC11534			Motorola	MC54HCT08			GE/RCA	CD54HCT241 (2640)	
	Cypress	CY7C261 (2585)		54F00	Motorola	MC54F00 (2937)		54HCT10	GE/RCA	CD54HCT10 (2640)			GE/RCA	CD54HCT241 (2640)	
		CY7C263 (2585)		54F02	Motorola	MC54F02 (2938)		54HCT107	GE/RCA	CD54HCT107 (2640)			GE/RCA	CD54HCT241 (2640)	
		CY7C264 (2585)			National	SN54F02			Motorola	MC54HCT10			GE/RCA	CD54HCT241 (2640)	
	GE/RCA	CD22203 (2645)		54F04	Motorola	MC54F04 (2939)			National	SN54HCT10			GE/RCA	CD54HCT241 (2640)	
	ICT	27CX641 (2875)			National	SN54F04			Motorola	MC54HCT11			GE/RCA	CD54HCT241 (2640)	
		27CX642 (2875)		54F08	Motorola	MC54F08 (2937)			National	SN54HCT11			GE/RCA	CD54HCT241 (2640)	
	Microchip	27HC641 (2908)			National	SN54F08			Motorola	MC54HCT12			GE/RCA	CD54HCT241 (2640)	
	National	93Z667		54F10	Motorola	MC54F10 (2937)			National	SN54HCT12			GE/RCA	CD54HCT241 (2640)	
	Sharp	LH5749			National	SN54F10			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	SiliconSys	SSI203		54F109	Motorola	MC54F109 (2941)			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
		SSI75T203 (3255)			National	SN54F109			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	Waferscale	WS57C49 (3390)		54F11	Motorola	MC54F11 (2937)			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
		WS57C49D (3390)			National	SN54F11			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
		WS57C49T (3390)		54F138	Motorola	MC54F138 (2945)			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
2960	AMD	AM2960			National	SN54F138			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	IDT	IDT39C60 (2831)		54F139	Motorola	MC54F139 (2945)			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	AMD	AM9124			National	SN54F138			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	CMD Micro	G2114		54F157	Motorola	MC54F157 (2944)			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	Cypress	CY7C148 (2580)			National	SN54F157			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	Harris	HA5114		54F158	Motorola	MC54F158 (2944)			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
		HM6514 (2748)			National	SN54F158			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	Inmos	IMS1223 (2789)			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	Intel	5114			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	Matra-Harris	HM6514			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	Mitsubishi	M58981			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	OKI	MSM5114			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	Sanyo	LC3514			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
	UMC	UM6104			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11000	TI	54ACT11000			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11004	TI	SN54ACT11004			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11011	TI	54ACT11011			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11021	TI	54ACT11021			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11030	TI	54ACT11030			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11032	TI	54ACT11032			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11074	TI	54ACT11074			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11109	TI	54ACT11109			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11138	TI	54ACT11138			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11240	TI	54ACT11240			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11241	TI	54ACT11241			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11244	TI	54ACT11244			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11245	TI	54ACT11245			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11299	TI	54ACT11299			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11373	TI	54ACT11373			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11374	TI	54ACT11374			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11520	TI	54ACT11520			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11533	TI	54ACT11533			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54ACT11534	TI	54ACT11534			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11000	TI	54AC11000			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11002	TI	54AC11002			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11004	TI	54AC11004			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11008	TI	54AC11008			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11010	TI	54AC11010			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11011	TI	54AC11011			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11020	TI	54AC11020			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11027	TI	54AC11027			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11030	TI	54AC11030			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11032	TI	54AC11032			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11034	TI	54AC11034			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11074	TI	54AC11074			National	SN54F157A			Motorola	MC54HCT13			GE/RCA	CD54HCT241 (2640)	
54AC11109	TI														

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				• 54HCT564	CTI GE/RCA	54HCT564 CD54HCT564 (2641)		54HC123	GE/RCA	CD54HC123 (2640)		• 54HC164	National TI	MM54HC164 SN54HC164 CD54HC165 (2640)	(Cont'd)
• 54HCT32	GE/RCA	CD54HCT32 (2640)		• 54HCT573	National CTI	MM54HCT564 SN54HCT564 54HCT573 CD54HCT573 (2641)		• 54HC132	GE/RCA	CD54HC132 (2640)		• 54HC165	GE/RCA	MC54HC165 (2943)	
• 54HCT354	GE/RCA	CD54HCT354 (2640)		• 54HCT574	National CTI	MM54HCT573 SN54HCT573 54HCT574 CD54HCT574 (2641)		• 54HC133	Motorola	MC54HC132 (2937, 2940)		• 54HC166	GE/RCA	MM54HC165 SN54HC165 CD54HC166 (2640)	
• 54HCT356	GE/RCA	CD54HCT356 (2640)		• 54HCT640	GE/RCA	MM54HCT574 SN54HCT574 CD54HCT640 (2641)		• 54HC138	TI	MC54HC133 (2937)		• 54HC173	Motorola	MC54HC166 MM54HC166 SN54HC166 CD54HC173 (2640)	
• 54HCT365	GE/RCA	CD54HCT365 (2641)		• 54HCT643	Motorola	MC54HCT640 MM54HCT640 SN54HCT640 CD54HCT643 (2641)		• 54HC139	GE/RCA	MC54HC138 (2640)		• 54HC174	National TI	MM54HC173 SN54HC173 CD54HC174 (2640)	
• 54HCT366	GE/RCA	CD54HCT366 (2641)		• 54HCT646	GE/RCA	MC54HCT643 MM54HCT643 SN54HCT643 CD54HCT646 (2641)		• 54HC14	Motorola	MC54HC139 (2945)		• 54HC175	Motorola	MC54HC174 (2942)	
• 54HCT367	GE/RCA	CD54HCT367 (2641)		• 54HCT648	TI	SN54HCT646 CD54HCT648 (2641)		• 54HC147	GE/RCA	MC54HC147 (2640)		• 54HC191	National TI	MM54HC174 SN54HC174 CD54HC175 (2640)	
• 54HCT368	GE/RCA	CD54HCT368 (2641)		• 54HCT670	GE/RCA	CD54HCT670 (2641)		• 54HC151	Motorola	MC54HC147 (2640)		• 54HC192	Motorola	MC54HC191 MM54HC191 SN54HC191 CD54HC192 (2640)	
• 54HCT373	CTI GE/RCA	54HCT373 CD54HCT373 (2641, 2653)		• 54HCT688	GE/RCA	CD54HCT688 (2641, 2649)		• 54HC153	GE/RCA	MC54HC151 (2944)		• 54HC193	Motorola	MC54HC192 MM54HC192 SN54HC192 CD54HC193 (2640)	
• 54HCT377	GE/RCA	CD54HCT377 (2641)		• 54HCT73	GE/RCA	CD54HCT73 (2640)		• 54HC154	Motorola	MC54HC153 (2944)		• 54HC194	National TI	MM54HC193 SN54HC193 CD54HC194 (2640)	
• 54HCT390	GE/RCA	CD54HCT390 (2641)		• 54HCT74	GE/RCA	CD54HCT74 (2640)		• 54HC155	Motorola	MC54HC154 (2945)		• 54HC195	Motorola	MC54HC194 MM54HC194 SN54HC194 CD54HC195 (2640)	
• 54HCT393	GE/RCA	CD54HCT393 (2641)		• 54HCT75	GE/RCA	CD54HCT75 (2640)		• 54HC157	Motorola	MC54HC155 (2640)		• 54HC20	National TI	MM54HC195 SN54HC195 CD54HC20 (2640)	
• 54HCT4002	GE/RCA	CD54HCT4002 (2641)		• 54HCT85	GE/RCA	CD54HCT85 (2640)		• 54HC158	GE/RCA	MC54HC157 (2640)		• 54HC21	Motorola	MC54HC20 (2937)	
• 54HCT40104	GE/RCA	CD54HCT40104 (2642)		• 54HCT86	GE/RCA	CD54HCT86 (2640)		• 54HC160	Motorola	MC54HC158 (2640)		• 54HC221	National TI	MM54HC20 SN54HC20 CD54HC221 (2640)	
• 54HCT40105	GE/RCA	CD54HCT40105 (2642)		• 54HCU04	Motorola	CD54HCU04 (2642, 2649)		• 54HC161	Motorola	MC54HC158 (2944)		• 54HC238	Motorola	MC54HC221 MM54HC221 SN54HC221 CD54HC238 (2640)	
• 54HCT4017	GE/RCA	CD54HCT4017 (2641)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)		• 54HC162	Motorola	MC54HC158 (2640)		• 54HC240	Motorola	MC54HC240 (2939)	
• 54HCT4020	GE/RCA	CD54HCT4020 (2641)		• 54HCU04	Motorola	MC54HCU04 (2939)		• 54HC163	Motorola	MC54HC160 (2640)		• 54HC241	National Supertex TI	MM54HC240 54HC240 SN54HC240 CD54HC241 (2640)	
• 54HCT4024	GE/RCA	CD54HCT4024 (2641)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)		• 54HC164	Motorola	MC54HC161 (2942)		• 54HC242	Motorola	MM54HC241 54HC241 SN54HC241 CD54HC242 (2640)	
• 54HCT4040	GE/RCA	CD54HCT4040 (2641)		• 54HCU04	Motorola	MC54HCU04 (2939)		• 54HC166	Motorola	MC54HC161 (2942)		• 54HC243	National TI	MM54HC242 SN54HC242 CD54HC243 (2640)	
• 54HCT4049	GE/RCA	CD54HCT4049 (2641, 2655)		• 54HCU04	Motorola	MC54HCU04 (2939)		• 54HC166	Motorola	MC54HC164 (2943)			Motorola	MC54HC243 (2939)	
• 54HCT4050	GE/RCA	CD54HCT4050 (2641, 2655)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)									
• 54HCT4051	GE/RCA	CD54HCT4051 (2641, 2655)		• 54HCU04	Motorola	MC54HCU04 (2939)									
• 54HCT4052	GE/RCA	CD54HCT4052 (2641, 2655)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)									
• 54HCT4053	GE/RCA	CD54HCT4053 (2641, 2655)		• 54HCU04	Motorola	MC54HCU04 (2939)									
• 54HCT4060	GE/RCA	CD54HCT4060 (2641)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)									
• 54HCT42	GE/RCA	CD54HCT42 (2640)		• 54HCU04	Motorola	MC54HCU04 (2939)									
• 54HCT4511	GE/RCA	CD54HCT4511 (2641)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)									
• 54HCT4514	GE/RCA	CD54HCT4514 (2641)		• 54HCU04	Motorola	MC54HCU04 (2939)									
• 54HCT4520	GE/RCA	CD54HCT4520 (2641)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)									
• 54HCT4538	GE/RCA	CD54HCT4538 (2641)		• 54HCU04	Motorola	MC54HCU04 (2939)									
• 54HCT533	CTI GE/RCA	54HCT533 CD54HCT533 (2641)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)									
• 54HCT534	Motorola National TI	MC54HCT533 MM54HCT533 SN54HCT533 54HCT534 CD54HCT534 (2641)		• 54HCU04	Motorola	MC54HCU04 (2939)									
• 54HCT540	Motorola National TI	MC54HCT534 MM54HCT534 SN54HCT534 54HCT540 CD54HCT540 (2641)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)									
• 54HCT541	Motorola National Supertex TI	MC54HCT540 MM54HCT540 54HCT540 SN54HCT540 54HCT541 CD54HCT541 (2641)		• 54HCU04	Motorola	MC54HCU04 (2939)									
• 54HCT563	CTI GE/RCA	54HCT563 CD54HCT563 (2641)		• 54HCU04	National TI	MM54HCU04 SN54HCU04 CD54HCU04 (2639, 2653)									
	National TI	MM54HCT563 SN54HCT563 (Continued)													

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				54HC365	GE/RCA	CD54HC365 (2641)		54HC4050	GE/RCA	CD54HC4050 (2641)		54HC640	National	MM54HC640 (2641)	
54HC243	National	MM54HC243 (2640)		Motorola	MC54HC365 (2939)			Motorola	MC54HC4050 (2939)			54HC643	GE/RCA	CD54HC643 (2641)	
54HC243	TI	SN54HC243		National	MM54HC365 (3057)			National	MM54HC4050 (2641, 2655)			Motorola	MC54HC643		
54HC244	GE/RCA	CD54HC244 (2640, 2653)		54HC366	GE/RCA	CD54HC366 (2641)		54HC4051	GE/RCA	CD54HC4051 (2641, 2655)		Motorola	MM54HC643		
	Motorola	MC54HC244 (2939)		Motorola	MC54HC366 (2939)			Motorola	MC54HC4051 (2945)			TI	SN54HC643		
	National	MM54HC244 (2640)		National	MM54HC366 (2641)			National	MM54HC4051 (2641, 2655)			National	MM54HC645		
54HC245	Supertex	54HC244		54HC367	GE/RCA	CD54HC367 (2641)		54HC4052	GE/RCA	CD54HC4052 (2641, 2655)		54HC646	GE/RCA	CD54HC646 (2641)	
	TI	SN54HC244		Motorola	MC54HC367 (2939)			Motorola	MC54HC4052 (2945)			Motorola	MC54HC646		
	GE/RCA	CD54HC245 (2640, 2653)		Motorola	MC54HC367 (2939)			National	MM54HC4052 (2641, 2655)			National	MM54HC646		
	Motorola	MC54HC245 (2939)		National	MM54HC367 (2641)			GE/RCA	CD54HC4053 (2641, 2655)			GE/RCA	CD54HC648		
	National	MM54HC245 (2640)		54HC368	GE/RCA	CD54HC368 (2641)		54HC4053	GE/RCA	CD54HC4053 (2641, 2655)		54HC648	GE/RCA	CD54HC648 (2641)	
54HC251	TI	SN54HC251		Motorola	MC54HC368 (2939)			Motorola	MC54HC4053 (2945)			Motorola	MC54HC648		
	GE/RCA	CD54HC251 (2640)		National	MM54HC368 (2641)			National	MM54HC4053 (2641)			National	MM54HC648		
	Motorola	MC54HC251 (2944)		54HC373	GE/RCA	CD54HC373 (2641, 2653)		54HC4060	GE/RCA	CD54HC4060 (2641)		54HC670	GE/RCA	CD54HC670 (2641)	
	National	MM54HC251 (2640)		Motorola	MC54HC373 (2941)			Motorola	MC54HC4060 (2943)			GE/RCA	CD54HC688 (2641, 2649)		
54HC253	TI	SN54HC251		54HC374	GE/RCA	CD54HC374 (2641, 2653)		54HC42	GE/RCA	CD54HC42 (2640)		Motorola	MC54HC688		
	GE/RCA	CD54HC253 (2640)		Motorola	MC54HC374 (2942)			Motorola	MC54HC42 (2945)			National	MM54HC688		
	Motorola	MC54HC253 (2944)		National	MM54HC373 (2641)			National	MM54HC42 (2641)			TI	SN54HC688		
	National	MM54HC253 (2640)		Supertex	54HC373			GE/RCA	CD54HC4514 (2641)			GE/RCA	CD54HC73 (2640)		
54HC257	TI	SN54HC253		54HC374	GE/RCA	CD54HC374 (2641, 2653)		54HC4514	GE/RCA	CD54HC4514 (2641)		Motorola	MC54HC73 (2941)		
	GE/RCA	CD54HC257 (2640, 2653)		Motorola	MC54HC374 (2942)			Motorola	MC54HC4514 (2945)			National	MM54HC73		
	Motorola	MC54HC257 (2944)		National	MM54HC374 (2641)			National	MM54HC4514 (2641)			TI	SN54HC73		
	National	MM54HC257 (2640)		Supertex	54HC374			TI	SN54HC4514			54HC74	GE/RCA	CD54HC74 (2640)	
54HC259	TI	SN54HC257		54HC377	GE/RCA	CD54HC377 (2641)		54HC4520	GE/RCA	CD54HC4520 (2641)		Motorola	MC54HC74 (2941)		
	GE/RCA	CD54HC259 (2640)		Motorola	MC54HC377 (2941)			Motorola	MC54HC4520 (2641)			National	MM54HC74		
	Motorola	MC54HC259 (2941)		54HC390	GE/RCA	CD54HC390 (2641)		54HC4538	GE/RCA	CD54HC4538 (2641)		54HC75	GE/RCA	CD54HC75 (2640)	
	National	MM54HC259 (2640)		Motorola	MC54HC390 (2942)			Motorola	MC54HC4538 (2641)			Motorola	MC54HC75 (2941)		
54HC266	TI	SN54HC259		54HC393	GE/RCA	CD54HC393 (2641)		54HC533	GE/RCA	CD54HC533 (2641)		National	MM54HC75		
	Motorola	MC54HC266 (2941)		Motorola	MC54HC393 (2942)			Motorola	MC54HC533 (2941)			TI	SN54HC75		
	National	MM54HC266 (2640)		National	MM54HC390 (2641)			National	MM54HC533 (2641)			54HC76	Motorola	MC54HC76 (2941)	
54HC27	GE/RCA	CD54HC27 (2640)		54HC4002	GE/RCA	CD54HC4002 (2641)		54HC534	GE/RCA	CD54HC534 (2641)		National	MM54HC76		
	Motorola	MC54HC27 (2938)		Motorola	MC54HC4002 (2938)			Motorola	MC54HC534 (2942)			TI	SN54HC76		
	National	MM54HC27 (2640)		National	MM54HC393 (2641)			National	MM54HC534 (2641)			GE/RCA	CD54HC85 (2640)		
54HC273	TI	SN54HC27		54HC4010	GE/RCA	CD54HC4010 (2641)		54HC540	GE/RCA	CD54HC540 (2641)		Motorola	MC54HC85 (2946)		
	CTI	54HC273		Motorola	MC54HC4010 (2942)			Motorola	MC54HC540 (2940)			National	MM54HC85		
	GE/RCA	CD54HC273 (2640)		National	MM54HC393 (2641)			National	MM54HC540 (2641)			TI	SN54HC85		
	Motorola	MC54HC273 (2942)		54HC4015	GE/RCA	CD54HC4015 (2641)		54HC541	GE/RCA	CD54HC541 (2641)		54HC86	GE/RCA	CD54HC86 (2640)	
	National	MM54HC273 (2640)		Motorola	MC54HC4015 (2942)			Motorola	MC54HC541 (2940)			Motorola	MC54HC86 (2938)		
54HC280	TI	SN54HC273		54HC4020	GE/RCA	CD54HC4020 (2641)		54HC545	GE/RCA	CD54HC545 (2641)		National	MM54HC86		
	GE/RCA	CD54HC280 (2640)		Motorola	MC54HC4020 (2938)			Motorola	MC54HC545 (2940)			TI	SN54HC86		
	Motorola	MC54HC280 (2947)		National	MM54HC4002 (2641)			National	MM54HC545 (2641)			Lansdale	SL54H00		
	National	MM54HC280 (2640)		54HC4017	GE/RCA	CD54HC4017 (2641)		54HC553	GE/RCA	CD54HC553 (2641)		Lansdale	SL54H01		
54HC297	TI	SN54HC280		Motorola	MC54HC4017 (2943)			Motorola	MC54HC553 (2941)			Lansdale	SL54H08		
	GE/RCA	CD54HC297 (2640)		54HC4024	GE/RCA	CD54HC4024 (2641)		54HC563	GE/RCA	CD54HC563 (2641)		Lansdale	SL54H10		
54HC299	GE/RCA	CD54HC299 (2640)		54HC4040	GE/RCA	CD54HC4040 (2641)		54HC564	GE/RCA	CD54HC564 (2641)		Lansdale	SL54H103		
	Motorola	MC54HC299 (2944)		54HC4049	GE/RCA	CD54HC4049 (2641)		54HC573	GE/RCA	CD54HC573 (2641)		Lansdale	SL54H108		
	National	MM54HC299 (2640)		Motorola	MC54HC4049 (2943)			Motorola	MC54HC573 (2641)			National	DM54H108		
54HC30	GE/RCA	CD54HC30 (2640)		54HC4050	GE/RCA	CD54HC4050 (2641)		54HC640	GE/RCA	CD54HC640 (2641)		Lansdale	ML3106 (2880)		
	Motorola	MC54HC30 (2937)		Motorola	MC54HC4050 (2939)			Motorola	MC54HC640 (2940)			Lansdale	SL54H11		
	National	MM54HC30 (2640)		National	MM54HC4002 (2641)			National	MM54HC640 (2641)			Lansdale	SL54H20		
54HC32	GE/RCA	CD54HC32 (2640)		54HC4024	GE/RCA	CD54HC4024 (2641)		54HC574	GE/RCA	CD54HC574 (2641)		Lansdale	SL54H30		
	Motorola	MC54HC32 (2937)		Motorola	MC54HC4024 (2943)			Motorola	MC54HC574 (2942)			Lansdale	SL54H40		
	National	MM54HC32 (2640)		National	MM54HC4024 (2641)			National	MM54HC574 (2641)			Lansdale	SL54H52		
54HC354	TI	SN54HC32		54HC4049	GE/RCA	CD54HC4049 (2641)		54HC577	GE/RCA	CD54HC577 (2641)		Lansdale	SL54H53		
	GE/RCA	CD54HC354 (2640)		Motorola	MC54HC4049 (2943)			Motorola	MC54HC577 (2942)			Lansdale	SL54H54		
	Motorola	MC54HC354 (2945)		54HC4099	GE/RCA	CD54HC4099 (2641)		54HC580	GE/RCA	CD54HC580 (2641)		Lansdale	SL54H54		
	National	MM54HC354 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Lansdale	SL54H60		
54HC356	GE/RCA	CD54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Lansdale	SL54H71		
	Motorola	MC54HC356 (2945)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Lansdale	SL54H72		
	National	MM54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Lansdale	SL54H73		
	TI	SN54HC356		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Lansdale	SL54H74		
	GE/RCA	CD54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Lansdale	SL54H76		
	Motorola	MC54HC356 (2945)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Motorola	SN54LS00 (2937)		
	National	MM54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			National	DM54LS00		
	TI	SN54HC356		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			SGS-Thomson	54LS00		
	GE/RCA	CD54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			TI	T54LS00		
	Motorola	MC54HC356 (2945)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Motorola	SN54LS00		
	National	MM54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			National	DM54LS01		
	TI	SN54HC356		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			TI	SN54LS01		
	GE/RCA	CD54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Motorola	SN54LS02 (2938)		
	Motorola	MC54HC356 (2945)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			National	DM54LS02		
	National	MM54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			SGS-Thomson	54LS02		
	TI	SN54HC356		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			TI	T54LS02		
	GE/RCA	CD54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Motorola	SN54LS02 (2937)		
	Motorola	MC54HC356 (2945)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			National	DM54LS03		
	National	MM54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			SGS-Thomson	54LS03		
	TI	SN54HC356		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			TI	T54LS03		
	GE/RCA	CD54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Motorola	SN54LS03 (2937)		
	Motorola	MC54HC356 (2945)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			National	DM54LS03		
	National	MM54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			SGS-Thomson	54LS03		
	TI	SN54HC356		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			TI	T54LS03		
	GE/RCA	CD54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Motorola	SN54LS03 (2937)		
	Motorola	MC54HC356 (2945)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			National	DM54LS03		
	National	MM54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			SGS-Thomson	54LS03		
	TI	SN54HC356		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			TI	T54LS03		
	GE/RCA	CD54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			Motorola	SN54LS03 (2937)		
	Motorola	MC54HC356 (2945)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			National	DM54LS03		
	National	MM54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			SGS-Thomson	54LS03		
	TI	SN54HC356		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)			TI	T54LS03		
	GE/RCA	CD54HC356 (2640)		Motorola	MC54HC4099 (2939)			Motorola	MC54HC580 (2942)						

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				54LS138	Motorola National	SN54LS138 (2945) DM54LS138 54LS138		54LS174	Motorola National	SN54LS174 (2942) DM54LS174 54LS174		54LS253	Motorola National	SN54LS253 (2944) DM54LS253 DM7214 54LS253	
• 54LS03	SGS-Thomson	T54LS03 SN54LS03			SGS-Thomson	T54LS138 SN54LS138			SGS-Thomson	T54LS174 SN54LS174			SGS-Thomson	T54LS253 SN54LS253	
54LS04	TI Motorola National	SN54LS04 (2939) DM54LS04 54LS04		54LS139	TI Motorola National	SN54LS139 (2945) DM54LS139 54LS139		54LS175	TI Motorola National	SN54LS175 (2942) DM54LS175 54LS175		• 54LS26	TI Motorola National	SN54LS26 (2937) DM54LS26 54LS26	
	SGS-Thomson	T54LS04 SN54LS04			SGS-Thomson	T54LS139 SN54LS139A			SGS-Thomson	T54LS175 SN54LS175		• 54LS26	SGS-Thomson	T54LS26 SN54LS26	
• 54LS05	TI Motorola National	SN54LS05 (2939) DM54LS05 54LS05		54LS14	TI Motorola National	SN54LS14 (2940) DM54LS14 54LS14		54LS181	TI Motorola National	SN54LS181 (2947) DM54LS181		54LS260A	TI Motorola	SN54LS260A (2938) 54LS260	
• 54LS05	SGS-Thomson	T54LS05 SN54LS05			SGS-Thomson	T54LS14 SN54LS14			SGS-Thomson	T54LS181 SN54LS181			National SGS-Thomson	54LS260	
54LS08	TI Motorola National	SN54LS08 (2937) DM54LS08 54LS08		• 54LS15	TI Motorola National	SN54LS15 (2937) DM54LS15 54LS15		54LS190	TI Motorola National	SN54LS190 (2942) DM54LS190		54LS266	TI Motorola National	SN54LS266 (2938) DM54LS266 54LS266	
	SGS-Thomson	T54LS08 SN54LS08		• 54LS15	SGS-Thomson	T54LS15 SN54LS15			SGS-Thomson	T54LS190 SN54LS190			SGS-Thomson	T54LS266 SN54LS266	
• 54LS09	TI Motorola National	SN54LS09 (2937) DM54LS09 54LS09		54LS151	TI Motorola National	SN54LS151 (2944) DM54LS151 54LS151		54LS191	TI Motorola National	SN54LS191 (2942) DM54LS191		• 54LS27	TI Motorola National	SN54LS27 (2938) DM54LS27 54LS27	
• 54LS09	SGS-Thomson	T54LS09 SN54LS09			SGS-Thomson	T54LS151 SN54LS151			SGS-Thomson	T54LS191 SN54LS191		• 54LS27	SGS-Thomson	T54LS27 SN54LS27	
54LS10	TI Motorola National	SN54LS10 (2937) DM54LS10 54LS10		54LS153	TI Motorola National	SN54LS153 DM54LS153 54LS153		54LS192	TI Motorola National	SN54LS192 (2942) DM54LS192 54LS192			TI Motorola National	SN54LS273 (2942) 54LS273	
	SGS-Thomson	T54LS10 SN54LS10			SGS-Thomson	T54LS153 SN54LS153			SGS-Thomson	T54LS192 SN54LS192			TI Motorola National	SN54LS273 (2941) DM54LS279 54LS279	
54LS107	TI Motorola National	SN54LS107 (2941) DM54LS107 SN54LS107		54LS154	TI National	SN54LS154 DM54LS154		54LS193	TI Motorola National	SN54LS193 (2942) DM54LS193 54LS193		54LS279	TI Motorola National	SN54LS279 (2941) DM54LS279 54LS279	
54LS109	TI Motorola National	SN54LS109 (2941) DM54LS109 54LS109		54LS157	TI National	SN54LS157 (2944) DM54LS157 54LS157		54LS194A	TI Motorola National	SN54LS194A (2944) 54LS194A		54LS28	TI Motorola National	SN54LS28 (2938) 54LS28	
	SGS-Thomson	T54LS109 SN54LS109			SGS-Thomson	T54LS157 SN54LS157			SGS-Thomson	T54LS194 SN54LS194A			TI Motorola National	SN54LS28 (2947) DM54LS283 54LS283	
• 54LS11	TI Motorola National	SN54LS11 (2937) DM54LS11 54LS11		54LS158	TI Motorola National	SN54LS158 (2944) DM54LS158 54LS158		54LS195A	TI Motorola National	SN54LS195A (2944) 54LS195A		54LS283	TI Motorola National	SN54LS283 (2942) DM54LS290 54LS290	
• 54LS11	SGS-Thomson	T54LS11 SN54LS11			SGS-Thomson	T54LS158 SN54LS158			SGS-Thomson	T54LS195 SN54LS195A			SGS-Thomson	T54LS283 SN54LS283	
• 54LS114	TI National	SN54LS114 54LS114		54LS160A	TI Motorola	SN54LS160A (2942) 54LS160A		• 54LS196	TI Motorola National	SN54LS196 (2942) DM54LS196		54LS290	TI Motorola National	SN54LS290 (2942) DM54LS290	
• 54LS12	SGS-Thomson	T54LS114 SN54LS114			SGS-Thomson	T54LS160 SN54LS160A			SGS-Thomson	T54LS196 SN54LS196			SGS-Thomson	T54LS290 SN54LS290	
• 54LS12	Lansdale	SL8270 SL8471		54LS161A	TI Motorola	SN54LS161A (2942) DM54LS161A 54LS161A		54LS197	TI Motorola National	SN54LS197 (2942) DM54LS197		54LS293	TI Motorola National	SN54LS293 (2942) DM54LS293	
• 54LS12	TI Motorola National	SN54LS12 (2937) DM54LS12 SN54LS12			SGS-Thomson	T54LS161 SN54LS161A			SGS-Thomson	T54LS197 SN54LS197			TI Motorola National	SN54LS293 (2944) DM54LS298 54LS298	
54LS125A	TI Motorola	SN54LS125 (2939) SN54LS125A (2939)		54LS162A	TI Motorola	SN54LS162A (2942) DM54LS162A 54LS162A		54LS20	TI Motorola National	SN54LS20 (2937) DM54LS20 54LS20		54LS298	TI Motorola National	SN54LS298 (2944) DM54LS298 54LS298	
	National	DM54LS125 54LS125A			National	DM54LS162A 54LS162A			SGS-Thomson	T54LS20 SN54LS20			SGS-Thomson	T54LS298 SN54LS298	
	SGS-Thomson	T54LS125 SN54LS125A			SGS-Thomson	T54LS162 SN54LS162A		• 54LS21	TI Motorola National	SN54LS21 (2937) 54LS21			TI Motorola National	SN54LS298 (2937) DM54LS30 54LS30	
54LS126	TI Motorola National	SN54LS126 (2939) DM54LS126 54LS126		54LS163A	TI Motorola	SN54LS163A (2942) DM54LS163 DM54LS163A 54LS163A		• 54LS21	SGS-Thomson	T54LS21 SN54LS21		54LS30	TI Motorola National	SN54LS30 (2937) DM54LS30 54LS30	
	SGS-Thomson	T54LS126 SN54LS126A			National	DM54LS163 DM54LS163A		• 54LS22	TI National	SN54LS22 54LS22			SGS-Thomson	T54LS30 SN54LS30	
• 54LS13	TI Motorola National	SN54LS13 (2940) DM54LS13 54LS13			SGS-Thomson	T54LS163 SN54LS163A		• 54LS22	SGS-Thomson	T54LS22 SN54LS22		54LS32	TI Motorola National	SN54LS32 (2937) DM54LS32 54LS32	
• 54LS13	SGS-Thomson	T54LS13 SN54LS13		54LS164	TI Motorola National	SN54LS164 (2943) 54LS164			SGS-Thomson	T54LS22 SN54LS22			SGS-Thomson	T54LS32 SN54LS32	
54LS132	TI Motorola	SN54LS132 (2937, 2940) DM54LS132			SGS-Thomson	T54LS164 SN54LS164		54LS221	TI Motorola National	SN54LS221 (2946) DM54LS221 SN54LS221			TI Motorola National	SN54LS33 (2938) 54LS33	
	SGS-Thomson	T54LS132 SN54LS132		• 54LS170	TI National	DM54LS170 54LS170		54LS245	TI Motorola National	SN54LS245 (2939) DM54LS245 54LS245		• 54LS33	TI Motorola National	SN54LS33 (2938) 54LS33	
54LS136	TI Motorola National	SN54LS136 (2938) DM54LS136 54LS136		• 54LS170	SGS-Thomson	T54LS170 SN54LS170		54LS248	TI Motorola National	SN54LS248 (2945) DM54LS248 54LS248			TI Motorola	SN54LS365A (2939) 54LS365A	
	SGS-Thomson	T54LS136 SN54LS136		54LS173	TI Motorola	SN54LS173A (2942) DM54LS173 54LS173			SGS-Thomson	T54LS248 SN54LS248		54LS365	National SGS-Thomson	54LS365A 54LS365A	
	TI	SN54LS136 (Continued)			National	DM54LS173 54LS173		54LS251	TI Motorola National	SN54LS251 (2944) 54LS251			Signetics TI	SN54LS365A (Continued)	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				54LS42	Motorola National	SN54LS42 (2945) DM54LS42 54LS42		54LS95B	SGS-Thomson	(Cont'd)		54S86	TI	SN54S86	
54LS365A	Motorola	SN54LS365A (2939)			SGS-Thomson	T54LS42			TI	T54LS95		5400	Lansdale	SN54S86	
	National	54LS365A			TI	SN54LS42		54LS96	TI	SN54LS95B			National	DM5400	
	SGS-Thomson	T54LS365		54LS51	Motorola	SN54LS51 (2938)		54S00	TI	SN54S00		• 5401	TI	5400	
	Signetics	54LS365			National	DM54LS51		54S02	TI	SN54S02			Lansdale	SN5400	
	TI	SN54LS365A			SGS-Thomson	54LS51		54S03	National	DM54S03		• 5401	National	ML5401	
54LS366A	Motorola	SN54LS366A (2939)			TI	T54LS51			TI	SN54S03			TI	SL5401	
	National	DM54LS366		• 54LS54	Motorola	SN54LS54 (2938)		54S04	TI	SN54S04		• 5402	National	DM5401	
	SGS-Thomson	54LS366A			National	DM54LS54		54S08	TI	SN54S08			Lansdale	SN5401	
	TI	T54LS366		• 54LS54	SGS-Thomson	54LS54		54S10	National	DM54S10		• 5402	National	ML5402	
54LS367	Motorola	SN54LS367A (2939)			TI	SN54LS51			TI	SN54S10			TI	5402	
	National	DM54LS367		• 54LS54	SGS-Thomson	54LS54		54S11	TI	SN54S11		• 5402	TI	SN5402	
	SGS-Thomson	54LS367A			TI	T54LS54		54S112	National	DM54S112		• 5403	Lansdale	ML5403	
	Signetics	T54LS367		54LS541	Motorola	SN54LS541 (2940)			TI	SN54S112			National	DM5403	
	TI	SN54LS367A			National	54LS541		54S113	National	DM54S113		• 5404	TI	SN5403	
54LS367A	Motorola	SN54LS367A (2939)		• 54LS55	Motorola	SN54LS55 (2938)			TI	SN54S113			AMD	AM9016	
	National	DM54LS367			National	DM54LS55		54S133	National	DM54S133			Lansdale	ML5404	
	SGS-Thomson	54LS367A		• 54LS55	SGS-Thomson	54LS55			TI	SN54S133			National	DM5404	
	Signetics	T54LS367			TI	T54LS55		54S134	National	DM54S134		• 5405	Lansdale	DM9016C	
	TI	SN54LS367A		54LS670	Motorola	SN54LS670 (2943)			TI	SN54S134			National	5404	
	Motorola	SN54LS368A (2939)			National	DM54LS670		54S135	National	DM54S135		• 5405	Lansdale	ML5405	
	National	DM54LS368			SGS-Thomson	54LS670			TI	SN54S135			National	DM5405	
	SGS-Thomson	T54LS368		54LS73	Motorola	SN54LS73A (2941)		54S138	National	DM54S138		• 5406	Lansdale	ML5406	
	Signetics	54LS368			National	DM54LS73A			TI	SN54S138			National	DM5406	
	TI	SN54LS368A		54LS74	Motorola	SN54LS74A (2941)		54S139	National	DM54S139		• 5407	Lansdale	HV5406	
	Motorola	SN54LS368A (2939)			National	DM54LS74A			TI	SN54S139			TI	SN5406	
	National	DM54LS368			SGS-Thomson	54LS74		54S140	National	DM54S140		• 5408	Lansdale	ML5407	
	SGS-Thomson	T54LS368		54LS75	Motorola	SN54LS75 (2941)			TI	SN54S140			National	DM5407	
	Signetics	54LS368			National	DM54LS75		54S151	National	DM54S151		• 5408	Supertex	SN5407	
	TI	SN54LS368A		54LS76	Motorola	SN54LS76A (2941)			TI	SN54S151			TI	SN5408	
54LS368A	Motorola	SN54LS368A (2939)			National	DM54LS76A		54S153	National	DM54S153		• 5409	Lansdale	SN5408	
	National	DM54LS368		54LS77	Motorola	SN54LS77A (2942)			TI	SN54S153			National	SL5409	
	SGS-Thomson	54LS368A			National	DM54LS77A		54S157	National	DM54S157		• 5409	Lansdale	DM5409	
	Signetics	T54LS368		54LS78	Motorola	SN54LS78A (2942)			TI	SN54S157		• 5410	TI	SN5409	
	TI	SN54LS368A			National	DM54LS78A		54S158	National	DM54S158			Lansdale	ML5410	
54LS37	Motorola	SN54LS37 (2937)		54LS79	Motorola	SN54LS79A (2942)			TI	SN54S158		• 5410	TI	5410	
	National	DM54LS37			National	DM54LS79A		54S169	TI	SN54S158		• 54100	Lansdale	SN5410	
	SGS-Thomson	54LS37		• 54LS78	Motorola	SN54LS78A (2942)		54S174	National	DM54S174			Lansdale	ML54100	
	TI	T54LS37			National	DM54LS78A			TI	SN54S174		• 54107	National	SL54100	
54LS373	Motorola	SN54LS373 (2941)		54LS83	Motorola	SN54LS83A (2947)		54S175	National	DM54S175			TI	DM54107	
	SGS-Thomson	54LS373			National	DM54LS83A			TI	SN54S175		54109	National	SN54107	
	TI	T54LS373		54LS83A	Motorola	SN54LS83A (2947)		54S181	TI	SN54S175			TI	DM54109	
54LS375	Motorola	SN54LS375 (2941)			National	DM54LS83A		54S189	National	DM54S189		54116	TI	SN54109	
	National	DM54LS375		54LS84	Motorola	SN54LS84A (2948)			TI	SN54S189		54121	Lansdale	SN54116	
54LS377	Motorola	SN54LS377 (2942)			SGS-Thomson	54LS84		54S195	National	DM54S195			National	ML54121	
	SGS-Thomson	54LS377		54LS85	Motorola	SN54LS85 (2946)			TI	DM54S195		54123	TI	DM54121	
	TI	T54LS377			National	DM54LS85		54S200	National	DM54S200			Lansdale	SN54121	
54LS378	Motorola	SN54LS378 (2942)		54LS86	Motorola	SN54LS86 (2938)			TI	DM54S200			TI	ML54123	
	National	DM54LS378			National	DM54LS86		• 54S22	National	DM54S22			Mitsubishi	M54123	
	SGS-Thomson	54LS378		54LS87	Motorola	SN54LS87A (2949)			TI	SN54S22		• 54125	National	DM54123	
	TI	T54LS378			National	DM54LS87A		54S244	MMI	SN54S22			TI	SN54123	
• 54LS38	Motorola	SN54LS38 (2937)		54LS88	Motorola	SN54LS88A (2950)			TI	SN54S244		• 54125	National	DM54125	
	National	DM54LS38			National	DM54LS88A		54S251	National	DM54S251			TI	DM7093	
• 54LS38	SGS-Thomson	54LS38		54LS89	Motorola	SN54LS89A (2951)			TI	DM54S251		• 54125	TI	SN54125	
	TI	T54LS38			National	DM54LS89A		54S257	National	DM54S257		54126	Marconi	MA5413	
• 54LS386	Lansdale	SL8241		54LS90	Motorola	SN54LS90 (2942)			TI	DM54S257			National	DM54126	
	Motorola	SN54LS386 (2938)			National	DM54LS90		54S258	National	DM54S258		• 5413	Lansdale	SN54126	
	National	DM54LS386		54LS92	Motorola	SN54LS92 (2942)			TI	SN54S258			National	ML5413	
	Raytheon	RM8241			National	DM54LS92		54S280	National	DM54S280			STC	TEL5413	
54LS395	Motorola	SN54LS395 (2944)		54LS93	Motorola	SN54LS93 (2942)			TI	SN54S280		54132	TI	SN5413	
	SGS-Thomson	54LS395			National	DM54LS93		54S37	TI	SN54S280			Lansdale	ML54132	
	TI	T54LS395		54LS95B	Motorola	SN54LS95B (2944)		54S38	TI	SN54S280			National	DM54132	
• 54LS40	Motorola	SN54LS40 (2937)			National	DM54LS95B		54S40	National	DM54S280		5414	Lansdale	SN54132	
	National	DM54LS40			SGS-Thomson	54LS95B			TI	SN54S280			TI	ML5414	
• 54LS40	SGS-Thomson	54LS40			TI	T54LS93		54S51	National	DM54S280			National	DM5414	
	TI	T54LS40			National	DM54LS93			TI	SN54S280		54141	TI	SN5414	
	(Continued)				SGS-Thomson	54LS93		54S64	National	DM54S280		54147	National	DM54141	
					TI	T54LS93			TI	SN54S280			TI	SN54147	
					National	DM54LS93		54S65	National	DM54S280		54148	National	DM54148	
					SGS-Thomson	54LS93			TI	SN54S280			TI	DM9318	
					TI	T54LS93		54S74	National	DM54S280		• 54150	Lansdale	SN54148	
					National	DM54LS93			TI	SN54S280			National	ML54150	
					SGS-Thomson	54LS93		54S85	TI	SN54S280		• 54150	TI	DM54150	
					TI	T54LS93			TI	SN54S280				54150	
					National	DM54LS93			TI	SN54S280				SN54150	
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					
					TI	T54LS93			TI	SN54S280					
					National	DM54LS93			TI	SN54S280					
					SGS-Thomson	54LS93			TI	SN54S280					

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				54196	Lansdale National	ML54196 DM54196		5475	Lansdale National	ML5475 DM5475		74ACT11138	TI	74ACT11138	(3310)
54151	Lansdale National	ML54151 DM54151		54198	Lansdale National	SL54198 SN54198		5476	TI Lansdale National	SN5475 ML5476 DM5476		74ACT11139	TI	74ACT11139	(3310)
54153	TI Lansdale National	SN54151A ML54153 DM54153		54199	TI National	SN54198 DM54199 SN54199		5483A	TI National	5476 SN5476 5483A SN5483A		74ACT11151	TI	74ACT11151	(3310)
54155	TI Lansdale National	SN54153 ML54155 DM54155		5420	TI Lansdale National	5420 ML5420 LL5420 DM5420		5485	TI Lansdale National	SN5485 ML5485 DM5485		74ACT11153	TI	74ACT11153	(3310)
54156	TI National	SN54155 DM54156		54221	TI	SN54221		5486	TI Lansdale National	5485 SN5485 ML5486 DM5486		74ACT11157	TI	74ACT11157	(3310)
54157	TI National	SN54156 DM54157		5426	TI Lansdale National	SN54221 ML5426 DM5426		5491	TI Lansdale Motorola National	5486 SN5486 ML5491A MC5491 SN5491		74ACT11158	TI	74ACT11158	(3310)
5416	TI Lansdale National	SN54157 ML5416 DM5416		54279	TI National	SN54279 ML54298		5495	TI National	5491 SN5491A DM5495 5495		74ACT11160	TI	74ACT11160	(3310)
54160	TI Lansdale National	SN5416 CXK5416 SN5416 ML54160 DM54160		54298	TI Lansdale National	SN54298 SN54298 ML5430 DM5430		5496	TI Lansdale National	SN5491 SN5495A ML5496 DM5496		74ACT11162	TI	74ACT11162	(3310)
54161	TI Lansdale National	RM9310 SN54160 ML54161 DM54161		5430	TI National	SN5430 DM5432		55450	TI National SiliconG	5491 SN5491A DM5495 5495		74ACT11163	TI	74ACT11163	(3310)
54162	TI Lansdale National	SN54161 ML54162 DM54162		5432	TI Marconi	SN5432 MA5433		55451	TI National	SN5496 μA55450 SG55450		74ACT11168	TI	74ACT11168	(3310)
54163	TI Lansdale National	SN54162 ML54163 DM54163		5433	TI National	SN5433 ML5437		55452	TI National	SG55450B SNJ55450 SN55450		74ACT11169	TI	74ACT11169	(3310)
54164	TI National	SN54163 DM54164 DM7570		5437	TI Lansdale National	SN5437 ML5438 DM5438		55453	TI National	DS55451 55451 SG55451B		74ACT11174	TI	74ACT11174	(3310)
54165	TI Lansdale National	SN54164 ML54165 DM54165		5438	TI Lansdale National	SN5438 DM5438 SN5438		55454	TI National	SNJ55451 μA55452 DS55452		74ACT11175	TI	74ACT11175	(3310)
54166	TI National	SN54165 DM54166 SN54166		5440	TI Lansdale National	SN5440 ML5440 DM5440		55455	TI National	SN55451 μA55452 DS55452		74ACT11181	TI	74ACT11181	(3310)
5417	TI Lansdale National	SN54166 ML5417 DM5417		5442	TI Lansdale National	SN5442 ML5442 DM5442		55456	TI National	SNJ55452 SN55452 DS55453		74ACT11190	TI	74ACT11190	(3310)
54170	TI National	SN5417 DM54170		5445	TI National	SN5442A DM5445		55457	TI National	SG55453 LM55453		74ACT11191	TI	74ACT11191	(3310)
54170	TI Lansdale	SN54170 ML54174		5445	SGS-Thomson	1602		55458	TI National	SG55453 SNJ55453		74ACT11192	TI	74ACT11192	(3310)
54174	TI National	SN54174 DM54174		5445	Siemens	S042		55459	TI National	SN55453 SN55453		74ACT11193	TI	74ACT11193	(3310)
54175	TI Lansdale National	SN54174 ML54175 DM54175		5445	NE602	SA602		55460	TI National	SN55454 DS55454		74ACT11194	TI	74ACT11194	(3310)
54176	TI Lansdale	SN54175 ML54176 ML74176		5445	SA602	SM602		55461	TI National	SG55454B SNJ55454		74ACT11238	TI	74ACT11238	(3310)
54180	TI Lansdale National	DM54176 ML54176 ML54180		5450	Unitrode	PIC602		55462	TI National	SN55454B SNJ55454		74ACT11240	TI	74ACT11240	(3310)
54181	TI National	SN54180 DM54180		5450	Lansdale National	ML5450 DM5450		55463	TI National	SN55454 MC68682		74ACT11241	TI	74ACT11241	(3310)
54182	TI Lansdale	SN54175 ML54175 DM54175		5451	SGS-Thomson	M5450		55464	TI National	74ACT11000		74ACT11244	TI	74ACT11244	(3310)
54182	TI National	SN54176 ML54176 ML74176		5451	TI	SN5450		55465	TI National	74ACT11002		74ACT11245	TI	74ACT11245	(3310)
54190	TI Lansdale National	DM54176 ML54176 ML54180		5451	Lansdale National	SN5451 ML5451		55466	TI National	74ACT11004		74ACT11253	TI	74ACT11253	(3310)
54191	TI Lansdale National	DM54176 ML54176 ML54180		5451	SGS-Thomson	MM5451		55467	TI National	74ACT11008		74ACT11257	TI	74ACT11257	(3310)
54192	TI National	SN54180 DM54180		5451	TI	SN5451		55468	TI National	74ACT11010		74ACT11258	TI	74ACT11258	(3310)
54193	TI Lansdale National	SN54182 DM54182		5453	Lansdale	ML5453		55469	TI National	74ACT11010		74ACT11269	TI	74ACT11269	(3310)
54193	TI National	SL54182 DM54182		5453	TI	SN5453		55470	TI National	74ACT11011		74ACT11280	TI	74ACT11280	(3310)
54194	TI Lansdale	RM9342 ML54190		5453	STC	TEL5453		55471	TI National	74ACT11013		74ACT11286	TI	74ACT11286	(3310)
54195	TI Lansdale National	SN54190 DM54190		5453	TI	SN5453		55472	TI National	74ACT11014		74ACT11286	TI	74ACT11286	(3310)
54195	TI Lansdale National	SN54191 ML54191		5453	Lansdale	ML5453		55473	TI National	74ACT11020		74ACT11299	TI	74ACT11299	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55474	TI National	74ACT11021		74ACT11323	TI	74ACT11323	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55475	TI National	74ACT11027		74ACT11352	TI	74ACT11352	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55476	TI National	74ACT11027		74ACT11353	TI	74ACT11353	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55477	TI National	74ACT11030		74ACT11374	TI	74ACT11374	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55478	TI National	74ACT11032		74ACT11378	TI	74ACT11378	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55479	TI National	74ACT11033		74ACT11379	TI	74ACT11379	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55480	TI National	74ACT11034		74ACT11520	TI	74ACT11520	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55481	TI National	74ACT11034		74ACT11521	TI	74ACT11521	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55482	TI National	74ACT11034		74ACT11533	TI	74ACT11533	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55483	TI National	74ACT11034		74ACT11534	TI	74ACT11534	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55484	TI National	74ACT11034		74ACT11568	TI	74ACT11568	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55485	TI National	74ACT11034		74ACT11569	TI	74ACT11569	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55486	TI National	74ACT11034		74ACT11579	TI	74ACT11579	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55487	TI National	74ACT11034		74ACT11620	TI	74ACT11620	(3310)
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55488	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55489	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55490	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55491	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55492	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55493	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55494	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55495	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55496	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55497	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55498	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55499	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55500	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55501	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55502	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55503	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55504	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55505	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55506	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55507	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55508	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55509	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55510	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55511	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55512	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55513	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55514	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55515	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55516	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55517	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55518	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55519	TI National	74ACT11034					
54195	TI National	DM54191 SN54191		5453	TI	SN5453		55520							

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				74AC1153	TI	74AC1153 (3310)		74ALS08	Motorola	SN74ALS08		74ALS244A-1			(Cont'd)
74ACT11623	TI	74ACT11623	(3310)	74AC1157	TI	74AC1157 (3310)			National	DM74ALS08		Signetics	TI	74ALS244	
74ACT11640	TI	74ACT11640	(3310)	74AC1158	TI	74AC1158 (3310)		74ALS10	TI	SN74ALS08		Mitsubishi	TI	SN74ALS244A	
74ACT11643	TI	74ACT11643	(3310)	74AC1160	TI	74AC1160 (3310)			National	DM74ALS10				SN74ALS244A-1	
74ACT11646	TI	74ACT11646	(3310)	74AC1161	TI	74AC1161 (3310)			TI	SN74ALS10		74ALS245		M74ALS245	
74ACT11648	TI	74ACT11648	(3310)	74AC1162	TI	74AC1162 (3310)		74ALS109	National	SN74ALS10A				M74ALS245A-1	
				74AC1163	TI	74AC1163 (3310)			TI	DM74ALS109		Motorola		SN74ALS245	
				74AC1168	TI	74AC1168 (3310)		74ALS11	National	SN74ALS109A		National		DM74ALS245	
				74AC1169	TI	74AC1169 (3310)			TI	DM74ALS11		Signetics		74ALS245A-1	
				74AC1174	TI	74AC1174 (3310)				SN74ALS11		TI		SN74ALS245A	
				74AC1175	TI	74AC1175 (3310)		74ALS112	National	SN74ALS11A				SN74ALS245A-1	
				74AC1181	TI	74AC1181 (3310)			TI	DM74ALS112		74ALS245A-1		M74ALS245	
				74AC1190	TI	74AC1190 (3310)		74ALS138	National	SN74ALS112A				M74ALS245A-1	
				74AC1191	TI	74AC1191 (3310)			TI	DM74ALS138		Motorola		SN74ALS245	
				74AC1192	TI	74AC1192 (3310)		74ALS139	TI	SN74ALS138		National		DM74ALS245	
				74AC1193	TI	74AC1193 (3310)		74ALS151	TI	SN74ALS139		Signetics		74ALS245	
				74AC1194	TI	74AC1194 (3310)			Mitsubishi	M74ALS151		TI		SN74ALS245A	
				74AC1238	TI	74AC1238 (3310)			National	DM74ALS151				SN74ALS245A-1	
				74AC1239	TI	74AC1239 (3310)		74ALS153	TI	SN74ALS151		74ALS251		M74ALS251	
				74AC1240	TI	74AC1240 (3310)			Mitsubishi	M74ALS153				DM74ALS251	
				74AC1241	TI	74AC1241 (3310)			National	DM74ALS153				SN74ALS251	
				74AC1244	TI	74AC1244 (3310)		74ALS157	TI	SN74ALS153		74ALS253		M74ALS253	
				74AC1245	TI	74AC1245 (3310)			Mitsubishi	M74ALS157				DM74ALS253	
				74AC1251	TI	74AC1251 (3310)			National	DM74ALS157				SN74ALS253	
				74AC1253	TI	74AC1253 (3310)		74ALS158	TI	SN74ALS157		74ALS257		M74ALS257	
				74AC1257	TI	74AC1257 (3310)			Mitsubishi	M74ALS158				DM74ALS257	
				74AC1258	TI	74AC1258 (3310)			National	DM54ALS353				SN74ALS257	
				74AC1269	TI	74AC1269 (3310)				DM54AS1000		74ALS258		M74ALS258	
				74AC1280	TI	74AC1280 (3310)				DM74ALS158				DM74ALS258	
				74AC1286	TI	74AC1286 (3310)			TI	SN54ALS353				SN74ALS258	
				74AC1299	TI	74AC1299 (3310)		74ALS161	Motorola	SN74ALS161		74ALS27		DM74ALS27	
				74AC1323	TI	74AC1323 (3310)			National	DM74ALS161				SN74ALS27	
				74AC1352	TI	74AC1352 (3310)		74ALS163	TI	SN74ALS161B		74ALS273		M74ALS273	
				74AC1353	TI	74AC1353 (3310)			Mitsubishi	M74ALS163				SN74ALS273	
				74AC1373	TI	74AC1373 (3310)			Motorola	SN74ALS163				DM74ALS273	
				74AC1374	TI	74AC1374 (3310)			National	DM74ALS163				SN74ALS273	
				74AC1378	TI	74AC1378 (3310)			TI	SN74ALS163		74ALS30		DM74ALS30	
				74AC1379	TI	74AC1379 (3310)				SN74ALS163A				SN74ALS30	
				74AC1520	TI	74AC1520 (3310)		74ALS174		SN74ALS163B		74ALS32		SN74ALS32	
				74AC1521	TI	74AC1521 (3310)			Mitsubishi	M74ALS174				DM74ALS32	
				74AC1533	TI	74AC1533 (3310)			National	DM74ALS174				SN74ALS32	
				74AC1534	TI	74AC1534 (3310)			TI	SN74ALS174		74ALS373		M74ALS373	
				74AC1568	TI	74AC1568 (3310)		74ALS175	Mitsubishi	M74ALS175				SN74ALS373	
				74AC1569	TI	74AC1569 (3310)			National	DM74ALS175				DM74ALS373	
				74AC1579	TI	74AC1579 (3310)			TI	SN74ALS175		74ALS374		M74ALS374	
				74AC1620	TI	74AC1620 (3310)		74ALS191	Mitsubishi	M74ALS191				SN74ALS374	
				74AC1623	TI	74AC1623 (3310)			National	DM74ALS191				DM74ALS374	
				74AC1640	TI	74AC1640 (3310)			TI	SN74ALS191				DM74ALS374	
				74AC1643	TI	74AC1643 (3310)		74ALS193	Mitsubishi	M74ALS193				SN74ALS374	
				74AC1646	TI	74AC1646 (3310)			Motorola	SN74ALS193		74ALS377		M74ALS377	
				74AC1648	TI	74AC1648 (3310)			National	DM74ALS193				SN74ALS377	
				74AC1651	TI	74AC1651 (3310)			TI	SN74ALS193				DM74ALS377	
				74AC1657	TI	74AC1657 (3310)		74ALS20	National	DM74ALS20		74ALS38		DM74ALS38	
				74AC1818	TI	74AC1818 (3310)			TI	SN74ALS20A				SN74ALS38A	
				74AC1819	TI	74AC1819 (3310)		74ALS240	Mitsubishi	M74ALS240		74ALS563		DM74ALS563	
				74AC1821	TI	74AC1821 (3310)				M74ALS240A-1				SN74ALS563	
				74AC1822	TI	74AC1822 (3310)			Motorola	SN74ALS240		74ALS564		DM74ALS164	
				74AC1823	TI	74AC1823 (3310)			National	DM74ALS240				SN74ALS164	
				74AC1824	TI	74AC1824 (3310)			Signetics	74ALS240A-1		74ALS573		SN74ALS573	
				74AC1825	TI	74AC1825 (3310)			TI	SN74ALS240A				DM74ALS573	
				74AC1826	TI	74AC1826 (3310)		74ALS240A-1		SN74ALS240A-1		74ALS574		SN74ALS574	
				74AC1827	TI	74AC1827 (3310)			Mitsubishi	M74ALS240				DM74ALS574	
				74AC1828	TI	74AC1828 (3310)				M74ALS240A-1				SN74ALS574	
				74AC1833	TI	74AC1833 (3310)			Motorola	SN74ALS240		74ALS620		M74ALS620	
				74AC1834	TI	74AC1834 (3310)			National	DM74ALS240				DM74ALS620	
				74AC1841	TI	74AC1841 (3310)			Signetics	74ALS240				SN74ALS620A-1	
				74AC1842	TI	74AC1842 (3310)			TI	SN74ALS240A				SN74ALS620A	
				74AC1843	TI	74AC1843 (3310)		74ALS241		SN74ALS240A-1				DM74ALS620	
				74AC1844	TI	74AC1844 (3310)			Mitsubishi	M74ALS241				74ALS620A-1	
				74AC1845	TI	74AC1845 (3310)				M74ALS241A-1				SN74ALS620A	
				74AC1846	TI	74AC1846 (3310)			Motorola	SN74ALS241				SN74ALS620A-1	
				74AC1853	TI	74AC1853 (3310)			National	DM74ALS241		74ALS620A-1		M74ALS620	
				74AC1854	TI	74AC1854 (3310)			Signetics	74ALS241A-1				SN74ALS620A-1	
				74AC1861	TI	74AC1861 (3310)			TI	SN74ALS241A				DM74ALS620	
				74AC1862	TI	74AC1862 (3310)		74ALS241A-1		SN74ALS241A-1				74ALS620	
				74AC1863	TI	74AC1863 (3310)			Mitsubishi	M74ALS241				SN74ALS620A	
				74AC1864	TI	74AC1864 (3310)				M74ALS241A-1				SN74ALS620A-1	
				74AC1873	TI	74AC1873 (3310)			Motorola	SN74ALS241		74ALS623		M74ALS623	
				74AC1874	TI	74AC1874 (3310)			National	DM74ALS241				SN74ALS623A-1	
				74AC1881	TI	74AC1881 (3310)			Signetics	74ALS241				DM74ALS623	
				74AC1882	TI	74AC1882 (3310)			TI	SN74ALS241A				74ALS623A-1	
				74ALS00	Motorola	SN74ALS00		74ALS244		SN74ALS241A-1				SN74ALS623A	
					National	DM74ALS00			Mitsubishi	M74ALS244				DM74ALS623A-1	
					TI	SN74ALS00				M74ALS244A-1		74ALS623A-1		M74ALS623	
						SN74ALS00A			Motorola	SN74ALS244				SN74ALS623A-1	
				74ALS02	Motorola	SN74ALS02			National	DM74ALS244				SN74ALS623A-1	
					National	DM74ALS02			Signetics	74ALS244A-1				SN74ALS623A-1	
					TI	SN74ALS02		74ALS244A-1		SN74ALS244A				SN74ALS623A-1	
				74ALS04	Motorola	SN74ALS04			TI	SN74ALS244A-1				SN74ALS623A-1	
					National	DM74ALS04			Mitsubishi	M74ALS244				SN74ALS623A-1	
					TI	SN74ALS04				M74ALS244A-1				SN74ALS623A-1	
						SN74ALS04B			Motorola	SN74ALS244				SN74ALS623A-1	
							(Continued)		National	DM74ALS244				SN74ALS623A-1	

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				74F175	Motorola	MC74F175 (2942)		74F322	National	74F322		74F563	National	74F563	
74ALS64	National	DM74ALS564		74F181	Motorola	MC74F181 (2947)		74F323	Motorola	MC74F323 (2944)		74F564	National	SN74F563	
74ALS64A	National	DM74ALS564		74F182	Motorola	MC74F182 (2947)		74F350	Motorola	MC74F350 (2947)		74F568	National	74F568	
74ALS645A-1	National	DM74ALS645A-1		74F189A	Cypress	CY7C189 (2580)		74F352	Motorola	MC74F352 (2944)		74F569	National	SN74F568	
74ALS646	TI	SN74ALS646 (3301)			Motorola	MC74F189		74F353	Motorola	MC74F353 (2944)		74F573	National	SN74F569	
74ALS646-1	TI	SN74ALS646-1 (3301)		74F190	Motorola	MC74F190 (2942)		74F353	Motorola	MC74F353 (2944)		74F574	National	SN74F573	
74ALS648	TI	74ALS648		74F191	Motorola	MC74F191 (2942)		74F365	National	74F365		74F579	National	74F574	
74ALS648-1	TI	74ALS648-1		74F192	Motorola	MC74F192 (2942)		74F366	National	74F366		74F582	National	74F579	
74ALS651	TI	74ALS651		74F193	Motorola	MC74F193 (2942)		74F367	National	74F367		74F583	National	74F582	
74ALS651-1	TI	74ALS651-1		74F194	Motorola	MC74F194 (2944)		74F368	National	74F368		74F588	National	74F583	
74ALS652	TI	74ALS652		74F195	Motorola	MC74F195 (2944)		74F37	National	74F37		74F588	National	74F588	
74ALS652-1	TI	74ALS652-1		74F198	Cypress	CY7C189 (2580)		74F373	Motorola	MC74F373 (2941)		74F595	National	74F595	
74ALS73	Motorola	SN74ALS573		74F199	Motorola	MC74F199 (2944)		74F373	Motorola	MC74F373 (2941)		74F597	Intel	8237-5	
74ALS86	National	DM74ALS86		74F200	Motorola	MC74F200 (2937)		74F377	National	74F377		74F598	National	74F597	
74F00	Motorola	MC74F00 (2937)		74F202	Motorola	MC74F202 (2937)		74F378	Motorola	MC74F378 (2942)		74F604	National	74F604	
74F02	Motorola	MC74F02 (2938)		74F240	Motorola	MC74F240 (2939)		74F378	Motorola	MC74F378 (2942)		74F605	National	74F605	
74F04	Motorola	MC74F04 (2939)		74F241	Motorola	MC74F241 (2939)		74F379	Motorola	MC74F379 (2942)		74F620	Motorola	MC74F620	
74F08	Motorola	MC74F08 (2937)		74F242	Motorola	MC74F242 (2939)		74F381	Motorola	MC74F381 (2947)		74F620	National	SN74BCT620 (3317)	
74F10	Motorola	MC74F10 (2937)		74F243	Motorola	MC74F243 (2939)		74F382	Motorola	MC74F382 (2947)		74F621	National	SN74F620	
74F109	Motorola	MC74F109 (2941)		74F244	Motorola	MC74F244 (2939)		74F382	Motorola	MC74F382 (2947)		74F622	National	SN74F621	
74F11	Motorola	MC74F11 (2937)		74F245	Motorola	MC74F245 (2939)		74F383	National	74F383		74F623	Motorola	SN74F622	
74F112	Motorola	MC74F112 (2937)		74F251	Motorola	MC74F251 (2944)		74F385	National	74F385		74F623	Motorola	MC74F623	
74F125	National	74F125		74F253	Motorola	MC74F253 (2944)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F126	National	74F126		74F255	Motorola	MC74F255 (2944)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F13	National	74F13		74F257	Motorola	MC74F257 (2944)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F132	National	74F132		74F258	Motorola	MC74F258 (2944)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F138	Motorola	MC74F138 (2945)		74F259	Motorola	MC74F259 (2941)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F139	Motorola	MC74F139 (2945)		74F269	Motorola	MC74F269 (2941)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F14	National	74F14		74F27	Motorola	MC74F27 (2944)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F148	Motorola	MC74F148 (2946)		74F273	Motorola	MC74F273 (2947)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F151	Motorola	MC74F151 (2944)		74F280	Motorola	MC74F280 (2947)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F153	Motorola	MC74F153 (2944)		74F283	Motorola	MC74F283 (2947)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F157	Motorola	MC74F157 (2944)		74F292	Motorola	MC74F292 (2947)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F158	Motorola	MC74F158 (2944)		74F298	Motorola	MC74F298 (2947)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F160	Motorola	MC74F160 (2942)		74F299	Motorola	MC74F299 (2947)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F161	Motorola	MC74F161 (2942)		74F30	Motorola	MC74F30 (2937)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F162	Motorola	MC74F162 (2942)		74F30244	Motorola	MC74F30244 (2937)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F163	Motorola	MC74F163 (2942)		74F3037	Motorola	MC74F3037 (2937)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F164	Motorola	MC74F164 (2942)		74F3040	Motorola	MC74F3040 (2937)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F168	Motorola	MC74F168 (2943)		74F32	Motorola	MC74F32 (2937)		74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F169	Motorola	MC74F169 (2943)						74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
74F174	Motorola	MC74F174 (2942)						74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	
		(Continued)						74F385	National	74F385		74F623	Motorola	SN74BCT623 (3317)	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				74HCT237		(Cont'd)		74HCT280	GE/RCA	CD74HCT280	(2640)	74HCT4060	GE/RCA	CD74HCT4060	(2641)
74HCT123	GE/RCA	CD74HCT123	(2640)	Supertex		74HCT237		74HCT283	GE/RCA	CD74HCT283	(2640)	74HCT4066	GE/RCA	CD74HCT4066	(2641)
74HCT125	GE/RCA	CD74HCT125	(2640)	TI		SN74HCT237		74HCT297	GE/RCA	CD74HCT297	(2640)	74HCT4067	GE/RCA	CD74HCT4067	(2641, 2655)
74HCT126	GE/RCA	CD74HCT126	(2640)	CTI		74HCT238		74HCT299	GE/RCA	CD74HCT299	(2640)	74HCT4075	GE/RCA	CD74HCT4075	(2641)
74HCT132	GE/RCA	CD74HCT132	(2640)	Plessey		MV74HCT238		74HCT30	National	MM74HCT299	(2640)	74HCT4094	GE/RCA	CD74HCT4094	(2641)
74HCT138	GE/RCA	CD74HCT138	(2640)	CTI		SN74HCT238		74HCT32	GE/RCA	CD74HCT32	(2640)	74HCT423	GE/RCA	CD74HCT423	(2641)
74HCT139	GE/RCA	CD74HCT139	(2640)	GE/RCA		74HCT240		74HCT354	GE/RCA	CD74HCT354	(2640)	74HCT4316	GE/RCA	CD74HCT4316	(2641)
74HCT147	GE/RCA	CD74HCT147	(2640)	Hitachi		HD74HCT240		74HCT356	GE/RCA	CD74HCT356	(2640)	74HCT4351	GE/RCA	CD74HCT4351	(2641)
74HCT151	GE/RCA	CD74HCT151	(2640)	Micrel		MIC74HCT240		74HCT366	GE/RCA	CD74HCT366	(2641)	74HCT4352	GE/RCA	CD74HCT4352	(2641)
74HCT153	GE/RCA	CD74HCT153	(2640)	Motorola		MC74HCT240		74HCT367	GE/RCA	CD74HCT367	(2641)	74HCT4353	GE/RCA	CD74HCT4353	(2641)
74HCT154	GE/RCA	CD74HCT154	(2640)	National		MM74HCT240		74HCT373	CTI	74HCT373		74HCT4510	GE/RCA	CD74HCT4510	(2641)
74HCT157	GE/RCA	CD74HCT157	(2640, 2653)	Plessey		MV74HCT240		74HCT374	CMD Micro	G74SC373		74HCT4511	GE/RCA	CD74HCT4511	(2641)
74HCT158	GE/RCA	CD74HCT158	(2640)	SGS-Thomson		74HCT241		74HCT377	GE/RCA	CD74HCT377	(2641, 2653)	74HCT4515	GE/RCA	CD74HCT4515	(2641)
74HCT160	GE/RCA	CD74HCT160	(2640)	Supertex		74HCT241		74HCT378	Hitachi	HD74HCT373		74HCT4516	GE/RCA	CD74HCT4516	(2641)
74HCT161	GE/RCA	CD74HCT161	(2640)	TI		SN74HCT241		74HCT390	Micrel	MIC74HCT373		74HCT4518	GE/RCA	CD74HCT4518	(2641)
74HCT162	GE/RCA	CD74HCT162	(2640)	Toshiba		TC74HCT241A		74HCT393	Motorola	MC74HCT373		74HCT4520	GE/RCA	CD74HCT4520	(2641)
74HCT163	GE/RCA	CD74HCT163	(2640)	GE/RCA		CD74HCT242		74HCT4002	National	MM74HCT373		74HCT4538	GE/RCA	CD74HCT4538	(2641)
74HCT164	GE/RCA	CD74HCT164	(2640)	Hitachi		HD74HCT242		74HCT4010	Plessey	MV74HCT373		74HCT4543	GE/RCA	CD74HCT4543	(2641, 2653)
74HCT165	GE/RCA	CD74HCT165	(2640)	Micrel		MIC74HCT242		74HCT4012	SGS-Thomson	M74HCT373		74HCT533	CTI	74HCT533	(2641)
74HCT166	GE/RCA	CD74HCT166	(2640)	Motorola		MC74HCT242		74HCT4013	Supertex	74HCT373		74HCT534	GE/RCA	CD74HCT534	(2641)
74HCT173	GE/RCA	CD74HCT173	(2640)	National		MM74HCT242		74HCT4014	TI	SN74HCT373		74HCT540	GE/RCA	CD74HCT540	(2641)
74HCT174	GE/RCA	CD74HCT174	(2640)	Plessey		MV74HCT242		74HCT4015	Toshiba	TC74HCT373		74HCT541	GE/RCA	CD74HCT541	(2641)
74HCT175	GE/RCA	CD74HCT175	(2640)	SGS-Thomson		74HCT244		74HCT4016	CMD Micro	G74SC374		74HCT542	GE/RCA	CD74HCT542	(2641)
74HCT181	GE/RCA	CD74HCT181	(2640)	Hitachi		HD74HCT244		74HCT4017	GE/RCA	CD74HCT374		74HCT543	GE/RCA	CD74HCT543	(2641)
74HCT182	GE/RCA	CD74HCT182	(2640)	Micrel		MIC74HCT244		74HCT4020	Hitachi	HD74HCT374		74HCT544	GE/RCA	CD74HCT544	(2641)
74HCT188	GE/RCA	CD74HCT188	(2640)	Motorola		MC74HCT244		74HCT4024	Micrel	MIC74HCT374		74HCT545	GE/RCA	CD74HCT545	(2641)
74HCT190	GE/RCA	CD74HCT190	(2640)	National		MM74HCT244		74HCT4025	Motorola	MC74HCT374		74HCT546	GE/RCA	CD74HCT546	(2641)
74HCT191	GE/RCA	CD74HCT191	(2640)	Plessey		MV74HCT244		74HCT4026	National	MM74HCT374		74HCT547	GE/RCA	CD74HCT547	(2641)
74HCT192	GE/RCA	CD74HCT192	(2640)	SGS-Thomson		74HCT245		74HCT4027	Plessey	MV74HCT374		74HCT548	GE/RCA	CD74HCT548	(2641)
74HCT193	GE/RCA	CD74HCT193	(2640)	Supertex		74HCT245		74HCT4028	SGS-Thomson	M74HCT374		74HCT549	GE/RCA	CD74HCT549	(2641)
74HCT194	GE/RCA	CD74HCT194	(2640)	TI		SN74HCT245		74HCT4029	Supertex	74HCT374		74HCT550	GE/RCA	CD74HCT550	(2641)
74HCT195	GE/RCA	CD74HCT195	(2640)	Toshiba		TC74HCT245A		74HCT4030	TI	SN74HCT374		74HCT551	GE/RCA	CD74HCT551	(2641)
74HCT201	GE/RCA	CD74HCT201	(2640)	CTI		74HCT245		74HCT4031	Toshiba	TC74HCT374A		74HCT552	GE/RCA	CD74HCT552	(2641)
74HCT202	GE/RCA	CD74HCT202	(2640)	CMD Micro		G74SC245		74HCT4032	CMD Micro	G74SC374		74HCT553	GE/RCA	CD74HCT553	(2641)
74HCT203	GE/RCA	CD74HCT203	(2640)	GE/RCA		CD74HCT245		74HCT4033	GE/RCA	CD74HCT374		74HCT554	GE/RCA	CD74HCT554	(2641)
74HCT204	GE/RCA	CD74HCT204	(2640)	Hitachi		HD74HCT245		74HCT4034	Hitachi	HD74HCT374		74HCT555	GE/RCA	CD74HCT555	(2641)
74HCT205	GE/RCA	CD74HCT205	(2640)	Micrel		MIC74HCT245		74HCT4035	Micrel	MIC74HCT374		74HCT556	GE/RCA	CD74HCT556	(2641)
74HCT206	GE/RCA	CD74HCT206	(2640)	Motorola		MC74HCT245		74HCT4036	Motorola	MC74HCT374		74HCT557	GE/RCA	CD74HCT557	(2641)
74HCT207	GE/RCA	CD74HCT207	(2640)	National		MM74HCT245		74HCT4037	National	MM74HCT374		74HCT558	GE/RCA	CD74HCT558	(2641)
74HCT208	GE/RCA	CD74HCT208	(2640)	Plessey		MV74HCT245		74HCT4038	Plessey	MV74HCT374		74HCT559	GE/RCA	CD74HCT559	(2641)
74HCT209	GE/RCA	CD74HCT209	(2640)	SGS-Thomson		74HCT245		74HCT4039	SGS-Thomson	M74HCT374		74HCT560	GE/RCA	CD74HCT560	(2641)
74HCT210	GE/RCA	CD74HCT210	(2640)	Supertex		74HCT245		74HCT4040	Supertex	74HCT374		74HCT561	GE/RCA	CD74HCT561	(2641)
74HCT211	GE/RCA	CD74HCT211	(2640)	TI		SN74HCT245		74HCT4041	TI	SN74HCT374		74HCT562	GE/RCA	CD74HCT562	(2641)
74HCT212	GE/RCA	CD74HCT212	(2640)	Toshiba		TC74HCT245A		74HCT4042	Toshiba	TC74HCT374		74HCT563	GE/RCA	CD74HCT563	(2641)
74HCT213	GE/RCA	CD74HCT213	(2640)	CTI		74HCT245		74HCT4043	CTI	74HCT374		74HCT564	GE/RCA	CD74HCT564	(2641)
74HCT214	GE/RCA	CD74HCT214	(2640)	CMD Micro		G74SC245		74HCT4044	CTI	74HCT374		74HCT565	GE/RCA	CD74HCT565	(2641)
74HCT215	GE/RCA	CD74HCT215	(2640)	GE/RCA		CD74HCT245		74HCT4045	GE/RCA	CD74HCT374		74HCT566	GE/RCA	CD74HCT566	(2641)
74HCT216	GE/RCA	CD74HCT216	(2640)	Hitachi		HD74HCT245		74HCT4046	Hitachi	HD74HCT374		74HCT567	GE/RCA	CD74HCT567	(2641)
74HCT217	GE/RCA	CD74HCT217	(2640)	Micrel		MIC74HCT245		74HCT4047	Micrel	MIC74HCT374		74HCT568	GE/RCA	CD74HCT568	(2641)
74HCT218	GE/RCA	CD74HCT218	(2640)	Motorola		MC74HCT245		74HCT4048	Motorola	MC74HCT374		74HCT569	GE/RCA	CD74HCT569	(2641)
74HCT219	GE/RCA	CD74HCT219	(2640)	National		MM74HCT245		74HCT4049	National	MM74HCT374		74HCT570	GE/RCA	CD74HCT570	(2641)
74HCT220	GE/RCA	CD74HCT220	(2640)	Plessey		MV74HCT245		74HCT4050	Plessey	MV74HCT374		74HCT571	GE/RCA	CD74HCT571	(2641)
74HCT221	GE/RCA	CD74HCT221	(2640)	SGS-Thomson		74HCT245		74HCT4051	SGS-Thomson	M74HCT374		74HCT572	GE/RCA	CD74HCT572	(2641)
74HCT222	GE/RCA	CD74HCT222	(2640)	Supertex		74HCT245		74HCT4052	Supertex	74HCT374		74HCT573	GE/RCA	CD74HCT573	(2641)
74HCT223	GE/RCA	CD74HCT223	(2640)	TI		SN74HCT245		74HCT4053	TI	SN74HCT374		74HCT574	GE/RCA	CD74HCT574	(2641)
74HCT224	GE/RCA	CD74HCT224	(2640)	Toshiba		TC74HCT245A		74HCT4054	Toshiba	TC74HCT374		74HCT575	GE/RCA	CD74HCT575	(2641)
74HCT225	GE/RCA	CD74HCT225	(2640)	CTI		74HCT245		74HCT4055	CTI	74HCT374		74HCT576	GE/RCA	CD74HCT576	(2641)
74HCT226	GE/RCA	CD74HCT226	(2640)	CMD Micro		G74SC245		74HCT4056	CMD Micro	G74SC374		74HCT577	GE/RCA	CD74HCT577	(2641)
74HCT227	GE/RCA	CD74HCT227	(2640)	GE/RCA		CD74HCT245		74HCT4057	GE/RCA	CD74HCT374		74HCT578	GE/RCA	CD74HCT578	(2641)
74HCT228	GE/RCA	CD74HCT228	(2640)	Hitachi		HD74HCT245		74HCT4058	Hitachi	HD74HCT374		74HCT579	GE/RCA	CD74HCT579	(2641)
74HCT229	GE/RCA	CD74HCT229	(2640)	Micrel		MIC74HCT245		74HCT4059	Micrel	MIC74HCT374		74HCT580	GE/RCA	CD74HCT580	(2641)
74HCT230	GE/RCA	CD74HCT230	(2640)	Motorola		MC74HCT245		74HCT4060	Motorola	MC74HCT374		74HCT581	GE/RCA	CD74HCT581	(2641)
74HCT231	GE/RCA	CD74HCT231	(2640)	National		MM74HCT245		74HCT4061	National	MM74HCT374		74HCT582	GE/RCA	CD74HCT582	(2641)
74HCT232	GE/RCA	CD74HCT232	(2640)	Plessey		MV74HCT245		74HCT4062	Plessey	MV74HCT374		74HCT583	GE/RCA	CD74HCT583	(2641)
74HCT233	GE/RCA	CD74HCT233	(2640)	SGS-Thomson		74HCT245		74HCT4063	SGS-Thomson	M74HCT374		74HCT584	GE/RCA	CD74HCT584	(2641)
74HCT234	GE/RCA	CD74HCT234	(2640)	Supertex		74HCT245		74HCT4064	Supertex	74HCT374		74HCT585	GE/RCA	CD74HCT585	(2641)
74HCT235	GE/RCA	CD74HCT235	(2640)	TI		SN74HCT245		74HCT4065	TI	SN74HCT374		74HCT586	GE/RCA	CD74HCT586	(2641)
74HCT236	GE/RCA	CD74HCT236	(2640)	Toshiba		TC74HCT245A		74HCT4066	Toshiba	TC74HCT374		74HCT587	GE/RCA	CD74HCT587	(2641)
74HCT237	GE/RCA	CD74HCT237	(2640)	CTI		74HCT245		74HCT4067	CTI	74HCT374		74HCT588	GE/RCA	CD74HCT588	(2641)
74HCT238	GE/RCA	CD74HCT238	(2640)	CMD Micro		G74SC245		74HCT4068	CMD Micro	G74SC374		74HCT589	GE/RCA	CD74HCT589	(2641)
74HCT239	GE/RCA	CD74HCT239	(2640)	GE/RCA		CD74HCT245		74HCT4069	GE/RCA	CD74HCT374		74HCT590	GE/RCA	CD74HCT590	(2641)
74HCT240	GE/RCA	CD74HCT240	(2640)	Hitachi		HD74HCT245		74HCT4070	Hitachi	HD74HCT374		74HCT591	GE/RCA	CD74HCT591	(2641)
74HCT241	GE/RCA	CD74HCT241	(2640)	Micrel		MIC74HCT245		74HCT4071	Micrel	MIC74HCT374		74HCT592	GE/RCA	CD74HCT592	(2641)
74HCT242	GE/RCA	CD74HCT242	(2640)	Motorola		MC74HCT245		74HCT4072	Motorola	MC74HCT374		74HCT593	GE/RCA	CD74HCT593	(2641)
74HCT243	GE/RCA	CD74HCT243	(2640)	National		MM74HCT245		74HCT4073	National	MM74HCT374		74HCT594	GE/RCA	CD74HCT594	(2641)
74HCT244	GE/RCA	CD74HCT244	(2640)	Plessey		MV74HCT245		74HCT4074	Plessey	MV74HCT374		74HCT595	GE/RCA	CD74HCT595	(2641)
74HCT245	GE/RCA	CD74HCT245	(2640)	SGS-Thomson		74HCT245		74HCT4075	SGS-Thomson	M74HCT374		74HCT596	GE/RCA	CD74HCT596	(2641)
74HCT246	GE/RCA	CD74HCT246	(2640)	Supertex		74HCT245		74HCT4076	Supertex	74HCT374		74HCT597	GE/RCA	CD74HCT597	

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
74HCT564	TI	SN74HCT564	(Cont'd)	74HC00	SGS-Thomson	M74HC00	(Cont'd)	74HC123	GE/RCA	CD74HC123	(2640)	74HC147	National	MM74HC147	(Cont'd)
74HCT573	Toshiba	TC74HCT564		74HC02	TI	SN74HC00			Hitachi	HD74HC123			SGS-Thomson	M74HC147	
	CTI	74HCT573			Toshiba	TC74HC00A (3340)			Motorola	MC74HC123A			TI	SN74HC147	
	GE/RCA	CD74HCT573	(2641)		Hitachi	HD74HC02			National	MM74HC123		74HC151	Toshiba	TC74HC147 (3340)	
	Micrel	MIC74HCT573			Motorola	MC74HC02 (2938)			SGS-Thomson	M74HC123			GE/RCA	CD74HC151	(2640)
	National	MM74HCT573			National	MM74HC02		74HC125	TI	M74HC123			Hitachi	HD74HC151	(2944)
	Plessey	MV74HCT573			SGS-Thomson	M74HC02			Toshiba	TC74HC123 (3340)			Motorola	MC74HC151	
	SGS-Thomson	M74HCT573			TI	SN74HC02			GE/RCA	CD74HC125	(2640)		National	MM74HC151	
	Supertex	74HCT573		74HC03	Toshiba	TC74HC02A (3340)			Motorola	MC74HC125	(2939)		SGS-Thomson	M74HC151	
	TI	SN74HCT573			GE/RCA	CD74HC03 (2639)			National	MM74HC125		74HC153	TI	SN74HC151	
	Toshiba	TC74HCT573			Motorola	MC74HC03 (2937)			SGS-Thomson	M74HC125			Toshiba	TC74HC151A	(3340)
74HCT574	CTI	74HCT574			National	MM74HC03			TI	SN74HC125			Universal	US74HC151	
	GE/RCA	CD74HCT574	(2641)		SGS-Thomson	M74HC03		74HC126	Toshiba	TC74HC125A	(3340)		GE/RCA	CD74HC153	(2640)
	Micrel	MIC74HCT574			TI	SN74HC03			GE/RCA	CD74HC126	(2640)		Hitachi	HD74HC153	(2944)
	National	MM74HCT574		74HC04	Toshiba	TC74HC03A (3340)			Motorola	MC74HC126	(2939)		Motorola	MC74HC153	
	Plessey	MV74HCT574			GE/RCA	CD74HC04 (2639)			Hitachi	HD74HC126			National	MM74HC153	
	SGS-Thomson	M74HCT574			Hitachi	HD74HC04			Motorola	MC74HC126			SGS-Thomson	M74HC153	
	Supertex	74HCT574			Motorola	MC74HC04 (2939)			National	MM74HC126		74HC154	TI	M74HC153	
	TI	SN74HCT574			SGS-Thomson	M74HC04			SGS-Thomson	M74HC126			Toshiba	TC74HC153 (3340)	
74HCT583	Toshiba	TC74HCT574			TI	SN74HC04			TI	TC74HC126A	(3340)		GE/RCA	CD74HC154	(2640)
	GE/RCA	CD74HCT583	(2641)	74HC08	Toshiba	TC74HC04A (3340)			Toshiba	TC74HC126A	(3340)		Hitachi	HD74HC154	(2945)
74HCT597	GE/RCA	CD74HCT597	(2641)		GE/RCA	CD74HC08 (2639)		74HC132	GE/RCA	CD74HC132	(2640)		Motorola	MC74HC154	
74HCT640	GE/RCA	CD74HCT640	(2641)		Hitachi	HD74HC08			Hitachi	HD74HC132			National	MM74HC154	
	Hitachi	HD74HCT640			Motorola	MC74HC08 (2937)			Motorola	MC74HC132	(2937, 2940)		SGS-Thomson	M74HC154	
	Motorola	MC74HCT640			National	MM74HC08			National	MM74HC132		74HC157	TI	SN74HC154	(3340)
	National	MM74HCT640			SGS-Thomson	M74HC08			SGS-Thomson	M74HC132			Toshiba	TC74HC154A	(2640, 2653)
	SGS-Thomson	M74HCT640			TI	SN74HC08			TI	SN74HC132			Hitachi	HD74HC157	(2944)
	TI	SN74HCT640		74HC10	Toshiba	TC74HC08A (3340)			Toshiba	TC74HC132A	(3340)		Motorola	MC74HC157	
	Toshiba	TC74HCT640A			GE/RCA	CD74HC10 (2640)			GE/RCA	CD74HC133	(2937)		National	MM74HC157	
74HCT643	GE/RCA	CD74HCT643	(2641)		Hitachi	HD74HC10			Motorola	MC74HC133			SGS-Thomson	M74HC157	
	Motorola	MC74HCT643			National	MM74HC10		74HC133	GE/RCA	CD74HC133	(2937)		TI	SN74HC157	
	SGS-Thomson	M74HCT643			SGS-Thomson	M74HC10			Motorola	MC74HC133			Toshiba	TC74HC157A	(3340)
	TI	SN74HCT643			TI	SN74HC10			National	MM74HC133		74HC158	GE/RCA	CD74HC158	(2640)
74HCT645	Toshiba	TC74HCT643A		74HC107	Toshiba	TC74HC10A (3340)			SGS-Thomson	M74HC133			Hitachi	HD74HC158	
	Signetics	75HCT645			GE/RCA	CD74HC107	(2640)		TI	SN74HC133			Motorola	MC74HC158	(2944)
	TI	SN74HCT645			Hitachi	HD74HC107			Toshiba	TC74HC133A	(3340)		National	MM74HC158	
74HCT646	GE/RCA	CD74HCT646	(2641)		Motorola	MC74HC107	(2941)		GE/RCA	CD74HC137	(2640)		SGS-Thomson	M74HC158	
	SGS-Thomson	M74HCT646			National	MM74HC107		74HC137	Hitachi	HD74HC137			TI	SN74HC158	
	TI	SN74HCT646			SGS-Thomson	M74HC107			Motorola	MC74HC137	(2945)		Toshiba	TC74HC158A	(3340)
	Toshiba	TC74HCT646A			TI	SN74HC107			National	MM74HC137		74HC160	GE/RCA	CD74HC160	(2640)
74HCT648	GE/RCA	CD74HCT648	(2641)	74HC109	Toshiba	TC74HC107 (3340)			SGS-Thomson	M74HC137			Motorola	MC74HC160	(2942)
	SGS-Thomson	M74HCT648			GE/RCA	CD74HC109	(2640)		TI	SN74HC137			National	MM74HC160	
	TI	SN74HCT648			Hitachi	HD74HC109			Toshiba	TC74HC137A	(3340)		SGS-Thomson	M74HC160	
	Toshiba	TC74HCT648A			Motorola	MC74HC109	(2941)		GE/RCA	CD74HC138	(2640)		TI	SN74HC160	
74HCT670	GE/RCA	CD74HCT670	(2641)		National	MM74HC109		74HC138	Hitachi	HD74HC138			Toshiba	TC74HC160A	(3340)
	SGS-Thomson	M74HCT670			SGS-Thomson	M74HC109			Motorola	MC74HC138	(2945)		Motorola	MC74HC160	
74HCT688	GE/RCA	CD74HCT688	(2641, 2649)		TI	SN74HC109			National	MM74HC138			National	MM74HC160	
	TI	SN74HCT688			Toshiba	TC74HC109A	(3340)		SGS-Thomson	M74HC138		74HC161	GE/RCA	CD74HC161	(2640)
74HCT7030	GE/RCA	CD74HCT7030	(2641)	74HC11	GE/RCA	CD74HC11 (2640)			TI	SN74HC138			Hitachi	HD74HC161	
74HCT7038	GE/RCA	CD74HCT7038	(2641)		Hitachi	HD74HC11			Toshiba	TC74HC138A	(3340)		Motorola	MC74HC161	(2942)
74HCT7046	GE/RCA	CD74HCT7046	(2642)		Motorola	MC74HC11 (2937)			GE/RCA	CD74HC139	(2640)		National	MM74HC161	
	SGS-Thomson	M74HCT7046			National	MM74HC11		74HC139	Hitachi	HD74HC139			SGS-Thomson	M74HC161	
74HCT7266	GE/RCA	CD74HCT7266			SGS-Thomson	M74HC11			Motorola	MC74HC139	(2945)		TI	SN74HC161	
74HCT73	GE/RCA	CD74HCT73 (2640)			TI	SN74HC11			National	MM74HC139			Toshiba	TC74HC161A	(3340)
74HCT74	GE/RCA	CD74HCT74 (2640)		74HC112	Toshiba	TC74HC11A (3340)			TI	SN74HC139			GE/RCA	CD74HC162	(2640)
	National	MM74HCT74			GE/RCA	CD74HC112	(2640)		Hitachi	HD74HC139			Hitachi	HD74HC162	
74HCT75	GE/RCA	CD74HCT75 (2640)			Hitachi	HD74HC112			Motorola	MC74HC139			Motorola	MC74HC162	(2942)
74HCT85	GE/RCA	CD74HCT85 (2640)			Motorola	MC74HC112	(2941)		National	MM74HC139			National	MM74HC162	
74HCT86	GE/RCA	CD74HCT86 (2640)			National	MM74HC112			TI	M74HC139			SGS-Thomson	M74HC162	
74HCT93	GE/RCA	CD74HCT93 (2640)			SGS-Thomson	M74HC112		74HC14	Toshiba	TC74HC139A	(3340)		TI	SN74HC162	
74HC04	GE/RCA	CD74HC04	(2642, 2649)		TI	SN74HC112			GE/RCA	CD74HC14 (2640)			Toshiba	TC74HC162A	(3340)
	Motorola	MC74HC04	(2939)		Toshiba	TC74HC112 (3340)			Hitachi	HD74HC14		74HC162	GE/RCA	CD74HC162	(2640)
	National	MM74HC04			GE/RCA	CD74HC113			Motorola	MC74HC14	(2940)		Hitachi	HD74HC162	
	SGS-Thomson	M74HC04		74HC113	Hitachi	HD74HC113			National	MM74HC14			Motorola	MC74HC162	(2942)
	TI	SN74HC04			Motorola	MC74HC113	(2941)		TI	M74HC14			National	MM74HC162	
	Toshiba	TC74HC04A			National	MM74HC113			Toshiba	TC74HC14A	(3340)		SGS-Thomson	M74HC162	
74HC00	GE/RCA	CD74HC00 (2639, 2653)			SGS-Thomson	M74HC113		74HC147	GE/RCA	CD74HC147	(2640)		TI	SN74HC162	
	Hitachi	HD74HC00			TI	SN74HC113			Hitachi	HD74HC147			Toshiba	TC74HC162A	(3340)
	Motorola	MC74HC00 (2937)			Toshiba	TC74HC113 (3340)			Motorola	MC74HC147					(Continued)
	National	MM74HC00													

♦ Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
74HC163	GE/RCA	CD74HC163 (2640)		74HC190	Motorola	MC74HC190		74HC238	SGS-Thomson	M74HC238		74HC257	GE/RCA	CD74HC257 (2640, 2653)	
	Hitachi	HD74HC163			National	MM74HC190			TI	M74HC238			Hitachi	HD74HC257	
	Motorola	MC74HC163 (2942)			SGS-Thomson	M74HC190			Toshiba	TC74HC238A (3340)			Motorola	MC74HC257 (2944)	
	National	MM74HC163		74HC191	TI	SN74HC190		74HC240	GE/RCA	CD74HC240 (2640)			National	MM74HC257	
	SGS-Thomson	M74HC163			GE/RCA	CD74HC191 (2640)			Hitachi	HD74HC240			SGS-Thomson	M74HC257	
	TI	SN74HC163			Hitachi	HD74HC191			Motorola	MC74HC240 (2939)			TI	SN74HC257	
	Toshiba	TC74HC163A (3340)			Motorola	MC74HC191			National	MM74HC240		74HC258	GE/RCA	CD74HC258 (2640)	
74HC164	GE/RCA	CD74HC164 (2640)			SGS-Thomson	M74HC191			SGS-Thomson	M74HC240			Hitachi	HD74HC258	
	Hitachi	HD74HC164		74HC192	TI	SN74HC191			Supertex	74HC240			SGS-Thomson	M74HC258	
	Motorola	MC74HC164 (2943)			Toshiba	TC74HC191 (3340)			TI	SN74HC240			TI	SN74HC258	
	National	MM74HC164			GE/RCA	CD74HC192 (2640)			Toshiba	TC74HC240A (3340)			Toshiba	TC74HC257A (3340)	
	SGS-Thomson	M74HC164			Hitachi	HD74HC192		74HC241	GE/RCA	CD74HC241 (2640)					
	TI	SN74HC164			Motorola	MC74HC192			Hitachi	HD74HC241					
	Toshiba	TC74HC164A (3340)			National	MM74HC192			Motorola	MC74HC241 (2939)		74HC259	GE/RCA	CD74HC259 (2640)	
74HC165	GE/RCA	CD74HC165 (2640)			SGS-Thomson	M74HC192			National	MM74HC241			Hitachi	HD74HC259	
	Hitachi	HD74HC165		74HC193	TI	SN74HC192			SGS-Thomson	M74HC241			Motorola	MC74HC259 (2941)	
	Motorola	MC74HC165 (2943)			Toshiba	TC74HC192A (3340)			Supertex	74HC241			National	MM74HC259	
	National	MM74HC165			GE/RCA	CD74HC193 (2640)			TI	SN74HC241		74HC266	GE/RCA	CD74HC266 (3340)	
	SGS-Thomson	M74HC165			Hitachi	HD74HC193			Toshiba	TC74HC241A (3340)			Hitachi	HD74HC266	
	TI	SN74HC165			National	MM74HC193		74HC242	GE/RCA	CD74HC242 (2640)			Motorola	MC74HC266	
	Toshiba	TC74HC165A (3340)			SGS-Thomson	M74HC193			Hitachi	HD74HC242			National	MM74HC266	
74HC166	GE/RCA	CD74HC166 (2640)			TI	SN74HC193			Motorola	MC74HC242 (2939)			SGS-Thomson	M74HC266	
	Motorola	MC74HC166		74HC194	Toshiba	TC74HC193A (3340)			National	MM74HC242		74HC27	TI	M74HC266	
	National	MM74HC166			GE/RCA	CD74HC194 (2640)			SGS-Thomson	M74HC242			Toshiba	TC74HC266A (2640)	
	SGS-Thomson	M74HC166			Hitachi	HD74HC194			TI	SN74HC242			Hitachi	HD74HC27	
	TI	SN74HC166			Motorola	MC74HC194 (2944)		74HC243	GE/RCA	CD74HC243 (2640)			Motorola	MC74HC27 (2938)	
	Toshiba	TC74HC166A (3340)			National	MM74HC194			Hitachi	HD74HC243			National	MM74HC27	
74HC173	GE/RCA	CD74HC173 (2640)			SGS-Thomson	M74HC194			Motorola	MC74HC243 (2939)		74HC273	GE/RCA	CD74HC273 (2640)	
	Hitachi	HD74HC173		74HC195	TI	SN74HC194			National	MM74HC243			Hitachi	HD74HC273	
	Motorola	MC74HC173 (2942)			Toshiba	TC74HC194 (3340)			SGS-Thomson	M74HC243			Motorola	MC74HC273 (2942)	
	National	MM74HC173			GE/RCA	CD74HC195 (2640)			TI	SN74HC243			National	MM74HC273	
	SGS-Thomson	M74HC173			Hitachi	HD74HC195		74HC244	GE/RCA	CD74HC244 (2640, 2653)			Hitachi	HD74HC273	
	TI	SN74HC173			Motorola	MC74HC195 (2944)			Hitachi	HD74HC244			Motorola	MC74HC273 (2942)	
	Toshiba	TC74HC173 (3340)			National	MM74HC195			Motorola	MC74HC244 (2939)			National	MM74HC273	
74HC174	GE/RCA	CD74HC174 (2640)			SGS-Thomson	M74HC195			National	MM74HC244		74HC279	GE/RCA	CD74HC279 (3340)	
	Hitachi	HD74HC174		74HC20	TI	SN74HC195			SGS-Thomson	M74HC244			SGS-Thomson	M74HC279	
	Motorola	MC74HC174 (2942)			Toshiba	TC74HC195 (3340)			Supertex	74HC244			Toshiba	TC74HC279 (3340)	
	National	MM74HC174			GE/RCA	CD74HC20 (2640)			TI	SN74HC244			GE/RCA	CD74HC280 (2640)	
	SGS-Thomson	M74HC174			Hitachi	HD74HC20		74HC21	GE/RCA	CD74HC21 (2640)			Hitachi	HD74HC280	
	TI	SN74HC174			Motorola	MC74HC20 (2937)			Hitachi	HD74HC21			Motorola	MC74HC280 (2947)	
	Toshiba	TC74HC174A (3340)			National	MM74HC20			Motorola	MC74HC21			National	MM74HC280	
74HC175	GE/RCA	CD74HC175 (2640)			SGS-Thomson	M74HC20			National	MM74HC245			SGS-Thomson	MM74HC280	
	Hitachi	HD74HC175		74HC21	TI	SN74HC20			SGS-Thomson	M74HC245		74HC283	GE/RCA	CD74HC283 (2640)	
	Motorola	MC74HC175 (2942)			Toshiba	TC74HC20A (3340)			TI	SN74HC245			TI	M74HC280	
	National	MM74HC175			GE/RCA	CD74HC21 (2640)			Toshiba	TC74HC245A (3340)			Toshiba	TC74HC280A (3340)	
	SGS-Thomson	M74HC175			Hitachi	HD74HC21		74HC221	GE/RCA	CD74HC221 (2640)					
	TI	SN74HC175			Motorola	MC74HC21			Hitachi	HD74HC221		74HC283	GE/RCA	CD74HC283 (2640)	
	Toshiba	TC74HC175A (3340)			SGS-Thomson	M74HC21			Motorola	MC74HC221			Motorola	MC74HC283	
74HC181	GE/RCA	CD74HC181 (2640)			TI	SN74HC21			National	MM74HC221A			National	MM74HC283	
	Motorola	MC74HC181			Toshiba	TC74HC21A (3340)			SGS-Thomson	M74HC221			SGS-Thomson	M74HC283	
	National	MM74HC181		74HC237	GE/RCA	CD74HC237 (2640)			TI	SN74HC221			TI	SN74HC283	
	SGS-Thomson	M74HC181			Hitachi	HD74HC237			Toshiba	TC74HC251A (3340)			Toshiba	TC74HC283A (3340)	
	TI	SN74HC181			Motorola	MC74HC237 (2945)		74HC253	GE/RCA	CD74HC253 (2640)					
	Toshiba	TC74HC181 (3340)			National	MM74HC237			Hitachi	HD74HC253		74HC299	GE/RCA	CD74HC299 (2640)	
	GE/RCA	CD74HC182 (2640)			SGS-Thomson	M74HC237			Motorola	MC74HC253 (2944)			Hitachi	HD74HC299	
	Motorola	MC74HC182			TI	SN74HC237			National	MM74HC253			Motorola	MC74HC299 (2944)	
	National	MM74HC182		74HC238	Toshiba	TC74HC237A (3340)			SGS-Thomson	M74HC253			National	MM74HC299	
	SGS-Thomson	M74HC182			GE/RCA	CD74HC238 (2640)			TI	SN74HC253			SGS-Thomson	M74HC299	
	TI	SN74HC182			Hitachi	HD74HC238			Toshiba	TC74HC253A (3340)			TI	SN74HC299	
	Toshiba	TC74HC182 (3340)			Motorola	MC74HC238							Toshiba	TC74HC299A (3340)	
74HC190	GE/RCA	CD74HC190 (2640)			National	MM74HC238									
	Hitachi	HD74HC190			SGS-Thomson	M74HC238									
	(Continued)				(Continued)										

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				74HC374	GE/RCA	CD74HC374 (2641, 2653)		74HC4020		(Cont'd)		74HC4060	GE/RCA	CD74HC4060 (2641)	
74HC30	GE/RCA	CD74HC30 (2640)			Hitachi	HD74HC374			TI	SN74HC4020			Motorola	MC74HC4060 (2943)	
	Hitachi	HD74HC30			Motorola	MC74HC374	(2942)	74HC4024	GE/RCA	CD74HC4024 (2641)			National	MM74HC4060	
	Motorola	MC74HC30 (2937)			National	MM74HC374			Hitachi	HD74HC4024			SGS-Thomson	M74HC4060	
	National	MM74HC30			SGS-Thomson				Motorola	MC74HC4024	(2943)	74HC4066	GE/RCA	CD74HC4066 (2641)	
	SGS-Thomson				TI	SN74HC374			National	MM74HC4024			Motorola	MC74HC4066 (2945)	
74HC32	TI	SN74HC30		74HC377	GE/RCA	CD74HC377 (2641)			SGS-Thomson	M74HC4024			National	MM74HC4066	
	Toshiba	TC74HC30 (3340)			Hitachi	HD74HC377		74HC4040	GE/RCA	CD74HC4040 (2641)			TI	M74HC4066	
	GE/RCA	CD74HC32 (2640)			Motorola	MC74HC377	(3340)		Hitachi	HD74HC4040			Toshiba	SN74HC4066	
	Hitachi	HD74HC32			TI	SN74HC377			Motorola	MC74HC4040	(2943)	74HC4067	GE/RCA	CD74HC4067 (2641, 2655)	
	Motorola	MC74HC32 (2937)			Toshiba	TC74HC377 (3340)			National	MM74HC4040			Panasonic	MM74HC4067	
	National	MM74HC32			SGS-Thomson				TI	M74HC4040			Cypress	CY7C167 (2580)	
	SGS-Thomson				TI	SN74HC377			Toshiba	TC74HC4040	(3340)	74HC4075	GE/RCA	CDM5167	
74HC354	TI	SN74HC32		74HC390	GE/RCA	CD74HC390 (2641)								CD74HC4075 (2641)	
	Toshiba	TC74HC32A (3340)			Hitachi	HD74HC390			Motorola	MC74HC4046	(2641)		Inmos	IMS1400	
	GE/RCA	CD74HC354 (2640)			Motorola	MC74HC390	(2942)		National	MM74HC4046			Matra-Harris	HM65263	
	Hitachi	HD74HC354			TI	SN74HC390			SGS-Thomson	MC74HC4046			Motorola	MC74HC4075 (2937)	
	Motorola	MC74HC354 (2945)			Toshiba	TC74HC390A (3340)			TI	SN74HC4046			National	MM74HC4075	
	National	MM74HC354			SGS-Thomson				National	MM74HC4046	(3057)	74HC4094	GE/RCA	CY7C186 (2580)	
	TI	M74HC354			TI	SN74HC390			SGS-Thomson	MC74HC4046			Motorola	CD74HC4094 (2641)	
	Toshiba	TC74HC354A (3340)			Toshiba	TC74HC390A (3340)			Motorola	MC74HC4046			TI	MT5C6408	
74HC356	GE/RCA	CD74HC356 (2640)		74HC393	GE/RCA	CD74HC393 (2641)			National	MM74HC4046			Mitsubishi	M5M5178	
	Hitachi	HD74HC356			Hitachi	HD74HC393			SGS-Thomson	MC74HC4046			Mosel	MS6264	
	Motorola	MC74HC356 (2945)			Motorola	MC74HC393	(2942)		TI	SN74HC4046			Motorola	MC6M1L64	
	National	MM74HC356			National	MM74HC393			National	MM74HC4046	(3057)		Performance	P4C164	
	SGS-Thomson				SGS-Thomson				SGS-Thomson	MC74HC4046			SGS-Thomson	P4C164	
	TI	M74HC356			TI	SN74HC393			Motorola	MC74HC4049	(2641)	74HC42	GE/RCA	CD74HC42 (2640)	
	Toshiba	TC74HC356A (3340)			Toshiba	TC74HC393A (3340)			SGS-Thomson	MC74HC4049			Hitachi	HD74HC42	
74HC365	GE/RCA	CD74HC365 (2641)			SGS-Thomson				TI	SN74HC4049	(3340)		Motorola	MC74HC42 (2945)	
	Hitachi	HD74HC365			TI	SN74HC393			National	MM74HC4049			National	MM74HC42	
	Motorola	MC74HC365 (2939)			Toshiba	TC74HC393A (3340)			SGS-Thomson	MC74HC4049		74HC423	GE/RCA	CD74HC423 (3340)	
	National	MM74HC365			SGS-Thomson				Motorola	MC74HC4049	(2939)		Motorola	MC74HC423A	
	SGS-Thomson				TI	SN74HC4002			TI	SN74HC4049			SGS-Thomson		
	TI	M74HC365			TI	SN74HC4002			SGS-Thomson	MC74HC4049			TI	M74HC42	
	Toshiba	TC74HC365 (3340)			Toshiba	TC74HC4002A (3340)			Motorola	MC74HC4050	(2641)	74HC4316	GE/RCA	CD74HC4316 (2945)	
74HC366	GE/RCA	CD74HC366 (2641)		74HC40102	GE/RCA	CD74HC40102 (2642)			SGS-Thomson	MC74HC4050			Motorola	MC74HC4316 (2945)	
	Hitachi	HD74HC366			SGS-Thomson				TI	SN74HC4050	(3340)		National	MM74HC4316	
	Motorola	MC74HC366 (2939)			TI	SN74HC4002			SGS-Thomson	MC74HC4050		74HC4352	GE/RCA	CD74HC4352 (2945)	
	National	MM74HC366			Toshiba	TC74HC4002A (3340)			Motorola	MC74HC4051	(2641, 2655)		Motorola	MC74HC4351 (2945)	
	SGS-Thomson				SGS-Thomson				SGS-Thomson	MC74HC4051			National	MM74HC4351	
	TI	M74HC366			TI	SN74HC4002			TI	SN74HC4051		74HC4353	GE/RCA	CD74HC4353 (2945)	
	Toshiba	TC74HC366 (3340)			Toshiba	TC74HC4002A (3340)			SGS-Thomson	MC74HC4051			Motorola	MC74HC4353	
74HC367	GE/RCA	CD74HC367 (2641)		74HC40103	GE/RCA	CD74HC40103 (2642)			Motorola	MC74HC4051	(2945)		National	MM74HC4353	
	Hitachi	HD74HC367			SGS-Thomson				TI	SN74HC4051		74HC4352	GE/RCA	CD74HC4352 (2945)	
	Motorola	MC74HC367 (2939)			TI	SN74HC40103	(3340)		SGS-Thomson	MC74HC4051			Motorola	MC74HC4352	
	National	MM74HC367			SGS-Thomson				Motorola	MC74HC4051			National	MM74HC4352	
	SGS-Thomson				TI	SN74HC40103	(3340)		TI	SN74HC4051		74HC4353	GE/RCA	CD74HC4353 (2945)	
	TI	M74HC367			SGS-Thomson				SGS-Thomson	MC74HC4051			Motorola	MC74HC4353	
	Toshiba	TC74HC367A (3340)			TI	SN74HC40103	(3340)		TI	SN74HC4051		74HC4510	GE/RCA	CD74HC4510 (2641)	
74HC368	GE/RCA	CD74HC368 (2641)		74HC40104	GE/RCA	CD74HC40104 (2642)			SGS-Thomson	MC74HC4051			Motorola	MC74HC4510	
	Hitachi	HD74HC368			SGS-Thomson				Motorola	MC74HC4052	(2641, 2655)		National	MM74HC4510	
	Motorola	MC74HC368 (2939)			TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC452	
	National	MM74HC368			TI	SN74HC40105			TI	SN74HC4052			Toshiba	TC74HC4052A (3340)	
	SGS-Thomson				Toshiba	TC74HC40105A (3340)			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
	TI	M74HC367			SGS-Thomson				Motorola	MC74HC4052	(2945)		National	MM74HC4052	
	Toshiba	TC74HC367A (3340)			TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
74HC373	GE/RCA	CD74HC373 (2641, 2653)		74HC40105	GE/RCA	CD74HC40105 (2642)			TI	SN74HC4052			Motorola	MC74HC4052	
	Hitachi	HD74HC373			SGS-Thomson				SGS-Thomson	MC74HC4052			National	MM74HC4052	
	Motorola	MC74HC373 (2941)			TI	SN74HC40105A			TI	SN74HC4052		74HC4052	GE/RCA	CD74HC4052 (2641, 2655)	
	National	MM74HC373			SGS-Thomson				SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
	SGS-Thomson				TI	SN74HC40105			TI	SN74HC4052			National	MM74HC4052	
	Supertex	M74HC373			TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
	TI	SN74HC373			SGS-Thomson				TI	SN74HC4052			Motorola	MC74HC4052	
	Toshiba	TC74HC373A (3340)			TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
	(Continued)				TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			National	MM74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			TI	M74HC4052	
					TI	SN74HC40105			SGS-Thomson	MC74HC4052			Motorola	MC74HC4052	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Signetics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)				
74HC4511	GE/RCA	CD74HC4511	(2641)	74HC533	Motorola	MC74HC533	(2941)	74HC597	SGS-Thomson	M74HC597		74HC73	TI	SN74HC73		
	Motorola	MC74HC4511	(2946)		National	MM74HC533			TI	SN74HC597		74HC74	Toshiba	TC74HC73A (3340)		
	National	MM74HC4511			SGS-Thomson	M74HC533			Toshiba	TC74HC597A	(3340)		GE/RCA	CD74HC74 (2640)		
	SGS-Thomson	M74HC4511			TI	SN74HC533		74HC640	GE/RCA	CD74HC640	(2641)		Hitachi	HD74HC74		
	TI	SN74HC4511			Toshiba	TC74HC533A	(3340)		Hitachi	HD74HC640			Motorola	MC74HC74 (2941)		
	Toshiba	TC74HC4511	(3340)	74HC534	GE/RCA	CD74HC534	(2641)		Motorola	MC74HC640	(2940)		National	MM74HC74		
74HC4514	GE/RCA	CD74HC4514	(2641)		Hitachi	HD74HC534			National	MM74HC640		74HC75	TI	M74HC74		
	Hitachi	HD74HC4514			Motorola	MC74HC534	(2942)		SGS-Thomson	M74HC640			Toshiba	SN74HC74		
	Motorola	MC74HC4514	(2945)		National	MM74HC534				SN74HC640			GE/RCA	TC74HC74A (3340)		
	National	MM74HC4514			SGS-Thomson	M74HC534			TI	SN74HC640			Hitachi	CD74HC75 (2640)		
	SGS-Thomson	M74HC4514			TI	SN74HC534			Toshiba	TC74HC640A	(3340)		Motorola	HD74HC75		
	TI	SN74HC4514		74HC540	GE/RCA	CD74HC540	(2641)			TC74HC640A	(3340)		National	MM74HC75		
	Toshiba	TC74HC4514A	(3340)		Hitachi	HD74HC540				TC74HC640A	(3340)		SGS-Thomson	M74HC75		
74HC4515	GE/RCA	CD74HC4515	(2641)		Motorola	MC74HC540	(2940)		74HC643	GE/RCA	CD74HC643	(2641)		TI	SN74HC75	
	Motorola	MC74HC4515			National	MM74HC540				Hitachi	HD74HC643		74HC76	Toshiba	TC74HC75A (3340)	
	National	MM74HC4515			SGS-Thomson	M74HC540				Motorola	MC74HC643			GE/RCA	CD74HC76	
	TI	SN74HC4515			TI	SN74HC540				National	MM74HC643			Hitachi	HD74HC76	
	Toshiba	TC74HC4515A	(3340)		Toshiba	TC74HC540A	(3340)			SGS-Thomson	M74HC643			Motorola	MC74HC76 (2941)	
74HC4516	GE/RCA	CD54HC423		74HC541	GE/RCA	CD74HC541	(2641)				SN74HC643			National	MM74HC76	
	Motorola	MC54HC423			Hitachi	HD74HC541					TC74HC643A	(3340)		SGS-Thomson	M74HC76	
	National	MM54HC423A			Motorola	MC74HC541	(2940)		74HC645	GE/RCA	CD74HC645		74HC85	TI	SN74HC76	
	TI	SN54HC423			National	MM74HC541				National	MM74HC645			Toshiba	TC74HC76A (3340)	
	Cypress	CY7C171	(2580)		SGS-Thomson	M74HC541				TI	SN74HC645			GE/RCA	CD74HC85 (2640)	
	GE/RCA	CD74HC4518	(2641)		TI	SN74HC541				Toshiba	TC74HC646	(2940)		Motorola	MC74HC85 (2946)	
	IDT	IDT71681			Toshiba	TC74HC541A	(3340)				CD74HC646	(2641)		National	MM74HC85	
	MicronTech	MT5C1606		74HC563	GE/RCA	CD74HC563	(2641)			Hitachi	HD74HC646			SGS-Thomson	M74HC85	
	Motorola	MC74HC4518			Hitachi	HD74HC563				Motorola	MC74HC646	(2940)		TI	SN74HC85	
	Performance	P4C1681			Motorola	MC74HC563	(3340)			National	MM74HC646			Toshiba	TC74HC85A (3340)	
	Saratoga	SSM6171			National	MM74HC563				SGS-Thomson	M74HC646			GE/RCA	CD74HC86 (2640)	
	SGS-Thomson	M74HC4518			SGS-Thomson	M74HC563					TC74HC646A	(3340)		Hitachi	HD74HC86	
	Toshiba	TC74HC4518	(3340)		TI	SN74HC563					TC74HC646A	(3340)		Motorola	MC74HC86 (2938)	
	VLSI Tech	VT20C71	(3343, 3345, 3351)		Toshiba	TC74HC563A	(3340)				TC74HC646A	(3340)		National	MM74HC86	
74HC4520	GE/RCA	CD74HC4520	(2641)		GE/RCA	CD74HC564	(2641)				TC74HC646A	(3340)		TI	SN74HC86	
	Motorola	MC74HC4520			Hitachi	HD74HC564					TC74HC646A	(3340)		Toshiba	TC74HC86 (3340)	
	SGS-Thomson	M74HC4520			Motorola	MC74HC564	(2942)				TC74HC646A	(3340)		GE/RCA	CD54HC316	
	Toshiba	TC74HC4520	(3340)		National	MM74HC564					TC74HC646A	(3340)		Motorola	CD74HC93 (2640)	
74HC4538	GE/RCA	CD74HC4538	(2641)		SGS-Thomson	M74HC564					TC74HC646A	(3340)		MC54HC4316	(2945)	
	Motorola	MC74HC4538			TI	SN74HC564					TC74HC646A	(3340)				
	National	MM74HC4538			Toshiba	TC74HC564A	(3340)				TC74HC646A	(3340)				
	SGS-Thomson	M74HC4538									TC74HC646A	(3340)				
	TI	SN74HC4538									TC74HC646A	(3340)				
	Toshiba	TC74HC4538A	(3340)								TC74HC646A	(3340)				
74HC4543	Cypress	CY7C172	(2580)								TC74HC646A	(3340)				
	GE/RCA	CD74HC4543	(2641, 2653)								TC74HC646A	(3340)				
	IDT	IDT71682									TC74HC646A	(3340)				
	MicronTech	IDT71782									TC74HC646A	(3340)				
	Motorola	MT5C1607									TC74HC646A	(3340)				
	Motorola	MC74HC4543	(2946)								TC74HC646A	(3340)				
	National	MM74HC4543									TC74HC646A	(3340)				
	Performance	P4C1682									TC74HC646A	(3340)				
	Saratoga	SSM6172									TC74HC646A	(3340)				
	SGS-Thomson	M74HC4543									TC74HC646A	(3340)				
	Toshiba	TC74HC4543A	(3340)								TC74HC646A	(3340)				
	VLSI Tech	VT20C72	(3343, 3345, 3351)								TC74HC646A	(3340)				
74HC51	GE/RCA	CD74HC51									TC74HC646A	(3340)				
	Hitachi	HD74HC51									TC74HC646A	(3340)				
	Motorola	MC74HC51	(2938)								TC74HC646A	(3340)				
	National	MM74HC51									TC74HC646A	(3340)				
	SGS-Thomson	M74HC51									TC74HC646A	(3340)				
	TI	SN74HC51									TC74HC646A	(3340)				
	Toshiba	TC74HC51A	(3340)								TC74HC646A	(3340)				
74HC533	GE/RCA	CD74HC533	(2641)								TC74HC646A	(3340)				
	Hitachi	HD74HC533									TC74HC646A	(3340)				

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
74LS08	Panasonic SGS-Thomson	DN74LS08		74LS136	Panasonic SGS-Thomson	DN74LS136		74LS160A	Hitachi Motorola	HD74LS160A SN74LS160A	(2942)	74LS175	Panasonic SGS-Thomson	DN74LS175	
74LS10	TI Hitachi Motorola National	T74LS08 SN74LS08 HD74LS10 DM74LS10	(2937)	74LS138	TI Hitachi Motorola National	T74LS136 SN74LS136 HD74LS138 DM74LS138	(2945)	74LS161A	National Panasonic SGS-Thomson	DM74LS160 SN74LS160 DN74LS160A	(3057)	74LS181	TI Hitachi Motorola National	T74LS175 SN74LS175 HD74LS181 SN74LS181	(2947)
74LS109	Panasonic SGS-Thomson	DN74LS10		74LS139	Panasonic SGS-Thomson	DN74LS138		74LS162A	Hitachi Motorola	HD74LS161A	(2942)	74LS191	TI Hitachi Motorola National	T74LS181 SN74LS181 HD74LS191 SN74LS191	(2942)
74LS11	TI Hitachi Motorola National	T74LS10 SN74LS10 HD74LS109 DM74LS109	(2941)	74LS14	TI Hitachi Motorola National	T74LS138 SN74LS138 HD74LS139 DM74LS139	(2945)	74LS163A	Panasonic SGS-Thomson	DM74LS161 SN74LS161A	(2942)	74LS192	Panasonic SGS-Thomson	DN74LS191	
74LS112	Panasonic SGS-Thomson	DN74LS109		74LS151	Panasonic SGS-Thomson	DN74LS139		74LS164	TI Hitachi Motorola	SN74LS161A HD74LS162A SN74LS162A	(2942)	74LS193	TI Hitachi Motorola National	T74LS191 SN74LS191 HD74LS192 SN74LS192	(2942)
74LS112A	TI Hitachi Motorola	T74LS109 SN74LS109A HD74LS111 DM74LS111	(2937)	74LS152	TI Hitachi Motorola National	T74LS139 SN74LS139A HD74LS14 DM74LS14	(2940)	74LS164A	National Panasonic SGS-Thomson	DM74LS162 SN74LS162A	(2942)	74LS194A	TI Hitachi Motorola	T74LS192 SN74LS192 HD74LS193 SN74LS193	(2944)
74LS112A	National	DM74LS112		74LS153	TI Hitachi Motorola National	T74LS14 SN74LS14 HD74LS151 DM74LS151	(2944)	74LS164A	TI Hitachi Motorola	SN74LS163A HD74LS164 SN74LS164A	(2943)	74LS195A	National	DM74LS194 SN74LS194A	
74LS113	Panasonic SGS-Thomson	DN74LS112		74LS154	TI Hitachi Motorola National	T74LS151 SN74LS151 HD74LS152		74LS164A	National	DM74LS163 SN74LS163A	(2943)	74LS195A	TI GoldStar Hitachi Motorola	T74LS193 SN74LS193 HD74LS194A SN74LS194A	(2944)
74LS113	TI Hitachi Motorola	T74LS112 SN74LS112A HD74LS113 DM74LS113	(2941)	74LS155	TI Hitachi Motorola National	T74LS152 SN74LS152 HD74LS153 DM74LS153	(2944)	74LS164A	Panasonic SGS-Thomson	DM74LS164 SN74LS164A	(2943)	74LS195A	TI GoldStar Hitachi Motorola	T74LS194A SN74LS194A GL7924 HD74LS195A MC7924	(2961)
74LS112	Panasonic SGS-Thomson	DN74LS113		74LS155	TI Hitachi Motorola National	T74LS153 SN74LS153 HD74LS154 DM74LS155	(2945)	74LS164A	TI Hitachi Motorola	SN74LS164A HD74LS164 SN74LS164A	(2943)	74LS195A	National	μA7924 DM74LS195 LM7924 74LS195A	(2944)
74LS12	TI Hitachi Motorola	T74LS113 SN74LS113A HD74LS12 DM74LS12	(2937)	74LS156	Panasonic SGS-Thomson	DN74LS155		74LS164A	Panasonic SGS-Thomson	DM74LS164 SN74LS164A	(2943)	74LS195A	NEC Panasonic SGS-Thomson	μPC7924 DN74LS195A	
74LS125A	TI Hitachi Motorola	T74LS12 SN74LS12 HD74LS125A DM74LS125A	(2939)	74LS157	TI Hitachi Motorola National	T74LS155 SN74LS155A HD74LS156 DM74LS156	(2945)	74LS164A	TI Hitachi Motorola	SN74LS164 HD74LS164 SN74LS164A	(2943)	74LS195A	TI Toshiba Motorola	L7924 T74LS195A μA7924 SN74LS195A	
74LS126A	Panasonic SGS-Thomson	DN74LS125A		74LS158	TI Hitachi Motorola National	T74LS156 SN74LS156 HD74LS157 DM74LS157	(2944)	74LS164A	TI Hitachi Motorola	SN74LS164 HD74LS164 SN74LS164A	(2943)	74LS195A	TI Toshiba Motorola	TA79024 SN74LS197 DM74LS197 74LS197	(2942)
74LS126A	TI Hitachi Motorola	T74LS125 SN74LS125A HD74LS126 DM74LS126	(2939)	74LS159	Panasonic SGS-Thomson	DN74LS156		74LS164A	TI Hitachi Motorola	SN74LS164 HD74LS164 SN74LS164A	(2943)	74LS195A	Panasonic SGS-Thomson	DN74LS197	
74LS13	TI Hitachi Motorola	T74LS126 SN74LS126A HD74LS13 DM74LS13	(2940)	74LS160	TI Hitachi Motorola	T74LS157 SN74LS157 HD74LS158 DM74LS158	(2944)	74LS164A	TI Hitachi Motorola	SN74LS164 HD74LS164 SN74LS164A	(2943)	74LS195A	TI Hitachi Motorola	T74LS197 SN74LS197 HD74LS20 SN74LS20	(2937)
74LS132	Panasonic SGS-Thomson	DN74LS13		74LS160	TI Hitachi Motorola	T74LS158 SN74LS158 HD74LS160A DM74LS160A	(2942)	74LS164A	TI Hitachi Motorola	SN74LS164 HD74LS164 SN74LS164A	(2943)	74LS195A	Panasonic SGS-Thomson	DN74LS20	
74LS132	TI Hitachi Motorola	T74LS13 SN74LS13 HD74LS132 DM74LS132	(2937, 2940)	74LS160	TI Hitachi Motorola	T74LS158 SN74LS158 HD74LS160A DM74LS160A	(2942)	74LS164A	TI Hitachi Motorola	SN74LS164 HD74LS164 SN74LS164A	(2943)	74LS195A	TI Hitachi Motorola	T74LS20 SN74LS20 HD74LS21 SN74LS21	(2937)
74LS136	Panasonic SGS-Thomson	DN74LS132		74LS160	TI Hitachi Motorola	T74LS158 SN74LS158 HD74LS160A DM74LS160A	(2942)	74LS164A	TI Hitachi Motorola	SN74LS164 HD74LS164 SN74LS164A	(2943)	74LS195A	TI Hitachi Motorola	T74LS21 SN74LS21 HD74LS22 SN74LS22	(2939)
74LS136	TI Hitachi Motorola	T74LS132 SN74LS132 HD74LS136 DM74LS136	(2938)	74LS160	TI Hitachi Motorola	T74LS158 SN74LS158 HD74LS160A DM74LS160A	(2942)	74LS164A	TI Hitachi Motorola	SN74LS164 HD74LS164 SN74LS164A	(2943)	74LS195A	TI Hitachi Motorola	T74LS21 SN74LS21 HD74LS22 SN74LS22	(2939)
74LS136	National	DM74LS136		74LS160	TI Hitachi Motorola	T74LS158 SN74LS158 HD74LS160A DM74LS160A	(2942)	74LS164A	TI Hitachi Motorola	SN74LS164 HD74LS164 SN74LS164A	(2943)	74LS195A	TI Hitachi Motorola	T74LS21 SN74LS21 HD74LS22 SN74LS22	(2939)
74LS136	TI	SN74LS136		74LS160	TI	SN74LS136		74LS164A	TI	SN74LS136		74LS195A	TI	SN74LS136	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				74LS266	Motorola National	SN74LS266 (2938)		74LS365	Panasonic SGS-Thomson	DN74LS365A		74LS378	National SGS-Thomson	74LS378	(Cont'd)
74LS241	National Panasonic SGS-Thomson	74LS241 DN74LS241	(Cont'd)		Panasonic SGS-Thomson	DN74LS266 RC8242		74LS365	Signetics TI	74LS365A (3057)		74LS38	TI Hitachi Motorola National	SN74LS378 HD74LS38 SN74LS38 (2937)	
74LS242	TI Motorola National	T74LS241 SN74LS241 SN74LS242 (2939) 74LS242A		74LS27	Hitachi Motorola National	T74LS266 N8242 SN74LS266 HD74LS27 SN74LS27 (2938)	(3076)	74LS365A	Motorola National	SN74LS365A (2939)			Panasonic SGS-Thomson	DM74LS38 DN74LS38	
74LS243	TI Motorola National	SN74LS242 SN74LS243 (2939) 74LS243A			Panasonic SGS-Thomson	DM74LS27 74LS27 DN74LS27			Panasonic SGS-Thomson	DM74LS365 DN74LS365A		74LS393	TI Motorola National	T74LS38 SN74LS38 SN74LS393 (2942) 74LS393	
74LS244	Hitachi Motorola National Panasonic SGS-Thomson	HD74LS244 SN74LS244 (2939) 74LS244 DN74LS244		74LS273	TI Motorola National	T74LS27 SN74LS27 SN74LS273 (2942) 74LS273		74LS366A	TI Motorola National	SN74LS366A (2939)			Panasonic SGS-Thomson	DN74LS393	
74LS245	TI Motorola National	T74LS244 SN74LS244 SN74LS245 (2939) DM74LS245		74LS279	TI Hitachi Motorola National	T74LS273 SN74LS273 HD74LS279 SN74LS279 (2941)			Panasonic SGS-Thomson	DM74LS366 74LS366A DN74LS366A		74LS395	TI National	T74LS393 SN74LS393 DM74LS395 74LS395	
74LS251	TI Hitachi Motorola National	T74LS245 SN74LS245 HD74LS251 SN74LS251 (2944)			Panasonic SGS-Thomson	DM74LS279 DN74LS279		74LS367	TI Hitachi Motorola National	SN74LS366A SN74LS367A (2939)		74LS40	TI Hitachi Motorola National	T74LS395 SN74LS395A HD74LS40 SN74LS40 (2937)	
74LS253	Panasonic SGS-Thomson	DM74LS251 74LS251 DN74LS251		74LS283	TI Hitachi Motorola National	T74LS279 SN74LS279A HD74LS283 SN74LS283 (2947)			Panasonic SGS-Thomson	DM74LS367 DN74LS367A			Panasonic SGS-Thomson	DM74LS40	
	TI Hitachi Motorola National	T74LS251 SN74LS251 HD74LS253 SN74LS253 (2944)			Panasonic SGS-Thomson	74LS283 DN74LS283		74LS367	Signetics TI	74LS367A (3057) SN74LS367A		74LS42	TI Hitachi Motorola National	T74LS40 SN74LS40 HD74LS42 SN74LS42 (2945)	
	Panasonic SGS-Thomson	DM74LS253 DM8214 74LS253 DN74LS253		74LS290	TI Hitachi Motorola National	T74LS283 SN74LS283 HD74LS290 SN74LS290 (2942)		74LS367A	Hitachi Motorola National	HD74LS367A SN74LS367A (2939)			Panasonic SGS-Thomson	DN74LS42	
74LS256	TI Motorola National	T74LS253 SN74LS253 SN74LS256 (2941)			Panasonic SGS-Thomson	74LS290 DN74LS290			Panasonic SGS-Thomson	DM74LS367 74LS367A DN74LS367A		74LS48	TI Motorola National	T74LS42 SN74LS42 SN74LS48 (2945) 74LS48	
74LS257	TI Hitachi Motorola National	T74LS256 SN74LS256 HD74LS257 SN74LS257A (2944)		74LS293	TI Hitachi Motorola National	T74LS290 SN74LS290 HD74LS293 SN74LS293 (2942)		74LS368	TI Hitachi Motorola National	SN74LS367A SN74LS368A (2939)		74LS490	SGS-Thomson	T74LS48	
	SGS-Thomson	DM74LS257 74LS257A		74LS295A	Panasonic SGS-Thomson	DM74LS293 74LS293 DN74LS293			Panasonic SGS-Thomson	DM74LS368 74LS368A DN74LS368A			Hitachi Motorola National	SN74LS490 (2942)	
74LS257A	TI Hitachi Motorola National	T74LS257 SN74LS257 HD74LS257 SN74LS257A (2944)			SGS-Thomson	74LS293 SN74LS293 SN74LS295A 74LS295A		74LS368A	Hitachi Motorola National	SN74LS368A (2939)		74LS51	Hitachi Motorola National	T74LS490 HD74LS51 SN74LS51 (2938)	
	SGS-Thomson	74LS257A		74LS295B	TI Motorola National	T74LS293 SN74LS293 SN74LS295A 74LS295A			TI Hitachi Motorola National	SN74LS368A SN74LS368A (2939)			Panasonic SGS-Thomson	DM74LS51 74LS51	
	TI Hitachi Motorola National	74LS257A			Signetics TI	74LS295A SN74LS295B SN74LS295A 74LS295A	(3057)		Panasonic SGS-Thomson	DM74LS368 74LS368A DN74LS368A		74LS54	TI Hitachi Motorola National	T74LS51 SN74LS51 HD74LS54 SN74LS54 (2938)	
74LS258	TI Hitachi Motorola National	SN74LS257B HD74LS258 SN74LS258A (2944)		74LS30	TI Hitachi Motorola National	SN74LS298 SN74LS298 (2944)		74LS373	Panasonic SGS-Thomson	DM74LS368 74LS368A DN74LS368A			Panasonic SGS-Thomson	DN74LS54	
	SGS-Thomson	74LS257A			TI Hitachi Motorola National	T74LS298 SN74LS298 HD74LS30 SN74LS30 (2937)			TI Hitachi Motorola National	T74LS368 SN74LS368A SN74LS373 (2941)		74LS541	TI Motorola	T74LS54 SN74LS54 SN74LS541 (2940)	
74LS259	TI Motorola National	T74LS258 SN74LS258B SN74LS259 (2941)		74LS32	Panasonic SGS-Thomson	SN74LS298A SN74LS298B SN74LS298 (2944)		74LS374	TI Hitachi Motorola National	SN74LS368A SN74LS37 (2937)			TI Motorola	SN74LS541 (2940)	
	SGS-Thomson	74LS259			TI Hitachi Motorola National	74LS298			Panasonic SGS-Thomson	DM74LS37 74LS37 DN74LS37		74LS568	TI Motorola	SN74LS540	
74LS26	TI Hitachi Motorola National	T74LS259 SN74LS259B HD74LS26 SN74LS26 (2937)		74LS33	TI Hitachi Motorola National	T74LS298 SN74LS298 HD74LS30 SN74LS30 (2937)		74LS375	TI Hitachi Motorola National	SN74LS373 SN74LS374 (2942)		74LS640	TI Motorola	SN74LS540 (2940)	
	Panasonic SGS-Thomson	DM74LS26 DN74LS26			SGS-Thomson	74LS298			SGS-Thomson	SN74LS374 (2942)			TI Motorola	N8T125 (3076)	
74LS260	TI Panasonic SGS-Thomson	T74LS26 SN74LS26 DN74LS260		74LS365	TI Hitachi Motorola National	T74LS298 SN74LS298 HD74LS30 SN74LS30 (2937)		74LS377	TI Hitachi Motorola National	SN74LS373 SN74LS374 (2942)		74LS641	TI Motorola	SN74LS640	
	TI	SN74LS260			SGS-Thomson	74LS298			TI Hitachi Motorola National	SN74LS373 SN74LS374 (2942)		74LS642	TI Motorola	SN74LS641 (2940)	
	(Continued)				SGS-Thomson	74LS298			TI Hitachi Motorola National	SN74LS373 SN74LS374 (2942)		74LS645	TI Motorola	SN74LS642 (2940)	
					SGS-Thomson	74LS298			TI Hitachi Motorola National	SN74LS373 SN74LS374 (2942)			SGS-Thomson	SN74LS645 (2940)	
					SGS-Thomson	74LS298			TI Hitachi Motorola National	SN74LS373 SN74LS374 (2942)			Signetics TI	T74LS645 SN74LS645-1 SN74LS645	
					SGS-Thomson	74LS298			TI Hitachi Motorola National	SN74LS373 SN74LS374 (2942)		74LS670	Motorola National	SN74LS670 (2943)	
					SGS-Thomson	74LS298			TI Hitachi Motorola National	SN74LS373 SN74LS374 (2942)				74LS670	
					SGS-Thomson	74LS298			TI Hitachi Motorola National	SN74LS373 SN74LS374 (2942)				(Continued)	

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				74S00	National	DM74S00 74S00		7400	National	DM7400 7400		74157	National	DM74157	
74LS670	SGS-Thomson	(Cont'd)			TI	SN74S00			TI	SN7400		7416	TI	SN74157	
				74S02	National	DM74S02 74S02		7402	Toshiba	TC7400B			National	DM7416	
74LS73	Hitachi	HD74LS73			TI	SN74S02			National	DM7402			TI	SN7416	
	Motorola	SN74LS73A (2941)		74S03	National	DM74S03 74S03			TI	SN7402		74160	National	DM74160	
	National	DM74LS73			TI	SN74S03		7403	Toshiba	TA7402P		74161	TI	SN74160	
	Panasonic	DN74LS73		74S04	National	DM74S04 74S04			National	DM7403			National	DM74161	
	TI	SN74LS73A			TI	SN74S04				7403			TI	SN74161	
74LS74	Hitachi	HD74LS74A		74S05	National	DM74S05 74S05		7404	Saratoga	SSL7403		74163	National	DM74163	
	Motorola	SN74LS74A (2941)			TI	SN74S05			TI	SN7403			TI	SN74163	
	National	DM74LS74		74S08	National	DM74S08 74S08			National	DM7404		74165	TI	SN74163	
	Panasonic	DN74LS74A			TI	SN74S08			Saratoga	SSL7404			National	DM8590	
	SGS-Thomson	T74LS74		74S10	National	DM74S10 74S10		7405	TI	SN7404			TI	SN74165	
	TI	SN74LS74A			TI	SN74S10			Toshiba	TC7404UB		74166	TI	SN74165	
74LS75	Hitachi	HD74LS75		74S11	National	DM74S11 74S11		7406	National	DM7405			National	DM74166	
	Motorola	SN74LS75 (2941)			TI	SN74S11			TI	SN7405		7417	TI	SN74166	
	National	DM74LS75		74S112	Motorola	SN74S112			TI	DM7406			National	DM7417	
	Panasonic	DN74LS75			National	DM74S112		7407	TI	SN7406		74170	TI	SN7417	
	SGS-Thomson	T74LS75		74S113	National	DM74S113			National	DM7407			National	DM74170	
	TI	SN74LS75			TI	SN74S113			TI	7407			TI	SN74170	
74LS76	Hitachi	HD74LS76		74S133	National	DM74S133		7408	National	DM7408		74172	TI	SN74170	
	Motorola	SN74LS76A (2941)			TI	SN74S133			TI	7408		74174	National	DM74172	
	National	DM74LS76		74S134	National	DM74S134		7410	TI	SN7408			TI	SN74172	
	Panasonic	DN74LS76			TI	SN74S134			National	DM7410		74176	TI	SN74174	
	TI	SN74LS76A		74S135	National	DM74S135		74107	TI	SN7410			National	RL8280	
74LS83	Hitachi	HD74LS83A			TI	SN74S135			National	DM74107			TI	DM74176	
	Motorola	SN74LS83A (2947)		74S138	National	DM74S138		74109	TI	SN74107			TI	DM8280	
	National	DM74LS83A			TI	SN74S138			National	DM74109			Raytheon	RC8280	
74LS83	Panasonic	DN74LS83A			TI	SN74S138		7411	TI	SN74109			TI	RM8280	
	SGS-Thomson	T74LS83		74S140	National	DM74S140			National	DM7411			Signetics	S8280	
	Signetics	74LS83A (3057)			TI	SN74S140		74121	TI	DM7411		74177	TI	SN74176	
	TI	SN74LS83A		74S169	TI	SN74S169			National	DM74121			National	DM74177	
74LS83A	Hitachi	HD74LS83A		74S182	National	DM74S182		74123	TI	SN74121			Raytheon	DM8281	
	Motorola	SN74LS83A (2947)			TI	SN74S182			National	DM74123			TI	RM8281	
	National	DM74LS83A		74S189	AMD	AM27LS03		74125	TI	SN74123		74180	TI	SN74177	
	Panasonic	DN74LS83A			TI	AM27S03			National	DM74125			National	DM74180	
	SGS-Thomson	T74LS83		74S189	Cypress	CY27LS03M (2580)		74126	TI	SN74125		74181	TI	SN74180	
	TI	SN74LS83A			TI	CY27S03			National	DM74126			Lansdale	ML54181	
74LS85	Hitachi	HD74LS85			TI	CY76C189 (2580)			TI	DM8094			National	DM74181	
	Motorola	SN74LS85 (2946)		74S189	National	DM74S189		74128	TI	SN74126		74190	Raytheon	RC9341	
	National	DM74LS85			TI	CY74S189			TI	DM8094			National	RM9341	
	Panasonic	DN74LS85			TI	DM74S189		7413	TI	SN74126			TI	DM74190	
	TI	SN74LS85		74S196	TI	SN74S196		74132	National	DM7413		74191	National	SN74190	
74LS86	Hitachi	HD74LS86		74S197	TI	SN74S197			Saratoga	SSL7413			TI	DM74191	
	Motorola	SN74LS86 (2938)		74S20	National	DM74S20		74132	TI	SN7413		74192	TI	SN74191	
	National	DM74LS86			TI	74S20			National	DM74132			National	DM74192	
	Panasonic	DN74LS86		74S251	National	DM74S251			TI	74132			TI	DM8560	
	SGS-Thomson	T74LS86			TI	SN74S251		7414	TI	SN74132			Raytheon	RC9360	
	TI	SN74LS86A		74S280	National	DM74S280			National	DM7414		74194	TI	SN74192	
74LS90	Motorola	SN74LS90 (2942)			TI	SN74S280		74141	TI	SN7414			TI	SN74194	
	National	DM74LS90		74S289	National	DM74S289			National	DM74141		74195	TI	SN74194	
	Panasonic	DN74LS90			TI	DM74S289			TI	DM7441		74196	TI	SN74195	
	SGS-Thomson	T74LS90			TI	DM8589			Signetics	93141			National	RL8290	
	TI	SN74LS90		74S32	National	SN74S32		74145	National	DM74145			TI	DM74196	
74LS92	Hitachi	HD74LS92			TI	SN74S32			TI	74145		74197	Raytheon	RC8290	
	Motorola	SN74LS92 (2942)		74S37	TI	SN74S37		74147	National	DM74147			TI	SN74196	
	National	DM74LS92		74S373	TI	SN74S373			Signetics	N82147			Lansdale	RL8291	
	Panasonic	DN74LS92		74S40	National	DM74S40		74148	TI	SN74147			National	DM74197	
	SGS-Thomson	T74LS92			TI	SN74S40			National	DM74148			TI	DM8291	
	TI	SN74LS92		74S51	National	DM74S51			Signetics	N82148			Raytheon	RC8291	
74LS93	Hitachi	HD74LS93			TI	SN74S51		74150	TI	SN74148		74198	TI	SN74197	
	Motorola	SN74LS93 (2942)		74S74	National	DM74S74			National	DM74150			National	DM74198	
	National	DM74LS93			TI	SN74S74		74153	TI	SN74150		74199	TI	SN74198	
	Panasonic	DN74LS93			TI	SN74S74			National	DM74153			TI	SN74199	
	SGS-Thomson	T74LS93		74S85	TI	SN74S85		74154	TI	SN74153		7420	LSI Logic	LL7420	
	TI	SN74LS93		74S86	National	DM74S86			IDT	IDT7213			National	DM7420	
74LS95B	Hitachi	HD74LS95B			TI	SN74S86		74155	National	DM7213			TI	DM9004C	
	Motorola	SN74LS95B (2944)			TI	SN74S86			TI	DM7154			Raytheon	RL7420	
	National	DM74LS95B		74S95	National	DM74S95		74156	TI	DM8311		74221	TI	SN7420	
	Panasonic	DN74LS95B			TI	SN74S95			Raytheon	RC9311		7426	TI	SN74221	
	SGS-Thomson	T74LS95			TI	SN74S95			TI	SN54154			National	μA75451	
	TI	SN74LS95B			TI	SN74S95			TI	DM74155			TI	DM7426	
74LS96	TI	SN74LS96			TI	SN74S96			National	DM74156		7427	TI	SN7426	
					TI	SN74S96			TI	SN74156			National	DM7427	
													TI	SN7427	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Signetics (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
74279	National	74279		82S123	Motorola	MCM27S19		SG109	IPS	IP140-5		SG137	MCE	MCELM137	
	TI	SN74279			National	DM74S288			Motorola	LM109	(2959)		Motorola	LM137	(2962)
7428	TI	SN7428			Signetics	DM8578			National	μA109			National	LM137	
74298	TI	SN74298				N82S123			SGS-Thomson	LM109			SGS-Thomson	LM137	
7430	National	DM7430				S825123				SFC2109				LM137	
		7430		82S191	AMD	AM27S191		SG111	AD	AD111	(2470)		SiliconG	SG137A	
	TI	SN7430				AM27S191SA			LinearTech	LM111		SG137A	Unitrode	UC137	
7432	National	DM7432				27S191			Motorola	LM111	(2958)		IPS	IP137	
		7432			Cypress	CY7C291	(2585)		National	μA111			LinearTech	LM137	
	TI	SN7432				CY7C292	(2585)			LM111				LT137	
7433	TI	SN7433				CY7C292A	(2585)			LM111			MCE	MCELM137	
74365A	TI	SN74365				CY7C292AL	(2585)		PMI	PM111			Motorola	LM137	(2962)
		SN74365A							Raytheon	LM111	(3025)		National	LM137	
		SN74366A			Hitachi	HN25169			SGS-Thomson	LM111			SGS-Thomson	LM137	
74367A	TI	SN74367A			Intel	82S191				LM111			SiliconG	SG137	
74368A	TI	SN74368A			MMI	53S1681			Signetics	LM111			Unitrode	UC137	
7437	National	DM7437			Motorola	MCM76101		SG117	TI	TL111		SG138	LinearTech	LT138	
		7437				MCM76160			IPS	IP117			Plessey	ZN454	
	TI	SN7437			National	DM77S191			Lambda	LLM117			SiliconSys	SS16280	
7438	National	DM7438				DM87S191			LinearTech	LM117		SG138A	Plessey	ZN455	
		7438				DM87S291			MCE	MCELM117			SiliconSys	SS16282	
	TI	SN7438				DM87S291A			Motorola	LM117	(2962)	SG140-05	National	LM140-05	
7439	National	7439				DM87S291B			National	μA117			Unitrode	UC140-05	
7440	National	DM7440				93Z510			SGS-Thomson	LM117		SG140-06	National	LM140-06	
		7440				93Z511				LM117		SG140-08	National	LM140-08	
	TI	SN7440				93Z512			TI	TL117		SG140-12	IPS	IP140-12	
7441	National	DM74141				93Z511			Unitrode	UC117			Motorola	LM140-12	(2960)
		DM7441			Signetics	N82S191		SG117A	LinearTech	LT117A			National	UC140-12	
		93141				N82S191A			Motorola	LM117A	(2962)		Unitrode	UC140-12	
7442	Signetics	74141			TI	TBP38L166			National	LM117A		SG140-15	IPS	IP140-15	
	National	DM7442				TMS27C291			SGS-Thomson	L165			Motorola	LM140-15	(2960)
		DM8842			Waferscale	WS57C191	(3390)	SG1173		ULN3751			National	LM140-15	
		7442				WS57C291	(3390)		Sprague	UC120-05			Unitrode	UC140-15	
	TI	SN7442A			Lansdale	SL8200		SG120-05	Unitrode	UC120-05		SG140-18	National	LM140-18	
7445	GoldStar	GL7445	(2713)		Lansdale	SL8201		SG120-08	National	LM120-08			National	LM140-20	
	National	7445			Lansdale	SL8269		SG120-12	IPS	IP120-12		SG140-24	National	LM140-24	
	TI	SN7445			Lansdale	SL8280			National	LM120-12			Toshiba	TA79005	
7450	National	DM7450			Lansdale	SL8288			Unitrode	UC120-12		SG14005	Motorola	MC78M05	(2990)
		7450			Motorola	MC8503		SG120-15	IPS	IP120-15			National	μA78M05	
	TI	SN7450			National	F9401			National	LM120-15				LM341-5	
7451	National	DM7451			HybridSys	HS9403			Unitrode	UC120-15				LM342-05	
		7451			National	F9403		SG120-18	National	LM120-18				LM78M05	
	TI	SN7451						SG120-5	IPS	IP120-5			NEC	μPC78M05	
7473	National	DM7473								IP320-5			Samsung	MC78M05	
		7473							National	μA79M05			Sanyo	L78M05	
7474	National	DM7474			JAN101A	DM54AS74				LM120			SGS-Thomson	L78M05	
	TI	SN7473				JAN101A				LM320-05				L78M05CV	
7474	National	DM7474			TI	SN54AS74				LM79M05			SiliconG	SG14012	
		7474			Motorola	MC55325				SG320-05				SG7805AT	
7475	National	DM7475			National	DS55325			Unitrode	UC320-05			TI	μA78M05	
		7475			SiliconG	DS55325		SG120-5.2	National	LM120-5.2		SG1401	Toshiba	TA78M05	
	TI	SN7475			TI	JANB55325		SG123	IPS	IP123			Adv Analog	A733	
7476	National	DM7476				SNJ55325			Lambda	LAS1405			GE/Intersil	μA733	
		7476				SN55325			LinearTech	LM123				NE592-8	
	TI	SN7476			L2908	SGS-Thomson				LT123				SE592	
7485	National	DM7485				L290B			Motorola	LM123	(2960)		Hitachi	HA17733	
		7485				L291B				MC78T05	(2959)		Motorola	MC1733	(2953, 2989)
7486	National	DM7486			L292	SGS-Thomson			National	μA123				NE592	(2991)
		7486				L292				μA138				SE592	
	TI	SN7486			SG101	AD	AD101	(2470)		LM123			National	μA733	
		7486				GE/Intersil	AD101			SH123				LM733	
7496	National	DM7496				LinearTech	LM101			SG123A			Signetics	μA733	
		7496				Motorola	LM101	(2952)		IPS	IP123			NE592	
75HCT645	TI	SN74HCT645				National	μA101		SG123A					SE592	
7524	AD	AD7524	(2411, 2460, 2462)			PMI	OP77			LAS1405			TI	μA733	
							OP77			LM123				μA733M	
	GE/Intersil	AD7524				Raytheon	LM101	(3024)		LT123				NE592	
	Maxim	AD7524				SGS-Thomson	LM101			Motorola	MC78T05	(2960)		NE592-8	
	MicroPwr	MP7524					LS101			National	μA138			SE592	
	Motorola	MC7524					LM104				LM123			NE592-8	
	National	DS75S24					LM104				SH123			SE592	
	PMI	PM7524	(3019)				LM105				SG123				
	TI	TL7524	(3325)				LM105				CA124				
82HS195	AMD	AM27S41					LM105				LT1014				
		AM27S41A					LM105				μA124				
		27S41					LM105				LM124A				
	Fujitsu	MB7152					LM105				OP400				
	MMI	53S1641					LM105				OP421				
		63S1641					LM105				LM124				
		63S1641A					LM105				LM124				
	National	DM77S195					LM105				LM124				
		DM87S195					LM105				LM124				
	Signetics	N82HS195					LM105				LM124				
		N82HS195A					LM105				LM124				
	TI	TBP34S162					LM105				LM124				
82S123	AMD	AM27LS19					LM105				LM124				
		AM27S19					LM105				LM124				
		27S19					LM105				LM124				
	Fujitsu	MB7112					LM105				LM124				
	MMI	53S081					LM105				LM124				
		63S081					LM105				LM124				

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Silicon General (Cont'd)				SG1489A	GoldStar Motorola	GD75188 MC1488 MC1489 MC1489A MC1489	(Cont'd) (2708) (2983) (2989) (2989)	SG1525A	LinearTech	LT1525A SG1525 SG1525A SG1525 TL1525 UC1525 UC1525A CH1526 IP1526 LT1526 SG1526 SG3526 SG1526B SG3526 SG3526 UC1526 UC1526A	(Cont'd) (2964) (2964) (2964) (2964)	SG1843	Unitrode	UC1843 UC1843A UC1846 DM54ALS468 DM54AS1034	(Cont'd)
SG1436	Harris Motorola	HA2645 MC1436	(2953, 2989)		National	μ A1489 μ A1489A μ A212A μ A750 DS1488 DS1489 DS1489A MC1488 MC1489		SG1526	Cherry Semi IPS LinearTech Motorola		SG1846	LinearTech National	UC1846 DM54ALS468 DM54AS1034		
SG1458	TeledyneP Exar	TP1332 XR1458 XR4558	(2619)		SGS-Thomson	MC1488 MC1489 MC1488 MC1489 MC1489A SG1489 SG75188 SG75788 MC1488 MC1489 SN75188			SiliconG Unitrode	UC1525A SG3526 SG3526 UC1526 UC1526A		SG1847	Siliconix TeledyneS TI Unitrode LinearTech National	UC1846 SG1846 TSC170 TSC18C46 SN54AS1034A UC1846 UC1847 DM54ALS521 DM54AS04 SG1847 SG2847 TSC171 Unitrode XR2001 XR2001C XR2201 M54524 MC1411 ULN2001 μ A9665 LB1231 SGS-Thomson L201 ULN2001 ULN2001 ULQ2001 ULS2001 ULN2001 ULN2001A TD62001 TD62101 XR2002C XR2202 M54525 MC1412 ULN2002	(3268) (2619) (2619) (2619) (2984)
SG1458	GE/RCA GoldStar Hitachi	CA1558 GL4558 HA17458 HA17558	(2647) (2714)		Signetics	MC1488 MC1489 MC1488 MC1489 MC1489A SG1489 SG75188 SG75788 MC1488 MC1489 SN75188		SG1526B	Cherry Semi IPS LinearTech Motorola		SG2001	Exar	XR2001 XR2001C XR2201 M54524 MC1411 ULN2001	(2619) (2619) (2619) (2984)	
SG1458	Motorola	MC1558 MC4558	(2955) (2955, 2990)		TI	MC1488 MC1489 MC1489A SG1489 SG75188 SG75788 MC1488 MC1489 SN75188			SiliconG Sprague Unitrode	SG1526 SG3526 SG3526 UC1526 UC1526A			Mitsubishi Motorola	ULN2001 ULN2001A TD62001 TD62101 XR2002C XR2202 M54525 MC1412 ULN2002	
SG1458	National	SE4558 μ A1458 μ A4558 LM1458 LM1558 μ PC1458 μ PC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558 MC4558	(3024) (3024) (3039)		Motorola	MC1495 MC1496	(2973, 2989)	SG1527	Cherry Semi IPS LinearTech	CS1527A IP1527A LT1527 LT1527A SG1527 SG1527A	(2964)	SG2002	Sprague	ULN2001 ULN2001 ULQ2001 ULS2001 ULN2001 ULN2001A TD62001 TD62101 XR2002C XR2202 M54525 MC1412 ULN2002	(3258) (2619) (2619) (2984)
SG1458	NEC	μ PC1458 μ PC4558 OP14 OP270 RC1458 RC4558 RM1558 RM4558 MC4558	(3024) (3024) (3039)		National	LM1496 SL1496 MC1496 IP150 LLM150 LM150 LT150 LM150 LM150 UC150 XR1568 MC1568 SG1568 AD580	(2426, 2461)	SG1527A	Cherry Semi IPS LinearTech	CS1527A IP1527A LT1527 LT1527A SG1527 SG1527A	(2964)		TI	ULN2001 ULN2002 ULN2002A TD62001 TD62101 XR2002C XR2202 M54525 MC1412 ULN2002	
SG1458	PMI	OP14 OP270 RC1458 RC4558 RM1558 RM4558 MC4558	(3024) (3024) (3039)		Hitachi	HA17012 AD580 REF03 CS1524 XR1524 IP1524 IP1524B LT1524 SG1524 μ A1524 LM1524	(2619)	SG1532	Unitrode	UC1527A SG1527A SG1527A TL1527 UC1527 UC1527A UC1527A IP1527A IP1527A LT1527A LT1527A SG1527 SG1527A	(2964)	SG2003	Exar	ULN2002 ULN2002 ULS2002 ULN2002 ULN2002A TD62002 TD62102 XR2003C XR2203 M54523 MC1413 ULN2003 μ A9667 MC1413 LB1233 SGS-Thomson L202 ULN2002 ULN2002 ULS2002 ULN2002 ULN2002A TD62002 TD62102 XR2003C XR2203 M54523 MC1413 ULN2003 μ A9667 MC1413 LB1233 SGS-Thomson L203 ULN2003 ULN2003 ULS2003 ULN2003 ULN2003 TD62003 TD62103 XR2204 M54526 MC1416 ULN2004 LB1234	(3258) (2619) (2619) (2984) (2989)
SG1458	Raytheon	RC1458 RC4558 RM1558 RM4558 RV4558 TL4558 TA75458 TA75558 XR1468 XR4195 GD75189 MC1468 μ A212A μ A750 RC4195 SG2501A SG3501A SG75189 SN75189 SN75189A	(2619) (2708)		Cherry Semi Exar IPS	CS1524 XR1524 IP1524 IP1524B LT1524 SG1524 μ A1524 LM1524	(2619)	SG1536	Harris National	HA2640 MC1536 LM143 LM1536 SG143 XR1543 IP1543 IP1543 IP1544 UC1544 XR1568 MC1568 SG1501A MC1595 MC1596 μ A796 LM1596	(2954) (2619) (2973)		Mitsubishi	M54523 MC1413 ULN2003 μ A9667 MC1413 LB1233 SGS-Thomson L203 ULN2003 ULN2003 ULS2003 ULN2003 ULN2003 TD62003 TD62103 XR2204 M54526 MC1416 ULN2004 LB1234	(2619) (2619) (2984) (2989)
SG1468	Exar	XR1468 XR4195 GD75189 MC1468 μ A212A μ A750 RC4195 SG2501A SG3501A SG75189 SN75189 SN75189A	(2619) (2708)		LinearTech	LT1524 SG1524 μ A1524 LM1524		SG1543	SiliconG Exar IPS Unitrode	SG1527 SG1527A SG1527 TL1527 UC1527 UC1527A UC1532 HA2640 MC1536 LM143 LM1536 SG143 XR1543 IP1543 IP1543 IP1544 UC1544 XR1568 MC1568 SG1501A MC1595 MC1596 μ A796 LM1596	(2619) (2973)	SG2004	Exar	XR2204 M54526 MC1416 ULN2004 LB1234	(2619) (2984)
SG1489	GoldStar Motorola	GD75188 MC1488 MC1489 MC1489A μ A1489 μ A1489A μ A212A μ A750 DS1488 DS1489 DS1489A MC1488 MC1489	(2619) (2619) (2708) (2983, 2989) (2989) (2989)		National	μ A1524 LM1524		SG1544	Cherry Semi IPS Unitrode	CS1842 IP1842 LT1842 UC1842A UC1842	(2964)	SG1840	SGS-Thomson	UC1840 UC1840 UC1841 UC1842 CS1842 IP1842 LT1842 UC1842A UC1842	(2964)
	National	μ A1489 μ A1489A μ A212A μ A750 DS1488 DS1489 DS1489A MC1488 MC1489	(2989) (2989)		SGS-Thomson	SG1524 SG1524A UC1524A SG1524B UC1524 UC1524A CS1524 XR1524 IP1524 IP1524B LT1524 SG1524 μ A1524 LM1524	(2964)	SG1545	SGS-Thomson	SG1524 SG1524A UC1524A SG1524B UC1524 UC1524A CS1524 XR1524 IP1524 IP1524B LT1524 SG1524 μ A1524 LM1524	(2964)	SG1842	Cherry Semi IPS LinearTech Motorola SGS-Thomson	CS1842 IP1842 LT1842 UC1842A UC1842	(2964)
	SGS-Thomson	MC1488 MC1489 MC1488 MC1489 MC1489A SG1489A SG75188 SG75788 MC1488 MC1489 SN75188	(2989) (2989) (2989) (2989) (2989) (2989) (2989) (2989) (2989) (2989) (2989)		LinearTech	LT1525		SG1843	Cherry Semi IPS LinearTech Motorola SGS-Thomson	CS1843 IP1843 LT1843 UC1843A UC1843 TSC18C43	(2964)		TI	ULN2004 ULN2004A TD62004 TD62104 CA748 LM201 MC1748 μ A201 LM748	(2647) (2952, 2989) (2952) (2952)
SG1489A	Exar	XR1488 XR1489A GD75188 MC1488 MC1489 MC1489A μ A1489 μ A1489A μ A212A μ A750 DS1488 DS1489 DS1489A MC1488 MC1489	(2619) (2619) (2708) (2983, 2989) (2989) (2989)		LinearTech	LT1525	(Continued)		TeledyneS	TSC18C43	(Continued)		National	ULN2004 ULN2004A TD62004 TD62104 CA748 LM201 MC1748 μ A201 LM748	(2647) (2952, 2989) (2952) (2952)
(Continued)				(Continued)				(Continued)				(Continued)			

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Silicon General (Cont'd)				SG2074	IPS	IP2074		SG238	IPS	IP238		SG2527A	Cherry Semi	CS2527		
SG201			(Cont'd)	Motorola	ULN2074	(2984)		National	μA238	LM238		Exar	XR2527A	IP2527A		
	PMI	OP06		SGS-Thomson				SG240-05	National	LM240-05		IPS	LinearTech	LT2527A		
		OP77		Sprague	ULN2074	(3258)			Plessey	SS16070C		Motorola	SG2527A	(2964)		
	SGS-Thomson	PM1008		TI	ULN2074			SG240-06	National	LM240-06		TI	TL2527	TL2527		
		LM201		Toshiba	TD62074			SG240-08	National	LM240-08		Unitrode	UC2527	UC2527		
		LS148		IPS	IP2075			SG240-12	National	LM240-12			UC2527A	UC2527A		
	TI	μA748		Motorola	ULN2075			SG240-15	National	LM240-15		SG2532	Krueger	2532-350	(2877)	
		LM201		SGS-Thomson	ULN2075			SG240-18	National	LM240-18			2532-450	(2877)		
		LM748		Sprague	ULN2075	(3258)		IDT	IDT7243	IDT7243		National	NMC2532	TDA2530		
		SN72748P		TI	ULN2075			National	LM240-20	VL2044			TDA2532	TDA2530		
SG2011	Exar	XR2011C	(2619)	SGS-Thomson	ULN2076			SG240-24	National	LM240-24		SG2540	Plessey	UC2540		
	Sprague	ULN2011		SG2077	SGS-Thomson	ULN2077		SG250	IPS	IP250		SG2543	Unitrode	UC2540		
SG2012	Sprague	ULN2012		SG209	Motorola	LM208	(2952, 2989)	Motorola	LM250	(2962)		Exar	XR2543	XR2543		
		ULS2011			National	μA209		Unitrode	UC250	UC250		IPS	IP2543	IP2543		
SG2013	Exar	XR2013C	(2619)		LM209			Exar	XR1468	(2619)		Unitrode	UC2543	UC2543		
	SiliconG	SG3853		Plessey	ZN437			GoldStar	GD75189	(2708)		IPS	IP2544	IP2544		
	Sprague	ULN2013		PMI	PM108			Motorola	MC1468	MC1468		Unitrode	UC2544	UC2544		
SG2014	Exar	XR2014C	(2619)	SiliconSys	SSI6410			National	μA212A	μA212A		Motorola	ULN2801	(2984)		
	SiliconG	SG3854		AD	AD211	(2470)		Raytheon	RC4195	(3025)		SGS-Thomson	ULN2801	ULN2801		
	Sprague	ULN2014		Motorola	LM211	(2958, 2989)		SiliconG	SG1468	SG1468		Sprague	ULN2802	ULN2802		
SG2021	Sprague	ULN2021	(3258)		LM211			TI	SN75189	SN75189		Toshiba	TD62081	TD62081		
		ULS2021		National	PM211				SN75189A	SN75189A		SGS-Thomson	ULN2802	ULN2802		
SG2022	TI	SN75466		SGS-Thomson	LM211			SG2524	Cherry Semi	CS2524			Sprague	ULN2802	(3258)	
	SiliconG	SG2002		Signetics	LM211			Exar	XR2524	(2619)		Toshiba	TD62082	TD62082		
	Sprague	ULN2022	(3258)	TI	LM211			IPS	IP2524	IP2524		SGS-Thomson	ULN2803	ULN2803		
		ULS2022		IPS	IP217			LinearTech	LT2524	LT2524		SiliconG	SG2813	SG2813		
SG2023	TI	SN75467		MCE	MCCLM217			National	SG2524	SG2524		Sprague	ULN2803	(3258)		
	Exar	XR2003	(2619)	Motorola	LM217	(2962)		SGS-Thomson	μA2524	μA2524		Toshiba	ULS2803	ULS2803		
	Sprague	ULN2023	(3258)	National	LM217				LM2524	LM2524		SG2804	Motorola	ULN2804	(2984)	
		ULQ2003		SGS-Thomson	LM217				SG2524	SG2524		SGS-Thomson	ULN2804	ULN2804		
SG2024	TI	SN75468			SG217A			SiliconG	UC2524A	UC2524A			Sprague	ULN2804	(3258)	
	Sprague	ULN2024	(3258)	Unitrode	UC217			TI	SG2524	SG2524		Toshiba	ULS2804	ULS2804		
		ULS2024		VTC	VM217	(3385)		Unitrode	UC2524	UC2524		SGS-Thomson	TD62084	TD62084		
SG204	TI	SN75469		IPS	IP217			SGS-Thomson	UC2524A	UC2524A			ULN2805	ULN2805		
	National	LM204		MCE	MCCLM217			SG2524B	Cherry Semi	CS2524		SG2805	Sprague	ULN2805	(3258)	
	SGS-Thomson	LM204		Motorola	LM217	(2962)		Exar	XR2524	(2619)		SG2811	Plessey	ZN504		
SG205	National	LS204		National	LM217			IPS	IP2524	IP2524			SiliconSys	SSI6072C	SSI6072C	
	Plessey	LM205		SGS-Thomson	LM217			LinearTech	LT2524	LT2524		Sprague	ULN2811	(3258)		
SG2064	SiliconSys	SSI6284			LM217			National	SG2524	SG2524		SG2812	Plessey	ZN512		
SG2065	Mitsubishi	M54532		SiliconG	SG217			SGS-Thomson	LM2524	LM2524			SiliconSys	SSI6074		
	IPS	IP2065		Unitrode	UC217				UC2524	UC2524			Sprague	ULN2812	(3258)	
	Motorola	ULN2065		VTC	VM217	(3385)			UC2524A	UC2524A		SG2813	Plessey	ZN439		
	SGS-Thomson	ULN2065		National	LM120-05				SG2524	SG2524			SiliconSys	SSI6080		
	Sprague	ULN2065	(3258)	SGS-Thomson	LM220-05			SiliconG	SG2524	SG2524		SG2814	Sprague	ULN2813	(3258)	
	TI	SN75065			LM220-05			TI	SG2524	SG2524			Plessey	ZN509		
SG2066	IPS	IP2066		SG220-08	National	LM220-08		Unitrode	UC2524	UC2524			SiliconSys	SSI6082		
	Motorola	ULN2066		SG220-12	National	IP220-12			UC2524A	UC2524A		SG2815	Sprague	ULN2814	(3258)	
	SGS-Thomson	ULN2066		SG220-15	IPS	IP220-15		SG2525	Cherry Semi	CS2525			Plessey	ZN426		
		ULN2066			National	LM220-15			CS2525A	CS2525A			SiliconSys	SSI6220		
	TI	SN75066		SG220-18	National	LM220-18		Elantec	EHA2525	EHA2525		SG2821	Sprague	ULN2815	(3258)	
SG2067	IPS	IP2067		SG220-20	National	LM220-20		Exar	XR2525A	(2964)			SGS-Thomson	L601		
	Motorola	ULN2067		SG220-5.2	National	LM220-5.2		Harris	HA2525	HA2525			Sprague	ULN2821	(3258)	
	SGS-Thomson	ULN2067		SG223	IPS	IP223		IPS	IP2525A	IP2525A		SG2822	Sprague	ULN2822	(3258)	
		ULN2067		Motorola	LM223	(2960)		LinearTech	LT2525A	LT2525A			ULS2822	ULS2822		
	TI	SN75067		National	LM223			Motorola	SG2525A	(2964)		SG2823	SGS-Thomson	L603		
		ULN2067			SH223			SGS-Thomson	SG2525A	SG2525A			Sprague	ULN2823	(3258)	
SG2068	IPS	IP2068		SGS-Thomson	LM223				SG2525A	SG2525A		SG2824	Sprague	ULN2824	(3258)	
	Motorola	ULN2068	(2984)	SG224	Motorola	LM224	(2956, 2989)	SG2525A	TI	SG2525A			ULS2824	ULS2824		
	SGS-Thomson	ULN2068			National	μA224		Unitrode	UC2525A	UC2525A		SG2825	Plessey	ZN429		
		ULN2068			Plessey	ZN448		Cherry Semi	CS2525A	CS2525A			SiliconSys	SSI6240		
	Sprague	ULN2068	(3258)	PMI	OP400			Elantec	EHA2525	EHA2525			Sprague	ULN2825	(3258)	
SG2069	IPS	IP2069			OP421			Exar	XR2525A	(2964)		SG2840	SGS-Thomson	UC2840		
	Motorola	ULN2069		SiliconSys	SSI6051			Harris	HA2525	HA2525			Unitrode	UC2840		
	SGS-Thomson	ULN2069		TI	LM224			IPS	IP2525A	IP2525A		SG2841	Motorola	UDN2841	(3258)	
		ULN2069		Plessey	ZN501			LinearTech	LT2525A	LT2525A			Sprague	UDN2841	(3258)	
	Sprague	ULN2069	(3258)	SiliconSys	SSI6070M			Motorola	SG2525A	(2964)		SG2842	Cherry Semi	CS2842		
	TI	ULN2069		IPS	IP237			SGS-Thomson	SG2525A	SG2525A			Gennum	CS2842A		
SG207	National	LM207		MCE	MCCLM237				SG2525A	SG2525A			SGS-Thomson	UC2842		
	Plessey	ZNREF050		Motorola	LM237	(2962)		SiliconG	SG2525	SG2525			TeledyneS	TSC28C42		
	PMI	OP02		National	LM237			TI	SG2525A	SG2525A		SG2843	Unitrode	UC2842		
		OP77		SiliconG	SG237A				TL2525	TL2525			Cherry Semi	CS2843		
	SiliconSys	SSI6505		Unitrode	UC237			Unitrode	UC2525A	UC2525A			IPS	IP2843		
	TI	LM207		IPS	IP237			SG2526	Cherry Semi	CS2526						
SG2070	SGS-Thomson	ULN2070		MCE	MCCLM237				IP2526	IP2526						
		ULN2070		Motorola	LM237	(2962)		LinearTech	LT2526	LT2526						
SG2071	SGS-Thomson	ULN2071		National	LM237			Motorola	SG2526	(2964)						
		ULN2071		SiliconG	SG237			Unitrode	UC2526	UC2526						
		(Continued)		Unitrode	UC237											

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Silicon General (Cont'd)				SG309			(Cont'd)	SG320-18	National	LM320-18		SG337	IPS	IP337	
SG2843		(Cont'd)		SG311	Plessey SiliconSys AD GE/RCA	ZN447 SSI6050 AD311 CA311	(2470) (2648)	SG320-20	National	LM320-20			LinearTech	LM337	
	SGS-Thomson	UC2843				LM311		SG320-5	Motorola	MC7952			MCE	MC7952	
SG2846	TeledyneS Unitrode National	TSC28C43 UC2843 DM54ALS519 DM54AS1036			LinearTech Motorola	LM311 LM311 LM2903	(2958, 2989) (2958, 2989)	SG320-5.2	National	LM320-5.2	(2714)		SGS-Thomson	LM337	(2962)
	SGS-Thomson	UC2846				LM311		SG320P-12	GoldStar	GL7912	(2714)		SiliconG	SG337A	
	TeledyneS	TSC170	(3268)		National	μA311 LM2903			IPS	IP320-12		SG337A	Unitrode	UC337	
	TI	SN54AS1036A				LM311			Motorola	MC7912	(2960)		IPS	IP337	
SG2847	Unitrode National	UC2846 DM54ALS522 DM54AS32			NEC PMI Raytheon SGS-Thomson	μPC311 PM211 LM311			National	μA79M12 μA79M12M μA7912 LM320MP12 LM79M12			LinearTech	LM337	
	TeledyneS	TSC171	(3268)			LM2903				LM7912			MCE	MC7912	(2962)
SG2950	National	DM54ALS1003 DM54AS168			Signetics	LM2903			NEC	μPC7912			Motorola	LM337	
SG301	AD GE/Intersil GE/RCA	AD301 AD301 CA301A	(2647)		TI	LM2903			Samsung	MC7912			National	LM337	
	LinearTech	LM301		SG3146	Toshiba GE/RCA	TA75393 CA3046	(2650)		SiliconG	μA7912 L7912 SG7912		SG337HV	Unitrode	UC337	
	Motorola	LM301A	(2952, 2989)		Motorola	MC3346	(2951, 2990)		TI	μA79M12M		SG338	National	LM337HV	
	National	μA301 μA301A LM301 LM301A			National	μA3046 μA3086 LM3046		SG323	Toshiba	TA78024 TA79012			Lambda	IP338	
	NEC	μPC301			Plessey	SL3046 SL3086 SL3146			IPS	IP123-5 IP323		SG340-04	Motorola	LM340-05	(2960)
	PMI	μPC301A			Sanyo	LA3046			LinearTech	LAS1405		SG340-05	National	LM340-5	
	Raytheon	LM301	(3024)		SGS-Thomson	CA3046 LM3046 SFC2046			Micropac	M78H05	(2960)		Plessey	ZN503	
	SGS-Thomson	LM301				LM3046			Motorola	LM323		SG340-08	SiliconSys	SSI6072M	
		LM301A				TBA331			National	μA323		SG340-12	Unitrode	UC340-05	
	TI	μA301		SG317	Sprague GoldStar	SG3821 ULN2046	(2714)			μA78H05			National	LM340-08	
	Toshiba	TA7506			IPS	IP317		SG323A		LM323			GoldStar	GL7812	
	National	LM304			Lambda	LLM317		SG324	National	LM323A	(2619)		IPS	IP140-12	
	SGS-Thomson	LM304			LinearTech	LM317			Exar	XR3403			Motorola	IP340-12	(2960)
SG3046	GE/RCA	CA3046	(2650)		MCE	MC7813	(2962, 2989)		Fujitsu	XR3503			National	μA7812	
	Motorola	MC3346	(2951, 2990)		Motorola	LM317			GE/RCA	MB3614	(2647)		NEC	μPC7812	
	National	μA3046 μA3086 LM3046			National	μA317 LM317 μPC317				CA224	(2647, 2653, 2658)		Samsung	MC7812	
	Plessey	SL3046 SL3086 SL3146			NEC	SGS-Thomson			Hitachi	CA324	(2647)		SGS-Thomson	μA7812	
	Sanyo	LA3046			SGS-Thomson	LM317			Motorola	LM324	(2956, 2989)			L7812	
	SGS-Thomson	CA3046 LM3046 SFC2046		SG3183	TI	ULN2046	(2650, 2653, 2656)			HA17324	(2957, 2990)		SiliconG	SG7812	
		TBA331			Unitrode	UC317			National	LM324			TI	SG7812A	
	SiliconG	SG3146			GE/RCA	CA3083				MC33174			Toshiba	SG7812AT	
	Sprague	ULN2046				LM317				μA324			Unitrode	μA7812	
SG3049	National	DM54ALS1002		SG320-05	SiliconG	SG3083				μA3403		SG340-15	GoldStar	UC340-12	(2714)
		DM54AS162			Sprague	ULN2083				LM224			IPS	UC7812	
SG305	National	μA305			IPS	IP120-5			NEC	LM324			Motorola	GL7815	(2960)
		LM305			National	IP320-5			PMI	LM324	(3025)		National	MC7815	(2961)
	Plessey	ZNREF025				μA79M05			Raytheon	OP400				IP340-15	
SG305A	SiliconSys	SSI6505				LM320-05				OP421				IP7815	
SG307	National	LM305A		SG320-08	Unitrode	UC320-05		SG324A	Signetics	HA14741			Lambda	IP7815AC	
	LinearTech	LM307		SG320-12	National	LM320-08			Cypress	LM248			Motorola	LAS1515	
	National	LM307			National	LM320-12			IDT	LM348	(3039)			LM340-15	
	Plessey	ZNREF100		SG320-15	Unitrode	UC320-12	(2714)		Motorola	LM324	(3039)		National	μA7815	
	PMI	OP02			GoldStar	GL7915				LM324			NEC	μPC7815	
	TI	OP77			IPS	IP320-15				MC3403	(2590)		Samsung	MC7815	
SG3083	GE/RCA	CA3083	(2650, 2653, 2656)			IP7915			National	MC3302	(2958)		SGS-Thomson	μA7815	
		SG3183			Motorola	MC7915	(2961)			μA2901			SiliconG	SG7815	
	SiliconG	SG3183			National	μA7915				μA3302			TI	SG7815A	
SG3086	Sprague	ULN2083	(2650)			LM320-15				LM2901			Toshiba	LM340-15	
	GE/RCA	CA3086				LM320T15				LM3302			Unitrode	TA78015	
	National	LM3086			NEC	μPC7915			PMI	CMPO4				UC340-15	
	Sanyo	LA3086			Samsung	MC7915			Raytheon	PM139				UC7815	
	SGS-Thomson	SFC2086			SGS-Thomson	μA7915				PM339			National	LM340-18	
		SG3886				L7915				LM2901			TI	LM340-18	
	SiliconG	SG3886				SG7915			SGS-Thomson	RC3302		SG340-20	National	LM340-20	
	Sprague	ULN2086				SG7915A				LM2901		SG340-24	Motorola	LM340-24	(2960)
SG309	Motorola	LM309	(2959)			μA7915			Signetics	MC3302			GoldStar	GL7806	(2714)
	National	μA309			TI	TA79015				MC3302		SG340-6	Motorola	MC7806	(2960)
		LM309			Toshiba	UC320-15			TI	LM2901			National	μA7806	
					Unitrode	UC7915				LM3302			NEC	LM7806	
									Toshiba	TA75339			Samsung	μPC7806	
														MC7806	

* Discontinued

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Silicon General (Cont'd)				SG3524B	Cherry Semi Exar GE/RCA	CS3524 XR3524 CA3524	(2619) (2651, 2657, 2659)	SG3532			(Cont'd)	SG508	National	μA212A μA750 UHD508	
SG340-6	SGS-Thomson		(Cont'd)		IPS	IP3524 IP3524B			Siemens	SAB8332 SA88332		SG55188	Sprague	TI	SNJ55188
	SiliconG	μA7806 L7806 SG7806 SG7806A			LinearTech	LT3524			Signetics	2332		SG55189	TI	TI	SN55189
SG340-8	TI	μA7806			National	LM3524			Supertex	2632A CM3200		SG55234	Plessey	ZN440	
	Toshiba	TA78006			SGS-Thomson	SG3524 UC3524A			TI	235C32 D51C69 P51C69		SG55236	SiliconG	SSI6040	
	GoldStar	GL7808	(2714)			SG3524			Toshiba	TMM333P		SG55236	SiliconG	SG55236A	
	Hitachi	HA17808			Signetics	SG3524		SG3543	VLSI Tech	VT2332		SG55236	SiliconG	SSI982	
	Motorola	MC08			SiliconG	SG3524			Exar	XR3543		SG55236A	SiliconSys	SSI982	
		MC7808	(2960)		Sprague	SG3524			IPS	IP3543			TI	SNJ55236	
	National	LM7808			TI	SG3524		SG3544	Unitrode	UC3543			TI	SNJ55236	
		LM7808			Toshiba	TA76524			IPS	IP3544		SG55236A	SiliconG	SG55236	
	NEC	μPC7808			Unitrode	UC3524		SG3635	Unitrode	UC3544			SiliconSys	SSI982	
	Samsung	MC7808				UC3524A		SG3821	Sprague	UDN2935			Teltone	M982	
	SGS-Thomson								GE/RCA	CA3046	(2650)	SG55325	TI	SNJ55236	
		μA7808		SG3525	Cherry Semi	CS3525A				CA3146	(2650)		Motorola	MC55325	
		L7808			Ericsson	RL3525A				MC3346	(2951, 2990)		National	DS55325	
	SiliconG	SG7808			Exar	XR3525A			National	μA3046		SG55326	SiliconG	JAN55325	
		SG7808A			IPS	IP3525A				μA3086			TI	SNJ55325	
	TI	μA7808			LinearTech	LT3525				LM3046				SN55325	
SG3423	Toshiba	TA78008				SG3525			Plessey	SL3046		SG55327	TI	SNJ55326	
	Motorola	MC3423	(2990)		Motorola	SG3525A	(2964)			SL3086			Motorola	MC75325	
	TI	MC3423			SGS-Thomson	SG3525A				SL3146		SG55327	National	DS75325	
SG343	Harris	HA2645				SG3525A			Sanyo	LA3046			SiliconG	SG75325	
	Motorola	MC1436	(2953, 2989)		TI	SG3525A			SGS-Thomson	CA3046		SG55450	TI	SN55327	
					Unitrode	UC3525A				LM3046		SG55450	National	μA55450	
	National	LM1436				UC3525				SFC2046			Signetics	SG55450B	
	SiliconG	SG1436			SG3525A	CS3525A				TBA331			SiliconG	SNJ55450	
	TeledyneP	TP1332		SG3525A	Ericsson	RL3525A				SG3046		SG55450B	TI	SN55450	
	IPS	IP350			Exar	XR3525A				SG3146				SN55450	
	Lambda	LLM350			IPS	IP3525A		SG3842	Sprague	ULN2046			National	μA55450	
	LinearTech	LM350			LinearTech	LT3525			Motorola	UC3842	(2963, 2991)		Signetics	55450	
						LT3525A			SGS-Thomson	UC3842		SG55451	SiliconG	SNJ55450	
	Motorola	LM350	(2962)		Motorola	SG3525A	(2964)			UC3842				SN55450	
	National	μA350			SGS-Thomson	SG3525A				UC3842		SG55451	National	DS55451	
		μA78HGA				SG3525A				UC3842			Signetics	55451	
		LM350			SiliconG	SG3525		SG3843	TeledyneS	TSC38C42			SiliconG	SNJ55451B	
	TI	LM350				SG3525			Unitrode	UC3842		SG55451B	TI	SN55451	
SG3501A	Unitrode	UC350			TI	SG3525A			Cherry Semi	CS3843				SN55451	
	Exar	XR1468	(2619)		Unitrode	UC3525			IPS	IP3843			National	DS55451	
		XR4195				UC3525A			SGS-Thomson	UC3843		SG55452	Signetics	DS55452	
	GoldStar	GD75189	(2708)			UC3525A				TSC38C43			TI	SNJ55452	
	Motorola	MC1468		SG3526	IPS	IP3526				UC3843			Signetics	55451	
	National	μA212A			LinearTech	LT3526			TeledyneS	UC3843		SG55452	SiliconG	SNJ55451	
		μA750			Sprague	SG3526		SG3846	Ericsson	RL3846			TI	SN55451	
	Raytheon	RC4195	(3025)		Unitrode	UC3526			LinearTech	UC3846		SG55452	National	DS55452	
	SiliconG	SG1468				UC3626			Siliconix	SG3846				SN55452	
		SG2501A				UC3527			TeledyneS	TSC170	(3268)			DS55452	
		SG75189			Cherry Semi	CS3527				TSC38C46		SG55453	Signetics	55452	
	TI	SN75189			Exar	XR3527A		SG3847	Unitrode	UC3846			TI	SNJ55452	
		SN75189A			IPS	IP3527			LinearTech	UC3847		SG55453	National	DS55453	
SG3503	AD	AD1403	(2426)		LinearTech	LT3527			Siliconix	SG3847				LM55453	
		LT1009				SG3527			TeledyneS	TSC171	(3268)	SG55454	Signetics	55453	
	Motorola	MC1400			Motorola	SG3527A	(2964)			TSC38C47			TI	SNJ55453	
		MC1500			SGS-Thomson	SG3527A				UC3847		SG55454	National	DS55454	
		LM185-2.5				SG3527A			Unitrode	ULN2011			Signetics	55453	
		LM236			SiliconG	SG3527A		SG3851	Sprague	ULN2011		SG55454	TI	SNJ55453	
		LM285-2.5			TI	SG3527			Exar	XR2012C	(2619)			DS55454	
		LM385-2.5				SG3527A		SG3853	Exar	XR2013C	(2619)	SG55454	National	SG55454B	
	PMI	REF03			Unitrode	UC3527A			SiliconG	SG2013			Signetics	55454	
		REF43	(3012)			UC3527			Sprague	ULN2013			SiliconG	SNJ55454	
	Raytheon	REF03			Cherry Semi	CS3527		SG3854		ULS2013		SG55452	TI	SNJ55454	
	TeledyneS	TSC05				CS3527A				ULN2014				SN55454	
	Motorola	MC3523			Exar	XR3527A		SG3886	GE/RCA	CA3086	(2650)	SG55454B	National	DS55454	
	TI	MC3523			IPS	IP3527			National	LM3086			Signetics	55454	
SG3523A	Motorola	MC3523			LinearTech	LT3527			Sanyo	LA3086		SG55454	SiliconG	SG55454	
	Plessey	ZN436				SG3527			SGS-Thomson	SFC2086			TI	SNJ55454	
	SiliconSys	SSI6260			Motorola	SG3527A	(2964)			SG3086		SG55460	National	SNJ55460	
SG3524	Cherry Semi	CS3524			SGS-Thomson	SG3527A				ULN2086			TI	DS55460	
	Exar	XR3524	(2619)			SG3527		SG4501	AMD	67C4501		SG55461	National	DS55461	
	GE/RCA	CA3524	(2651, 2657, 2659)		SiliconG	SG3527			Cypress	CY7C412			TI	SNJ55461	
					TI	SG3527				CY7C420		SG55462	National	SN55462	
	IPS	IP3524				SG3527A				DS2009				DS55462	
		IP3524B			Unitrode	UC3527A			Dallas	DS2009			TI	SNJ55462	
	LinearTech	LT3524				UC3527A			IDT	IDT7201		SG55463	National	DS55463	
	National	LM3524			Commodore	MPS2332				IDT7201A			TI	SNJ55463	
	SGS-Thomson				Fujitsu	P51C69				IDT7201SA				SN55463	
		SG3524			Hitachi	P51C69				67L4501		SG55464	National	DS55464	
		UC3524A			Intel	UM2168				MS7201			TI	SNJ55464	
		SG3524				51C69			MMI	67L4501				SN55464	
	Signetics	SG3524				R09432			Mosel	MS7201		SG55470	National	DS55464	
	SiliconG	SG3524B			Microchip	M58333			Samsung	KM75C01A			TI	SNJ55464	
	Sprague	SG3524			Mitsubishi	F3532			Saratoga	SSL7201				SN55464	
	TI	SG3524			National	NM52132			SGS-Thomson	MK4501			Toshiba	TC55464	
	Toshiba	TA76524				NCR2332				UC4501			GE/RCA	CD22221	
	Unitrode	UC3524			NCR	PN2332			Unicorn	UC4501			National	DS55470	
		UC3524A			Panasonic	LH2332			UMC	UM4501			SiliconSys	SSI2221	
			(Continued)		Sharp						(Continued)				(Continued)

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Silicon General (Cont'd)				SG75189	GoldStar	GD75189	(Cont'd)	SG75453			(Cont'd)	SG7805A	GoldStar	GL7805	(2714)
SG55470		(Cont'd)		Motorola	National	MC1468	(2708)	TI	SN75453B			IPS	IP7805		
SG55471	TI	SNJ55470				μ A212A		Motorola	μ A75453			Motorola	MC7805		(2959)
SG55472	National	DS55471		Raytheon	SiliconG	μ A750	(3025)	National	DS75453			National	μ A7805		
SG55473	TI	SNJ55471				SG2501A		SiliconG	LM75453			NEC	LM340-5		
SG55474	TI	SN55471				SG3501A			75453			Samsung	LM7805		
SG723	Fujitsu	MB3752			TI	SN75189		TI	SG75453			SGS-Thomson	μ PC7805		
		MB723		SG75236	SiliconG	SN75189A		Motorola	SG75453B				MC7805		
	GE/Intersil	LM723				SG75236A		National	MC75453						
	GE/RCA	CA723	(2651, 2657, 2659)	SG75236A	SiliconG	SG75236			μ A75453			SiliconG	SG7805		
		LM723				SG75236			DS75453			TI	μ A7805		
	Hitachi	HA17723		SG75325	Motorola	MC75325			LM75453			Toshiba	TA78005		
	Motorola	MC1723	(2962, 2989)		National	DS75325		SG75453B	75453			Unitrode	UC7805		
	National	μ A723			SiliconG	SG55327			SG75453			Motorola	MC78M05		(2990)
		μ A723M		SG75326	TI	SN55327		SG75454B	TI			National	μ A78M05		
	Raytheon	RC723			SiliconG	SG75236		TI	SN75454B				LM341-5		
		RM723		SG75430	National	75430		Motorola	MC75460				LM342-05		
	Samsung	LM723	(3039)	SG75431	Plessey	ZN445		National	DS75460			NEC	LM78M05		
	SGS-Thomson				SiliconSys	SSI6042		SG75461	μ C75401			Samsung	μ PC78M05		
		μ A723		SG75432	Plessey	ZN443		National	μ A75461			Sanyo	LM78M05		
		LM723			SiliconSys	SSI6044		TI	SN75461			SGS-Thomson	L78M05		
		L123		SG75433	Samsung	KM2864AH		Motorola	MC75402				L78M05CV		
		SFC2723			SEEQ	DQ52B33H		National	μ A75462			SiliconG	SG14005		
	Signetics	μ A723		SG75434	SiliconSys	SSI80C60		TI	DS75462				SG14012		
	TI	μ A723M		SG7545A	AD	AD7545	(2411, 2460, 2462)	Motorola	SN75462			TI	μ A78M05		
SG741	AD	AD741	(2427, 2462)		Burr-Brown	DAC7545	(2552)	National	DS75463			Toshiba	TA78M05		
		MB3609			Honeywell	HS7545		TI	SN75463			GoldStar	GL7806		(2714)
	Hitachi	HA17741			HybridSys	AD7545		Motorola	MC75404			Motorola	MC7806		(2960)
	MicroPwr	MPOPO2			Maxim	MP7545		National	DS75464			National	μ A7806		
	Motorola	MC1741	(2953, 2989)		MicroPwr	PM7545	(3019)		SG75464				LM7806		
	National	μ A741M		SG75450	PMI	PM7545		SG75471	DS3611			NEC	μ PC7806		
	NEC	μ PC151			National	μ A75450		TI	LM3611			Samsung	MC7806		
	PMI	OP02				DS75450		Sprague	UDN3611			SGS-Thomson			
		PM741				75450		TI	SN75471				μ A7806		
	Raytheon	RM741			SiliconG	SG75450B		National	DS3612				L7806		
	Samsung	LM741	(3039)		TI	SN75450			DS3632			SiliconG	SG340-6		
	SGS-Thomson			SG75450B	National	μ A75450			LM3612				SG7806A		
		μ A741				DS75450			UDN3612			TI	μ A7806		
		LS141				75450			SN75472			Toshiba	TA78006		
	Signetics	μ A741			SiliconG	SG75450		SG75473	SN75473			GoldStar	GL7806		(2714)
	TI	μ A741M			TI	SN75450		SG75474	SN75472			Motorola	MC7806		(2960)
	Toshiba	TA7504				DS75451			LM3614			National	μ A7806		
	Uninitrode	PIC7504				75451			UDN3614				LM7806		
	Exar	XR1488	(2619)			SG75451A			XR1488	(2619)		NEC	μ PC7806		
		XR1489A	(2619)			SN75451B			XR1489A	(2619)		Samsung	MC7806		
	GoldStar	GD75188	(2708)			SN75451B			GD75188	(2708)		SGS-Thomson			
	Motorola	MC1488	(2983, 2989)			SN75451B			MC1488	(2983, 2989)			μ A7806		
		MC1489	(2989)			DS75451			MC1489	(2989)			L7806		
		MC1489A	(2989)			SG75451			MC1489A	(2989)		SiliconG	SG340-6		
	National	μ A1489				SG75451B			μ A1489				SG7806		
		μ A1489A				SN75451			μ A1489A			TI	μ A7806		
		μ A212A				SN75451B			μ A212A			Toshiba	TA78006		
		μ A750				DS75451			μ A750			Hitachi	HA17808		
		DS1488				75451			DS1488			Motorola	MC08		
		DS1489				SG75451			DS1489				MC7808		(2960)
		DS1489A				SG75451A			DS1489A			National	μ A7808		
		MC1488				SN75451			MC1488				LM7808		
		MC1489				SN75451B			MC1489			NEC	μ PC7808		
	SGS-Thomson					DS75452			MC1489			Samsung	MC7808		
		MC1488				75452						SGS-Thomson			
		MC1489				SG75452A							μ A7808		
		MC1489A				SG75452B							L7808		
		SG1489				SN75452						SiliconG	SG340-8		
		SG1489A				SN75452B							SG7808A		
		SG75788				SN75452						TI	μ A7808		
	TI	MC1488				DS75452						Toshiba	TA78008		
		MC1489				SG75452						GoldStar	GL7808		(2714)
		SN75188				SG75452B						Hitachi	HA17808		
		XR1468	(2619)			SN75452B						Motorola	MC08		
		XR4195				SN75452B						National	μ A7808		
						μ A75452						NEC	μ PC7808		
						DS75452						Samsung	MC7808		
						75452						SGS-Thomson			
						SG75452							μ A7808		
						SG75452A							L7808		
						SN75452						SiliconG	SG340-8		
						SN75452B							SG7808		
						MC75453						TI	μ A7808		
						μ A75453						Toshiba	TA78008		
						DS75453						GoldStar	GL7812		
						LM75453						IPS	IP140-12		
						75453							IP340-12		
						SG75453A							IP7812		
						SG75453B							IP7812AC		

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page							
Silicon General (Cont'd)				SG7815A (Cont'd)				SG7824A (Cont'd)				SG7912A (Cont'd)										
SG7812	Motorola	LM340-12	(2960)	National	Motorola	LAS1515	(2960)	National	Maxim	AD7824	(2961)	SGS-Thomson	NEC	μPC7912	(2961)							
		MC7812	(2960)			LMC7815	(2961)			MC7824	(2961)			Samsung	MC7912							
	National	μA7812			National	μA7815			NEC	LM7824			SiliconG	μA7912								
		LM340-12				LM340-15				LM7824				SG320P-12								
	NEC	LM7812			NEC	LM7815			Samsung	μPC7824			TI	SG7912								
		LM7812				μPC7815				MC7824				μA79M12M								
	Samsung	μPC7812		SGS-Thomson	MC7815		SiliconG		μA7824		Toshiba		μA7912									
		MC7812			L7824				TA78024													
	SGS-Thomson	μA7812		SiliconG	SG340-15		TI		μA7824		GoldStar		GL7915	(2714)								
		L7812			SG7815				LM340-24				IP320-15									
SG7812A	SiliconG	SG340-12		TI	Motorola	LM340-15		National	Motorola	MC7905	(2959)	National	Motorola	MC7915	(2961)							
		SG7812A				LM340-15				IPS				National								
	TI	SG7812AT			Toshiba	UC340-15			NEC	IP7905			NEC	μPC7915								
		μA7812				UC340-15				SGS-Thomson				SGS-Thomson								
	Toshiba	TA78012			Unitrode	μA7818			SiliconG	SG7905A			SiliconG	μA7915								
		UC340-12				L7818				TI				L7915								
	Unitrode	UC7812		National	Motorola	MC7818	(2961)		Unitrode	μA7905			TI	SG320-15								
		GL7812				SG7818A				IPS				SG7915A								
	GoldStar	IP140-12			TI	μA7818			Motorola	IP7905			Toshiba	μA7915								
		IP340-12			National	TA78018				μA7905				TA79015								
	IPS	IP7812			NEC	LM7818			Samsung	LM7905			Unitrode	UC320-15								
		IP7812AC			SGS-Thomson	μPC7818			SGS-Thomson	MC7905			GoldStar	GL7915	(2714)							
	Motorola	LM340-12	(2960)		SiliconG	MC7818			SiliconG	MC7905			Motorola	IP320-15								
		MC7812	(2960)			μA7818				SGS-Thomson				National	IP7915							
	National	μA7812			TI	L7818			Unitrode	SG7905			TI	μA7915								
SG7812AT		LM340-12				TI	μA7905			(2959)	Toshiba			TA79015								
NEC	LM7812		National		TA78018		National		μA7905		Unitrode		UC320-15									
	μPC7812		NEC		MC7818		SGS-Thomson		MC7905				GoldStar	GL7915	(2714)							
Samsung	MC7812		SGS-Thomson		LM7818		SiliconG		MC7905		Motorola		MC7915	(2961)								
	SGS-Thomson	μA7812			SGS-Thomson	μPC7818				SGS-Thomson				National	μA7915							
SiliconG	μA7812		SiliconG		L7818		TI		SG7905		TI		LM320-15									
	SG340-12				SG7818				Unitrode	μA7905				LM320T15								
TI	SG7812		TI		μA7818		Motorola		UC7905		NEC		LM7915									
	SG7812AT		Toshiba		TA78018		National		MC7908	(2960)			SGS-Thomson	μPC7915								
SG7812AT	Toshiba	TA78012			AD	AD7820	(2414, 2462)		National	Samsun	μA79M08			National	Samsun	μPC7915						
		UC340-12					MC7908						SGS-Thomson			MC7915						
	Unitrode	UC7812			Crystal	CS7820				Samsun	MC7908				SiliconG	μA7915						
		GL7812				MAX150					SGS-Thomson		L7915									
	IPS	IP140-12			National	μA7820				SiliconG	SG7908A				TI	SG320-15						
		IP7812				DS7820					TI		μA79M08				SG7915					
	Motorola	IP7812AC			PMI	LM7820				TI	μA7908				Toshiba	TA79015						
		LM340-12	(2960)			PM0820					TA79008					Unitrode	UC320-15					
	National	MC7812	(2960)		Samsun	KAD0820				Motorola	μA7908				Motorola	UC7915						
		μA7812				SGS-Thomson	μA79M08				(2960)		National			MC7918						
NEC	LM7812		SiliconG		SG7820A		National			μA7908			Samsun		MC7918							
	μPC7812				Siliconix	SI7820					SGS-Thomson				MC7908							
Samsung	MC7812		TI		μA7820		Samsun			MC7908			SGS-Thomson		L7918							
	SGS-Thomson	μA7812			SN55182					SGS-Thomson	MC7908					SiliconG	SG7918A					
SG7815	SiliconG	μA7812			AD	AD7820	(2414, 2462)			National	Samsun		SG7908			National	Samsun	SG7918A				
		L7812					TLC0820						(3325)		SGS-Thomson			SG7908		TI	μA7918	
	SiliconG	SG340-12			Crystal	CS7820					SiliconG		SG7908				TI	μA7918				
		SG7812				MAX150							TI		μA7908				Toshiba	TA79018		
	TI	SG7812A			National	μA7820					Toshiba		TA79008				Motorola	MC7918				
		μA7812				DS7820							GoldStar		GL7912			(2714)	National	LM7918		
	Toshiba	TA78012			PMI	LM7820					IPS		IP320-12				Samsun	MC7918				
		UC340-12				PM0820							Motorola		IP7912				SGS-Thomson	L7918		
	Unitrode	UC7812			Samsun	KAD0820					National		SG7912		(2960)		SiliconG	SG7918				
		GL7815	(2714)			SGS-Thomson	μA79M12M								TI			μA7918				
SG7815A	GoldStar	IP140-15			SiliconG	L7820					National		Samsun		μA79M12M			National	Samsun	TA79018		
		IP340-15					SG7820										μA7912				National	μA7920
	IPS	IP7815				Siliconix	SG7820A								NEC		LM320MP12			SGS-Thomson	LM7920	
		IP7815AC					SI7820										LM7912				SGS-Thomson	L7920
	Lambda	LAS1515				TI	μA7820								Samsun		LM7912			SiliconG	SG7920A	
		LM340-15	(2960)				SN55182										MC7912				SI957	
	Motorola	MC7815	(2961)		AD	TLC0820	(3325)						SGS-Thomson		MC7912				TI	μA7920		
		μA7815				AD7824	(2414, 2462)								SGS-Thomson		μA7912				Toshiba	TA79020
	National	LM340-15		GoldStar	GL7824	(2714)	Samsun	SG320P-12					National		μA7920							
		LM7815			Maxim	AD7824						SG7912A					LM7920					
	NEC	μPC7815		Motorola	MC7824	(2961)	National	SG7912A					SGS-Thomson		L7920							
		MC7815			National	μA79M12M						SG7920										
	Samsung	μA7815		NEC	LM7824		TI	μA7912M					SiliconG		SG7920							
		SGS-Thomson	MC7815			SG7815A						TA78024					SI957					
	SiliconG	SG340-15		Samsun	MC7824		Toshiba	TA79012					TI		μA7920							
SG7815A			SGS-Thomson		MC7824			GoldStar				TA79020										
TI	LM340-15		SGS-Thomson	μA7824		IPS	IP320-12					Toshiba	TA79020									
	LM340-15			μA7824			Motorola	IP120-5														
Toshiba	TA78015		SiliconG	SG7824A		National	IP7912					National	IP320-5									
	UC340-15			TI	LM340-24			μA79M12M							μA79M05							
Unitrode	UC7815		Toshiba	TA78024		National	μA79M12M					SiliconG	LM120									
	GL7815	(2714)		AD	LM340-24			μA7912							LM320-05							
GoldStar	IP140-15		AD	TA78024		GoldStar	LM320MP12					SiliconG	LM79M05									
	IP340-15			AD7824	(2414, 2462)		LM79M12						SG120-5									
IPS	IP7815		GoldStar	GL7824	(2714)	National	LM7912					Unitrode	SG320-05									
	IP7815AC			(Continued)	(Continued)		(Continued)	(Continued)					(Continued)		(Continued)							

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ALT SOURCE DIRECTORY

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Siliconix (Cont'd)				DG202	Maxim	MAX332 SW02		DG5045	GE/Intersil	DG185 IH5045		DG5140	Motorola	M5140	(Cont'd)
DG146	GE/Intersil	DG146			PMI				Harris	IH5045		DG5141	SiliconSys	SSHK212	
♦ DG151	National	AH0146			Siliconix	TSC4201			Maxim	IH5045			Crystal	CS202	
♦ DG152	GE/Intersil	DG151		DG211	TeledyneS	TSC4202	(2671)	DG506A	AD	DG185	(2425, 2462)		GE/Intersil	IH5141	
♦ DG153	National	AH0151			GE/Intersil	DG211			TI	TL185			GE/RCA	CD22202	(2645)
♦ DG154	GE/Intersil	DG152			National	LMC13204			AD	AD7506	(2425, 2462)		Maxim	SSI202	
♦ DG155	National	AH0152		DG212	Siliconix	DG308A			Datel	MV1606	(2600)	DG5142	SiliconSys	SSI75T202	(3255)
♦ DG156	GE/Intersil	DG153			TeledyneS	TSC4201				MX1606	(2600)		GE/Intersil	IH5142	
♦ DG157	National	AH0153			AD	ADG212			Harris	HI506		DG5143	Maxim	IH5142	
♦ DG158	GE/Intersil	DG154			Siliconix	DG309			MicroPwr	MP7506			GE/Intersil	IH5143	
	National	AH0154		DG221	TeledyneS	TSC4202			Motorola	MC7506		DG5144	Maxim	IH5143	
♦ DG161	GE/Intersil	AM0154			AD	ADG221	(2424, 2462)	♦ DG507	AD	AD7507	(2425, 2462)		GE/Intersil	IH5144	
♦ DG162	National	AH0161			GoldStar	GD74LS612	(2708)		Datel	MVD807	(2600)	DG5145	GE/RCA	CD22223	(2646)
♦ DG163	GE/Intersil	DG162			TeledyneS	TSC441	(3273)			MXD807	(2600)		Maxim	IH5144	
♦ DG164	National	AH0162			TI	SN74LS612	(3299)	♦ DG507	GE/Intersil	IH6216	(2670)		SiliconSys	SSI223	
	GE/Intersil	DG163		DG243	Unicorn	UC74HCT612			Harris	HI507			GE/Intersil	IH5145	
	National	AH0163			GE/Intersil	DG191		DG507A	MicroPwr	MP7507		D125	GE/Intersil	D125	(2671)
♦ DG166	GE/Intersil	AM0163			Harris	IH5043			PMI	MUX28		G118	TeledyneC	CDR125	
	National	AH0164		DG300A	Maxim	IH5043			Siliconix	DG507A		G119	GE/Intersil	G118	
	AM0164			DG301A	Siliconix	DG191			TeledyneP	TP4551		♦ LD131	GE/Intersil	ICL7106	(2667)
DG172	GE/Intersil	DG118				DG5043			AD	AD7507	(2425, 2462)		Maxim	ICL7106	
DG180	GE/Intersil	DG180	(2671)	DG302A	Harris	HI300			Datel	MVD807	(2600)	♦ LM101	TeledyneS	TSC7106	(3279)
DG181	GE/Intersil	DG181			Maxim	DG300A				MXD807	(2600)		AD	AD101	(2470)
	Harris	HI381		DG302A	Maxim	DG301A			GE/Intersil	IH6216	(2670)		GE/Intersil	AD101	
	Maxim	HI5048			Harris	HI302			Harris	HI507			LinearTech	LM101	
		DG381A		DG303A	MicroPwr	MP302		♦ DG508	MicroPwr	MP7507			Motorola	LM101	(2952)
	Siliconix	DG381A			Harris	HI303			PMI	MUX28			National	µA101	
DG182	GE/Intersil	DG182		DG304A	Maxim	DG303A			TeledyneP	TP4551		♦ LM101	OP77		
DG184	GE/Intersil	DG184			MicroPwr	MP303			Burr-Brown	MPC8S			SGS-Thomson	LM101	(3024)
	Harris	IH5049		DG305A	Harris	HI304			Datel	MUX808				LS101	
	Maxim	DG384A		DG306A	Maxim	DG304A		♦ DG508	GE/Intersil	ICL6108	(2670)	♦ LM101	SG101		
		IH5049			Harris	HI305			Harris	HI508		L144	Calmos	SL144	
DG185	Siliconix	DG384A		DG307A	Maxim	DG306A			Maxim	DG508A		MP7622	GE/Intersil	ICL7622	
	GE/Intersil	DG185			Harris	HI307		♦ DG508	MicroPwr	MP7508DI			HybridSys	HS3120	
	Harris	IH5045		DG308A	GE/Intersil	DG211	(2671)		Motorola	MC6108	(2970)	SD5200	Maxim	ICL7622	
	Maxim	IH5045			National	LMC13204			National	LF11508			MicroPwr	MP7622	
	Siliconix	DG5045		DG309	Siliconix	DG211				LF13508		SG1626	GE/Intersil	IH5200	
DG186	GE/Intersil	DG186			TeledyneS	TSC4201		♦ DG508	PMI	DMX88			Siliconix	SI200	
DG187	GE/Intersil	DG187		DG381A	GE/Intersil	DG181			Siliconix	MUX88			GE/Intersil	ICL7667	(2676)
	Harris	HI387			Harris	HI381		♦ DG508	TeledyneP	DG508A			Motorola	MMH0026	
	Maxim	HI5050			Harris	HI5048	(2671)		Burr-Brown	MPC8S			National	DS0026	
		DG387A			Maxim	IH5048			Datel	MUX808			SGS-Thomson	NMH0026	
DG188	Siliconix	DG387A			Maxim	IH5048			GE/Intersil	ICL6108	(2600)			SG1626	
	GE/Intersil	DG188		DG384A	Siliconix	DG181			Harris	HI508	(2670)	SG1846	Siliconix	SG2626	
		IH5042			GE/Intersil	DG184			Maxim	DG508A			TeledyneS	SG3626	
	Harris	HI5042			Harris	IH5049				MAX358			LinearTech	TSC426	
	Maxim	IH5042			Harris	HI384			MicroPwr	MP7508DI			National	UC1846	
	Siliconix	DG5042			Maxim	HI5049			Motorola	MC6108	(2970)			DM54ALS468	
DG189	GE/Intersil	DG189			Maxim	DG384A			National	LF11508			SGS-Thomson	DM54AS1034	
DG190	GE/Intersil	DG190		DG387A	Siliconix	DG184				LF13508				UC1846	
		IH5051			GE/Intersil	DG187		♦ DG509	PMI	DMX88		SG1847	TI	SN54AS1034A	
	Harris	HI5051			Harris	IH5050			TeledyneP	MUX88			Unitrode	UC1846	
	Maxim	IH5052			Maxim	HI387			GE/Intersil	TP4554			LinearTech	UC1847	
DG191	GE/Intersil	DG191			Maxim	HI5050				ICL6109	(2670)		National	DM54ALS521	
		IH5043				HI5050		♦ DG509	Harris	HI509				DM54AS04	
	Harris	HI5043		DG390A	Siliconix	DG187			Maxim	DG509A			SiliconG	SG1847	
	Maxim	IH5043			Maxim	DG390A				MAX359		SG2626	Siliconix	SG2847	
	Siliconix	DG243		DG5040	GE/Intersil	IH5040	(2671)		MicroPwr	MP7509DI			TeledyneS	TSC171	(3268)
DG200A	AD	ADG200	(2471)		Harris	HI5040			National	LF11509		SG2626	GE/Intersil	ICL7667	(2676)
	GE/Intersil	DG200	(2671)	DG5041	Maxim	IH5040				LF13509			Motorola	MMH0026	
		IH200			GE/Intersil	IH5041		♦ DG509	PMI	MUX24			National	NMH0026	
	Harris	HI200			Maxim	IH5041			Siliconix	DG509A			SGS-Thomson	SG1626	
	PMI	SW05		DG5042	GE/Intersil	DG188			GE/Intersil	ICL6109	(2670)			SG2626	
DG201A	AD	ADG201	(2450, 2461, 2470)		Harris	IH5042		DG509A		IH6208			Siliconix	SG3626	
	GE/Intersil	DG201			Maxim	IH5042			Harris	HI509				SG1626	
		DG201A			Siliconix	DG188			Maxim	DG509A		SG2847	TeledyneS	TSC426	
	Harris	HI201		DG5043	GE/Intersil	DG191				MAX359			LinearTech	UC1847	
	Maxim	DG201A				IH5043			MicroPwr	MP7509DI			National	DM54ALS521	
		MAX331			Harris	HI5043			National	LF11509				DM54AS04	
	MicroPwr	MP201			Maxim	IH5043				LF13509			SiliconG	SG1847	
	National	LF11201		DG5044	Siliconix	DG191			PMI	MUX24	(2671)		Siliconix	SG1847	
		LF13201			GE/Intersil	IH5044			GE/Intersil	IH5140	(2646)	SG3626	TeledyneS	TSC171	(3268)
	PMI	SW201			Harris	IH5044			GE/RCA	CD22212			Unitrode	UC1847	
	TeledyneS	TSC4201			Maxim	IH5044			LSI Logic	LS1540			GE/Intersil	ICL7667	(2676)
		TSC4202							Maxim	IH5140			Motorola	MMH0026	

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Siliconix (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
SG3626	National	DS0026	(Cont'd)	SI1527B	LinearTech	LT1527A	(2964)	SI7820	TI	µA7820	(3325)	CM4007	National	CD4007	(Cont'd)
	SGS-Thomson	NMH0026		SI1527B	Motorola	SG1527A		SI9551	Sprague	SN55182			SGS-Thomson	HCC/HCF4007	
		SG1626		SI1527B	SGS-Thomson	SG1527		SI9552	Supertex	UCN5851		CM4008	Signetics	HEF4007	
		SG2626		SI1527B	SiliconG	SG1527A		SI9552	TI	HV5122			Toshiba	TC4007UB	(3341)
		SG3626		SI1527B	TI	SG1527A		SI9552	Sprague	UCN5852			GE/RCA	CD4008	(2639)
		SG1626		SI1527B	Unitrode	TL1527		SI9553	Supertex	HV5222			Motorola	MC14008	(2947)
		SG2626		SI3002	National	UC1527		SI9553	TI	SN75552			National	CD4008	
SG3846	TeledyneS	RL3846		SI3527B	Cherry Semi	UC1527A		SI9554	Supertex	UCN5853				F4008	
	Ericsson	UC3846		SI3527B	Exar	SH3002		SI9554	Supertex	HV5306			SGS-Thomson	MM74C83	
	LinearTech	SG3846		SI3527B	IPS	CS3527A		SI9554	TI	UCN5854				HCC/HCF4008	
	SiliconG	SG3846		SI3527B	LinearTech	CS3527		SI9555	Supertex	HV5308			Signetics	HEF4008	
	TeledyneS	TSC170	(3268)	SI3527B	SGS-Thomson	CS3527A		SI9555	TI	SN75554		CM4009	Toshiba	TC4008B	(3341)
		TSC38C46		SI3527B		XR3527A		SI9556	TI	SN75555			GE/RCA	CD4009	(2637)
	Unitrode	UC3846		SI3527B		IP3527		SI9560	TI	SN75556			Motorola	MC14009	
	LinearTech	UC3847		SI3527B		LT3527		SN0120	Supertex	AN0120		CM4010	National	CD4009	
	SiliconG	SG3847		SI3527B		LT3527A		SN0130	Supertex	AN0130				HCC/HCF4009	
	TeledyneS	TSC171	(3268)	SI3527B		SG3527		SN0140	Supertex	AN0140			Toshiba	TC4009UB	(3341)
		TSC38C47		SI3527B		SG3527A		TSC4201	AD	ADG212			GE/RCA	CD4010	(2637)
SG4250	Unitrode	UC3847		SI3527B		SG3527			Siliconix	DG212			Motorola	MC14010	
	GE/Intersil	ICL7611	(2673, 2675)	SI3527B		SG3527A				DG309		CM4011	National	CD4010	
		ICL8021	(2675)	SI3527B		SG3527			TeledyneS	TSC4202	(2595)		SGS-Thomson	HCC/HCF4010	
		LM4250		SI3527B		SG3527A			Datel	AD7C109	(2669)			TC4010B	(3341)
SG4250	Harris	HA2720		SI3527B		SG3527A			GE/Intersil	ICL7109				CD4011	(2637)
		HA2725		SI3535B		UC3527A			Maxim	ICL7109				CD4011UB	(2637)
SG4250	Maxim	ICL7611	(2953, 2989)	SI3535B		CS3525A			TeledyneS	TSC7109			Motorola	MC14011	(2937)
	Motorola	MC1776	(2953)			RL3525A								MC14011UB	(2937)
		MC3476				XR3525A									
SG4250	National	µA776				IP3525A									
		LF441				LT3525									
		LM4250				LT3525A									
SG4250	NEC	µPC4250		SI3535B	Motorola	SG3525A	(2964)								
		µPC812			SGS-Thomson	SG3525									
SG4250	PMI	OP20				SG3525A									
		OP22				SG3525A									
		OP43				SG3525A									
SG4250	SGS-Thomson	µA776		SI3535B		SG3525									
		MC1776				SG3525A									
SG4250	Solitron	UC4250		SI3535B		SG3525A									
	TI	TLC251				UC3525									
		TLC271				UC3525A									
		TL061		SI5200	GE/Intersil	IH5200									
SG555	Exar	XR555	(2619)	SI5554	Siliconix	SD5200									
		XR555M	(2619)	SI7135	TI	SN5554									
SG555	GE/Intersil	NE555				SN5554									
		SE555				ICL7135	(2667, 2669)								
SG555	GE/RCA	CA555	(2656)	SI7541A	Maxim	ICL7135									
	GoldStar	GLC555	(2713)		TeledyneS	TSC7135									
		GL555	(2713)		AD	AD7541	(2411, 2462, 2470)								
SG555	Hitachi	HA17555			Burr-Brown	DAC7541A	(2552)								
	Mitsubishi	M5E555			Datel	DAC7541	(2596)								
		M51841				DA867541									
		M51848				AD7541	(2666)								
SG555	Motorola	MC1455	(2989)		GE/Intersil	AD7541									
	National	µA555				AD7641									
		LM555				HDAC7541									
SG555	NEC	µPC1555			Honeywell	DAC331									
		µPC617			HybridSys	HS7541									
		µPD555				AD7541									
SG555	Raytheon	RC555			Maxim	MP7541									
		RM555			MicroPwr	TP7541									
SG555	Samsung	NE555	(3039)		TeledyneP	TSC7541									
	Sanyo	LB8555			TeledyneS	AM7650	(2598)								
	SGS-Thomson	NE555		SI7652	Datel	LTC1052									
		NE555			LinearTech	LTC7652									
		SE555				ICL7650									
		NE555				ICL7652									
		NE555				SI7135									
		SE555				TSC7650									
		SE555M				TSC7652									
		TLC555	(3325)			VI7660	(2600)								
SG555	Toshiba	TA7555				LTC1044									
SI1525B	Cherry Semi	CS1525A				ICL7660									
	Exar	XR1525A				LMC7660									
	IPS	IP1525A				TSC7660									
	LinearTech	LT1525				AD7820	(2414, 2416, 2462)								
		LT1525A				CS7820									
		SG1525				AD7820									
SI1525B	Motorola	SG1525A	(2964)			MAX150									
	SiliconG	SG1525A				µA7820									
		SG1525A				DS7820									
		TL1525				LM7820									
SI1525B	TI	UC1525				PM0820									
	Unitrode	UC1525A				KAD0820									
		UC1525A				SG7820									
SI1527B	Cherry Semi	CS1527A				L7820									
	IPS	IP1527A				SG7820									
	LinearTech	LT1527				SG7820A									

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Soliton Devices (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
CM4016	SGS-Thomson	HCC/HCF4016		CM4027	OKI	MSM4027		CM4042	SGS-Thomson	HCC/HCF4042		CM4066	GE/RCA	CD4016 (2639, 2653, 2655)	
		HCC/HCF4066			Sanyo	LC4027			Signetics	HEF4042				CD4066 (2639, 2655, 2658)	
	Signetics	HEF4016			SGS-Thomson	HCC/HCF4027B		CM4043	Toshiba	TC4042B (3341)			Motorola	MC14016 (2945)	
		HEF4066			Signetics	HEF4027			GE/RCA	CD4043 (2638)			National	MC14066 (2945)	
	Soliton	CM4066		CM4028	Toshiba	TC4027B (3341)			Motorola	MC14043 (2941)				CD4066	
		HCF4016			GE/RCA	CD4028 (2637)			National	CD4043				F4016	
	Toshiba	TC4016B (3341)			Motorola	MC14028 (2945)		CM4044	SGS-Thomson	HCC/HCF4043			Sanyo	F4066	
		TC4066B (3341)			National	CD4028			Signetics	HEF4043				LC4016	
CM4017	Unitrode	PIC7516				F4028			Toshiba	TC4043B (3341)				LC4066	
	GE/RCA	CD4017 (2638)			OKI	MM74C42			GE/RCA	CD4044 (2638)			SGS-Thomson	HCC/HCF4016	
	Motorola	MC14017 (2943)			Sanyo	MSM4028			Motorola	MC14044 (2941)				HCC/HCF4066	
	National	CD4017			SGS-Thomson	LC4028		CM4045	National	MC4044			Signetics	HEF4016	
		F4017				HCC/HCF4028			SGS-Thomson	CD4044				HEF4066	
	SGS-Thomson	HCC/HCF4017			Signetics	HEF4028				HCC/HCF4044			Soliton	CM4016	
		HEF4017		CM4029	Toshiba	TC4028B (3341)			Signetics	HEF4044				HCF4016	
	Toshiba	TC4017B (3341)			GE/RCA	CD40192 (2638)			Toshiba	TC4044B (3341)			Toshiba	TC4016B (3341)	
CM4018	GE/RCA	CD4018 (2638)			Motorola	CD4029 (2638)			GE/RCA	CD4521B (2638)				TC4066B (3341)	
	Motorola	MC14018 (2943)			National	MC14029 (2942)			Gould/AMI	S4521		CM4068	Unitrode	PIC7516	
	National	CD4018				CD40192			Motorola	MC14521 (2946)			GE/RCA	CD4068 (2637)	
		F4018				CD4029			National	F4521			Motorola	MC14068 (2937)	
	SGS-Thomson	HCC/HCF4018				F40192			SGS-Thomson	HCC/HCF4045			National	F4068	
	Signetics	HEF4018			SGS-Thomson	F4029				HEF4521			SGS-Thomson	HCC/HCF4068	
CM4019	Toshiba	TC4018B (3341)				HCC/HCF40192		CM4046	Signetics	TC4521B (3341)			Signetics	HEF4068	
	GE/RCA	CD4019 (2637, 2639)			Signetics	HCC/HCF4029			GE/RCA	CD4046 (2639, 2656)				TC4068B (3341)	
	National	CD4019			Signetics	HEF40192			Motorola	MC14046		CM4069	GE/RCA	CD4069 (2637)	
		F4019			Toshiba	TC40192B (3341)			National	CD4046			National	CD4069	
		F4019B		CM4030	GE/RCA	CD4030 (2637, 2639)			SGS-Thomson	F4046				F4069	
	OKI	MSM4019			National	CD4030		CM4047	HCC/HCF4046				OKI	MM54C04	
	Sanyo	LC4019			SGS-Thomson	F4030			GE/RCA	CD4047 (2638)			Sanyo	MM74C04	
	SGS-Thomson	HCC/HCF4019			Signetics	HCC/HCF4030			National	CD4047			SGS-Thomson	MSM4069	
	Signetics	HEF4019			Signetics	HEF4030			SGS-Thomson	F4047				LC4069	
CM4020	Toshiba	TC4019B (3341)		CM4032	Toshiba	TC4030B (3341)			Signetics	HCC/HCF4047			Signetics	HEF4069	
	GE/RCA	CD4020 (2638)			GE/RCA	CD4032 (2639)		CM4048	Signetics	HEF4047		CM4070	Toshiba	TC4069UB (3341)	
	Motorola	MC14020 (2943)			Motorola	MC14032 (2947)			Toshiba	TC4047B (3341)			GE/RCA	CD4070 (2637, 2639)	
	National	CD4020			SGS-Thomson	HCC/HCF4032			GE/RCA	CD4048 (2637)			Motorola	MC14070 (2938)	
		F4020				TC4032B (3341)		CM4049	National	CD4048			National	CD4070	
	SGS-Thomson	HCC/HCF4020		CM4033	GE/RCA	CD4033 (2638)			SGS-Thomson	HCC/HCF4048				F4070	
	Signetics	HEF4020			SGS-Thomson	HCC/HCF4033			GE/RCA	CD4049 (2637, 2656)			SGS-Thomson	MM74C86	
CM4022	Toshiba	TC4020B (3341)		CM4034	GE/RCA	CD4034 (2638)			Motorola	MC14049 (2939)				HCC/HCF4070	
	GE/RCA	CD4022 (2638)			Motorola	MC14034 (2943)		CM4051	National	CD4049		CM4071	Signetics	HEF4070	
	Motorola	MC14022 (2943)			National	CD4034			OKI	F4049			GE/RCA	CD4071 (2637)	
	National	CD4022				F4034			Sanyo	MSM4049			Motorola	CD4071B (2637)	
		F4022			SGS-Thomson	HCC/HCF4034			SGS-Thomson	LC4049				MC14071 (2937)	
	SGS-Thomson	HCC/HCF4022		CM4035	Signetics	HEF4034			Signetics	HCC/HCF4049			National	MC14071B (2937)	
	Signetics	HEF4022			Toshiba	TC4034B (3341)		CM4050	Signetics	HEF4049				CD4071	
CM4023	Toshiba	TC4022B (3341)			GE/RCA	CD4035 (2638)			Toshiba	TC4049B (3341)				CD4071B	
	GE/RCA	CD4023 (2637)			Motorola	MC14035 (2944)			GE/RCA	CD4050 (2637, 2656)				F4071	
	National	CD4023			National	CD4035B			Motorola	MC14050 (2939)				MM74C32	
		F4023			SGS-Thomson	F4035			National	CD4050			OKI	MSM4071	
		MM74C10				HCC/HCF4035			SGS-Thomson	F4050			Sanyo	LC4071	
	SGS-Thomson	HCC/HCF4023		CM4036	Signetics	HEF4035			SGS-Thomson	HCC/HCF4050			SGS-Thomson	HCC/HCF4071	
	Signetics	HEF4023			Toshiba	TC4035B		CM4051	Signetics	HEF4050		CM4073	Signetics	HEF4071	
CM4024	Toshiba	TC4023 (3341)		CM4037	Toshiba	TC4036B (3341)			Toshiba	TC4050B (3341)			Toshiba	TC4071B	
		TC4023B (3341)		CM4038	GE/RCA	CD4037			GE/RCA	CD4051 (2639, 2655, 2658)			GE/RCA	CD4073 (2637)	
	GE/RCA	CD4024 (2638)			Motorola	MC14038 (2947)			Motorola	MC14051 (2945)			Motorola	MC14073 (2937)	
	Motorola	MC14024 (2943)			SGS-Thomson	HCC/HCF4038			National	CD4051			National	F4073	
	National	MC4024		CM4039	Toshiba	TC4038B (3341)			SGS-Thomson	F4051			SGS-Thomson	HCC/HCF4073	
		CD4024			GE/RCA	CD4039		CM4052	Signetics	HCC/HCF4051			Signetics	HEF4073	
		F4024			Toshiba	TC4039B (3341)			Toshiba	TC4051B (3341)		CM4075	Toshiba	TC4073B	
	SGS-Thomson	HCC/HCF4024		CM4040	GE/RCA	CD4040 (2638)			GE/RCA	CD4052 (2639, 2653, 2655)			GE/RCA	CD4075 (2637)	
CM4025	Signetics	HEF4024			Motorola	MC14040 (2943)			National	CD4052			National	MC14075 (2937)	
	Toshiba	TC4024B (3341)			National	CD4040			SGS-Thomson	CD4052B				CD4075	
	GE/RCA	CD4025 (2637)				F4040		CM4053	SGS-Thomson	F4052			SGS-Thomson	HCC/HCF4075	
	Motorola	MC14025 (2938)			Signetics	HEF4040			Signetics	HCC/HCF4052		CM4076	Signetics	HEF4075	
	National	CD4025			GE/RCA	CD4041 (2637, 2656)			GE/RCA	CD4053 (2639, 2655, 2658)			Toshiba	TC4075B	
		F4025			National	CD4041			Motorola	MC14053 (2945)			GE/RCA	CD4076 (2638)	
	SGS-Thomson	HCC/HCF4025			SGS-Thomson	HCC/HCF4041			National	CD4053			Motorola	MC14076 (2942)	
	Signetics	HEF4025		CM4041	Signetics	HEF4041			SGS-Thomson	F4053			National	CD4076	
CM4026	Toshiba	TC4025B (3341)			GE/RCA	CD4042		CM4053	Signetics	HCC/HCF4053				F4076	
	SGS-Thomson	HCC/HCF4026			National	F4042			Toshiba	TC4053B (3341)				MM54C173	
CM4027	GE/RCA	CD4027 (2638)		CM4042	Motorola	MC14042 (2941)							SGS-Thomson	MM74C173	
	Motorola	MC14027			National	CD4042								HCC/HCF4076	
	National	MC14027B				F4042							Signetics	HEF4076	
		CD4027											Toshiba	TC4076B (3341)	
		CD4027B													
		F4027													
		MM74C76													

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Solitron Devices (Cont'd)				CM4520 (Cont'd) (2942)				CVK5864 (Cont'd)				CXK5164P Matra-Harris (Cont'd)				
CM4077	GE/RCA	CD4077	(2637, 2639)	Motorola	National	MC14520		MicroLinear	MicronTech	ML8464		MicroLinear	MicronTech	HM62641		
		CD4077B	(2637, 2639)			MT5C6404				HM65641						
	Motorola	MC14077	(2938)	Sanyo	SGS-Thomson	MSM4520		Mitsubishi	AM99C88		Mitsubishi	AM99C88				
		MC14077B	(2938)			LC4520			M5M165			MT5C6408				
CM4078	National	CD4077		Signetics	Toshiba	HCC/HCF4520		Mosel	Motorola	M5M5164		National	OKI	M5M165		
		F4077				HEF4520				MS6264				M5M5178		
	Raytheon	RC4077	(3024)	GE/RCA	CD4016	(2639, 2653, 2655)	National	NEC	OKI	MCM6064		Performance	S-MOS	MCM6064		
		SGS-Thomson	HCC/HCF4077			MCM6164					MCM6164C					
CM4081	Signetics	Toshiba	TC4077B	(3341)	Motorola	National	MC14016	(2945)	Performance	S-MOS	MCM6264		Performance	S-MOS	MCM6164	
		GE/RCA	CD4078	(2637)			CD4016				NMC6164				SRM2064	
	Motorola	MC14078	(2938)	SGS-Thomson	Signetics	CD4066		Sharp	Sony	μPD4364		Sharp	Sony	MCM6164C		
		National	F4078			F4016				MSM5164				DP8464		
CM4508	NEC	OKI	MSM4081		Toshiba	Unitrode	LC4016		STC	TI	MSM5188		STC	TI	μPD4364	
		Sanyo	LC4081	LC4066				P4C188				MSM5165				
	SGS-Thomson	HCC/HCF4081		GE/Intersil	Harris	HCC/HCF4016		Samsung	Sharp	SRM2064		Samsung	Sharp	MSM5188		
		HEF4081				HCC/HCF4066				SRM2264				SRM2064		
CM4510	GE/RCA	CD4508	(2638)	Motorola	National	HEF4016		VLSI Tech	VLSI Tech	LMH5164		VLSI Tech	VLSI Tech	LMH5164		
		Motorola	MC14508			(2941)	HEF4066				CKX5164P				CKX5863P	
	SGS-Thomson	HCC/HCF4508		Maxim	Motorola	LM4250		Vitellic	VLSI Tech	CKX5865P		Vitellic	VLSI Tech	CKX5865P		
		HEF4508				HA2720				TC5565A				TC5585		
CM4511	Toshiba	TC4508B	(3341)	National	NEC	ICL7611	(2953, 2989)	VLSI Tech	VLSI Tech	TC5588		VLSI Tech	VLSI Tech	TC5588		
		GE/RCA	CD4510			(2638)	MC3476			(2953)	TMM2063				TC5588	
	Motorola	MC14510	(2942)	SGS-Thomson	TI	μA776		CXK5164P	CXK5164P	TMM2064		CXK5164P/K	AMD	TMM2064		
		National	CD4510			F4510				AD9048	(2419, 2446, 2462)			AD9048	(2419, 2446, 2462)	TMM2088
CM4514	SGS-Thomson	HCC/HCF4510		PMI	SGS-Thomson	LM4250		CXK5164P	CXK5164P	V61C62		CXK5164P/K	AMD	V61C62		
		HEF4510				μPC4250				V61C64				V61C64		
	Toshiba	TC4510B	(3341)	TI	TI	OP20		CXK5164P	CXK5164P	V62C64		CXK5164P/K	AMD	V62C64		
		GE/RCA	CD4511			(2656, 2658)	OP22				V65C64				V65C64	
CM4515	Motorola	MC14511	(2946, 2985)	SGS-Thomson	TI	OP43		CXK5164P	CXK5164P	VT20C98		CXK5164P/K	AMD	VT20C98		
		National	CD4511			F4511				AD9048	(2419, 2446, 2462)			AD9048	(2419, 2446, 2462)	VT20C99
	NEC	μPD4511		TI	TI	MC1776		CXK5164P	CXK5164P	ADC304		CXK5164P/K	AMD	ADC304		
		SGS-Thomson	HCC/HCF4511				TLC271				IDT			(2858)	CA1096P	
CM4516	Signetics	Toshiba	TC4511B	(3341)	Harris	Hitachi	TL061		CXK5164P	CXK5164P	Sony		CXK5164P/K	AMD	Sony	
		GE/RCA	CD4514	(2637)			AD9048	(2419, 2446, 2462)			TRWLSI				TRWLSI	
	Motorola	MC14514	(2945)	GoldStar	Hyundai	MC1776		CXK5164P	CXK5164P	TDC1048		CXK5164P/K	AMD	TDC1048		
		National	CD4514			F4514	GM76C88			(2696, 2703)	Exar				Exar	
CM4518	SGS-Thomson	HCC/HCF4514		Hitachi	Hitachi	MC1776		CXK5164P	CXK5164P	AD9048	(2419, 2446, 2462)	CXK5164P/K	AMD	AD9048	(2419, 2446, 2462)	
		HEF4514				MC1776				AD9048	(2419, 2446, 2462)			AD9048	(2419, 2446, 2462)	
	Toshiba	TC4514B	(3341)	GoldStar	Hyundai	TLC251		CXK5164P	CXK5164P	ADC304		CXK5164P/K	AMD	ADC304		
		GE/RCA	CD4515			(2637)	GM76C88			(2696, 2703)	Exar				ADC304	
CM4520	Motorola	MC14515	(2945)	GoldStar	Hyundai	TLC271		CXK5164P	CXK5164P	IDT	(2858)	CXK5164P/K	AMD	IDT	(2858)	
		National	CD4515			F4515	GM76C88			(2696, 2703)	Exar				IDT	(2858)
	SGS-Thomson	HCC/HCF4515		Hitachi	Hitachi	TL061		CXK5164P	CXK5164P	AD9048	(2419, 2446, 2462)	CXK5164P/K	AMD	AD9048	(2419, 2446, 2462)	
		HEF4515				GM76C88	(2696, 2703)			Exar				AD9048	(2419, 2446, 2462)	
CM4520	Signetics	Toshiba	TC4515B	(3341)	Hitachi	Hitachi	TL061		CXK5164P	CXK5164P	ADC304		CXK5164P/K	AMD	ADC304	
		GE/RCA	CD4516	(2638)			GM76C88	(2696, 2703)			Exar				ADC304	
	Motorola	MC14516	(2942)	GoldStar	Hyundai	TLC271		CXK5164P	CXK5164P	IDT	(2858)	CXK5164P/K	AMD	IDT	(2858)	
		National	CD4516			F4516	GM76C88			(2696, 2703)	Exar				IDT	(2858)
CM4520	SGS-Thomson	HCC/HCF4516		Hitachi	Hitachi	TL061		CXK5164P	CXK5164P	AD9048	(2419, 2446, 2462)	CXK5164P/K	AMD	AD9048	(2419, 2446, 2462)	
		HEF4516				GM76C88	(2696, 2703)			Exar				AD9048	(2419, 2446, 2462)	
	Toshiba	TC4516B	(3341)	GoldStar	Hyundai	TLC271		CXK5164P	CXK5164P	ADC304		CXK5164P/K	AMD	ADC304		
		GE/RCA	CD4518			(2638)	GM76C88			(2696, 2703)	Exar				ADC304	
CM4520	Motorola	MC14518	(2942)	GoldStar	Hyundai	TLC271		CXK5164P	CXK5164P	IDT	(2858)	CXK5164P/K	AMD	IDT	(2858)	
		National	CD4518			F4518	GM76C88			(2696, 2703)	Exar				IDT	(2858)
	SGS-Thomson	HCC/HCF4518		Hitachi	Hitachi	TL061		CXK5164P	CXK5164P	AD9048	(2419, 2446, 2462)	CXK5164P/K	AMD	AD9048	(2419, 2446, 2462)	
		HEF4518				GM76C88	(2696, 2703)			Exar				AD9048	(2419, 2446, 2462)	
CM4520	Signetics	Toshiba	TC4518B	(3341)	Hitachi	Hitachi	TL061		CXK5164P	CXK5164P	ADC304		CXK5164P/K	AMD	ADC304	
		GE/RCA	CD4520	(2638)			GM76C88	(2696, 2703)			Exar				ADC304	
	Gould/AMI	S4520		Hitachi	Hitachi	TL061		CXK5164P	CXK5164P	IDT	(2858)	CXK5164P/K	AMD	IDT	(2858)	
						GM76C88	(2696, 2703)			Exar				IDT	(2858)	

• Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page																																																																																																																																																																																																																																																																																																																																																																					
Sony Corporation of America (Cont'd)				CKX5865P	Performance	P4C164	(Cont'd)	BCM20C16	Mitsubishi	M5M5117	(Cont'd)	BCM21C16	Matra-Harris	HM65162	(Cont'd)																																																																																																																																																																																																																																																																																																																																																																					
CKX5865	Motorola	(Cont'd)		S-MOS	P4C188	(3036)		BCM20C16	Motorola	M5M5118		BCM21C16	MicronTech	HM65163																																																																																																																																																																																																																																																																																																																																																																						
					SRM2064					M58275				Mitsubishi		HM65728																																																																																																																																																																																																																																																																																																																																																																				
	National	MCM6164C	Samsung	SRM2264	BCM20C16	MCM2016			BCM21C16	MT5C1608																																																																																																																																																																																																																																																																																																																																																																										
		DP8464	Sharp	LH5164	BCM20C16	MCM2016H				MS8725																																																																																																																																																																																																																																																																																																																																																																										
NEC	OKI			Sony	LH5165	(3036)		National OKI	MCM2018P			BCM21C16	Motorola	M5M116																																																																																																																																																																																																																																																																																																																																																																						
					μPD4364				MMC2116					M5M5117																																																																																																																																																																																																																																																																																																																																																																						
	MSM5164	MSM5128	BCM21C16	Motorola	M5M5118																																																																																																																																																																																																																																																																																																																																																																															
	MSM5165	MSM5129			MS8725																																																																																																																																																																																																																																																																																																																																																																															
Performance				STC	P4C164	(3036)		Performance	P4C116			BCM21C16	National OKI	MCM2016																																																																																																																																																																																																																																																																																																																																																																						
					P4C188				S-MOS					MCM2018P																																																																																																																																																																																																																																																																																																																																																																						
	SRM2064	Saratoga	MCM6116		BCM21C16	National OKI	MMC2116																																																																																																																																																																																																																																																																																																																																																																													
	SRM2264	SGS-Thomson	SSM6116				MSM2128																																																																																																																																																																																																																																																																																																																																																																													
Samsung				Vitelc	TC5565A	(3036)		Sharp	ET2128			BCM21C16	Performance	MSM5126																																																																																																																																																																																																																																																																																																																																																																						
					TC5588				MK2817					MSM5129																																																																																																																																																																																																																																																																																																																																																																						
	Sharp	LH5164	TMM2063	BCM20C16	Sharp	MK6116			BCM21C16	S-MOS	P4C116																																																																																																																																																																																																																																																																																																																																																																									
	LH5165	TMM2064	BCM20C16	Signetics	NE5517	SMC6116	SGS-Thomson	SSM6116	SGS-Thomson	ET2128																																																																																																																																																																																																																																																																																																																																																																										
Sony				VLSI Tech	V61C62	(3036)		TI	UDN6116			BCM21C16	S-MOS	UDN6116																																																																																																																																																																																																																																																																																																																																																																						
					V61C64				UDN6116					SGS-Thomson		ET2128																																																																																																																																																																																																																																																																																																																																																																				
	CKX5164P	VT20C99	Cypress	CV7C183	BCM20C16	UMC	UM6116		BCM21C16	TI	SMJ68CE16																																																																																																																																																																																																																																																																																																																																																																									
	CKX5863P	Fujitsu	MB81C79	BCM20C16	Vitelc	V62C16	VT20C18				SGS-Thomson		ET2128																																																																																																																																																																																																																																																																																																																																																																							
STC				Mitsubishi	V65C64	(3036)		VLSI Tech	VT20C18	(3343, 3345, 3349)		BCM21C16	Sharp	UDN6116																																																																																																																																																																																																																																																																																																																																																																						
					TC5565A				VT20C99					MB81C79		SGS-Thomson	ET2128																																																																																																																																																																																																																																																																																																																																																																			
	TC5585	NEC	μPD4369	BCM20C16	AMD	AM9114		BCM21C16	UMC	TC5517B																																																																																																																																																																																																																																																																																																																																																																										
	TC5588	Performance	P4C163	BCM20C16	Intel	AM9124				TC5517B		SGS-Thomson	ET2128																																																																																																																																																																																																																																																																																																																																																																							
VLSI Tech				Toshiba	SMJ69CE72	(3036)		Intel	2114A			BCM21C16	Vitelc	TC5517B																																																																																																																																																																																																																																																																																																																																																																						
					TC5589				2114-150					2114-200		2114-450	TC5517B																																																																																																																																																																																																																																																																																																																																																																			
	VT20C98	Datel	AD300	BCM21C14	Mitsubishi	M5L2114		BCM21C16	VLSI Tech	VT20C18	(3343, 3345, 3349)																																																																																																																																																																																																																																																																																																																																																																									
	VT20C99	Sony	GL3274	BCM21C14	Motorola	MCM2114				VT20C18																																																																																																																																																																																																																																																																																																																																																																										
CKX5865P				Honeywell	HAD77100	(2595)		Mitsubishi	M5L2114			BCM21C16	VLSI Tech	VT20C18	(3343, 3345, 3349)																																																																																																																																																																																																																																																																																																																																																																					
					SP97508				2114-200					2114-450		VT20C18																																																																																																																																																																																																																																																																																																																																																																				
	Dense-Pac	DPS88H08	Plessey	DAC330	BCM21C14	Motorola	M5L2114		BCM21C16	AMD	AM9114																																																																																																																																																																																																																																																																																																																																																																									
	Exar	XR8464	Datel	DAC330	BCM21C14	Motorola	M5L2114				AM9124																																																																																																																																																																																																																																																																																																																																																																									
Fujitsu				Sony	EX20106A	(2595)		National	F2114			BCM21C16	Mitsubishi	2114A																																																																																																																																																																																																																																																																																																																																																																						
					GL3274				2114-150					2114-200		2114-450	2114A																																																																																																																																																																																																																																																																																																																																																																			
	GE/RCA				Hitachi	HM6516	(2747)		OKI	MSM2114			BCM21C16	Motorola	LMH2114																																																																																																																																																																																																																																																																																																																																																																					
						HM6516				LMH2114					LMH2114		LMH2114																																																																																																																																																																																																																																																																																																																																																																			
GoldStar		GM76C88	GE/RCA	CDM6116	BCM21C14	UMC	UM6114		BCM21C16	Cypress	CY6116																																																																																																																																																																																																																																																																																																																																																																									
Hitachi		HM65642	GoldStar	GM76C28	BCM21C16	GE/Intersil	IH6116				GE/RCA		CDM6116	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A	CDM6116A

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Sprague Electric (Cont'd)				• SCL4008	SGS-Thomson	HCC/HCF4008		• SCL4016	Signetics	HEF4016 HEF4066		• SCL4026	SGS-Thomson	HCC/HCF4026	
• BCM6167	SGS-Thomson	MK41H66 MK41H67			Signetics	HEF4008		• SCL4016	Solitron	CM4016		• SCL4027	Solitron	CM4026	
• BCM6167	Sharp	LH5167		• SCL4009	Toshiba	TC4008B (3341)		• SCL4016	Toshiba	TC4016B (3341)		• SCL4027	GE/RCA	CD4027 (2638)	
	STC	STC2167			Motorola	CD4009	(2637)	• SCL4016	Motorola	CD4066			Motorola	MC14027	
• BCM6167	TI	SMJ61CD16			National	CD4009		• SCL4016	Unitrode	PIC7516		• SCL4027	National	MC14027B	
ICM7555	UMC	UM6167			SGS-Thomson	HCC/HCF4009		• SCL4017	GE/RCA	CD4017 (2638)				CD4027	
	AdvLinear	ALD1502			Solitron	CM4009		• SCL4017	Motorola	MC14017 (2943)		• SCL4027	OKI	CD4027B	
		ALD1504		• SCL4010	Toshiba	TC4009UB (3341)			National	F4017			Sanyo	MM74C76	
		ALD555			Motorola	CD4010	(2637)	• SCL4017	SGS-Thomson	HCC/HCF4017		• SCL4027	SGS-Thomson	MSM4027	
		ALD555-1			National	MC14010			Signetics	HEF4017				LC4027	
		LMC555		• SCL4010	SGS-Thomson	CD4010		• SCL4018	Signetics	HEF4017		• SCL4027	Signetics	HCC/HCF4027	
LM393	National	GL393	(2714)		Solitron	HCC/HCF4010		• SCL4018	Solitron	CM4017			Solitron	HEF4027	
	GoldStar	HA17393			Toshiba	TC4010B (3341)		• SCL4018	GE/RCA	TC4017B (3341)			Toshiba	CM4027	
	Hitachi	LM393	(2958, 2989)	• SCL4011	Motorola	CD4011 (2637)		• SCL4018	Motorola	MC14018 (2638)		• SCL4028	GE/RCA	TC4027B (3341)	
	Motorola	LM393		• SCL4011	Motorola	CD4011UB (2637)			National	MC14018 (2943)		• SCL4028	Motorola	CD4028 (2637)	
	National	LM393		• SCL4011	Motorola	MC14011 (2937)		• SCL4018	SGS-Thomson	HCC/HCF4018			National	CD4028	
	NEC	μPC393				MC14011UB (2937)			Signetics	HEF4018		• SCL4028	OKI	F4028	
		μPC393C		• SCL4011	National	CD4011		• SCL4019	Solitron	CM4018			Sanyo	MM74C42	
	Sanyo	LA6393		• SCL4011	OKI	CD4011UB			Toshiba	TC4018B (3341)			SGS-Thomson	MSM4028	
	SGS-Thomson	LM393		• SCL4011	Sanyo	F4011		• SCL4019	GE/RCA	CD4019 (2637, 2639)				LC4028	
	Signetics	LM393		• SCL4011	SGS-Thomson	MM74C00			National	CD4019		• SCL4029	Signetics	HCC/HCF4028	
• SCL4000	TI	TA75393		• SCL4011	OKI	MSM4011		• SCL4019	OKI	F4019		• SCL4029	Solitron	HEF4028	
• SCL4000	GE/RCA	CD4000 (2637)			Sanyo	LC4011		• SCL4019	Sanyo	F4019B		• SCL4029	Toshiba	TC4028B (3341)	
• SCL4000	Motorola	CD4000B (2637)		• SCL4012	SGS-Thomson	HCC/HCF4011			SGS-Thomson	MSM4019		• SCL4029	GE/RCA	CD40192 (2638)	
• SCL4000	National	MC14000 (2938)			Signetics	HEF4011		• SCL4020	OKI	LC4019			Motorola	CD4029 (2638)	
• SCL4000	SGS-Thomson	CD4000B (2938)		• SCL4012	Toshiba	TC4011B (3341)		• SCL4020	Sanyo	CD4019		• SCL4029	National	MC14029 (2942)	
• SCL4000	SGS-Thomson	HCC/HCF4000		• SCL4012	Motorola	TC4011UB (3341)			SGS-Thomson	HCC/HCF4019				CD40192	
• SCL4000	Signetics	HEF4000		• SCL4012	GE/RCA	CD4012 (2637)		• SCL4020	Signetics	HEF4019		• SCL4029	SGS-Thomson	F40192	
• SCL4001	Solitron	CM4000		• SCL4012	Motorola	MC14012 (2937)		• SCL4020	Solitron	CM4019				F4029	
• SCL4001	Toshiba	TC4000B (3341)		• SCL4013	National	F4012		• SCL4020	Toshiba	TC4019B (3341)		• SCL4029	HCC/HCF40192		
• SCL4001	Fujitsu	MB4001		• SCL4013	SGS-Thomson	HCC/HCF4012		• SCL4020	GE/RCA	CD4020 (2638)		• SCL4029	HCC/HCF4029		
• SCL4001	GE/RCA	CD4001 (2637)			Signetics	HEF4012		• SCL4020	Motorola	MC14020 (2943)		• SCL4029	Signetics	HEF40192	
• SCL4001	Motorola	CD4001UB (2637)		• SCL4013	Solitron	CM4012		• SCL4020	National	F4020		• SCL4029	Solitron	CM4029	
• SCL4001	Motorola	MC14001 (2938)		• SCL4013	Toshiba	TC4012B (3341)		• SCL4021	SGS-Thomson	HCC/HCF4020		• SCL4030	Toshiba	TC40192B (3341)	
• SCL4001	Motorola	MC14001UB (2938)		• SCL4013	GE/RCA	CD4013 (2638, 2656)		• SCL4021	Signetics	HEF4020		• SCL4030	GE/RCA	TC4029B (3341)	
• SCL4001	National	CD4001		• SCL4013	Motorola	CD4013		• SCL4021	Solitron	CM4020			National	CD4030	
• SCL4001	National	CD4001UB		• SCL4013	National	MC14013		• SCL4021	Toshiba	TC4020B (3341)		• SCL4030	SGS-Thomson	F4030	
• SCL4001	OKI	F4001		• SCL4013	OKI	F4013		• SCL4021	GE/RCA	CD4021 (2638)		• SCL4030	SGS-Thomson	HCC/HCF4030	
• SCL4001	Sanyo	MM74C02		• SCL4013	Sanyo	MM74C74		• SCL4021	Motorola	MC14021 (2943)		• SCL4030	Signetics	HEF4030	
• SCL4001	SGS-Thomson	MSM4001		• SCL4013	SGS-Thomson	MSM4013		• SCL4021	National	CD4021		• SCL4030	Solitron	CM4030	
	SGS-Thomson	LC4001B		• SCL4013	SGS-Thomson	LC4013		• SCL4021	SGS-Thomson	HCC/HCF4021		• SCL4033	Toshiba	TC4030B (3341)	
	Signetics	HCC/HCF4001		• SCL4014	Signetics	HCC/HCF4013		• SCL4022	Signetics	HEF4021		• SCL4033	GE/RCA	CD4033 (2638)	
	Solitron	HEF4001		• SCL4014	Solitron	HEF4013		• SCL4022	GE/RCA	TC4021B (3341)		• SCL4034	SGS-Thomson	HCC/HCF4033	
• SCL4002	Toshiba	TC4001B (3341)		• SCL4014	GE/RCA	CD4013 (2638)		• SCL4022	Motorola	CD4022 (2943)		• SCL4034	Solitron	CM4033	
• SCL4002	Fujitsu	TC4001UB (3341)		• SCL4014	Motorola	MC14014 (2944)		• SCL4022	National	CD4022		• SCL4034	GE/RCA	CD4034 (2638)	
• SCL4002	GE/RCA	CD4002 (2637)		• SCL4014	National	CD4014		• SCL4022	SGS-Thomson	F4022		• SCL4034	Motorola	MC14034 (2943)	
• SCL4002	Motorola	MC14002 (2938)		• SCL4014	SGS-Thomson	CD4014		• SCL4022	Signetics	HCC/HCF4022		• SCL4034	National	CD4034	
• SCL4002	National	CD4002		• SCL4014	SGS-Thomson	F4014		• SCL4022	Solitron	HEF4022		• SCL4034	SGS-Thomson	F4034	
• SCL4002	SGS-Thomson	F4002		• SCL4014	Signetics	HCC/HCF4014		• SCL4023	Toshiba	TC4022B (3341)		• SCL4040	Solitron	HCC/HCF4034	
• SCL4002	SGS-Thomson	HCC/HCF4002		• SCL4015	Solitron	HEF4014		• SCL4023	GE/RCA	CD4023 (2637)		• SCL4040	Toshiba	CM4034	
• SCL4006	Signetics	HEF4002		• SCL4015	Toshiba	TC4014B (3341)		• SCL4023	Motorola	MC14023 (2937)		• SCL4040	GE/RCA	TC4034B (3341)	
• SCL4006	Solitron	CM4002		• SCL4015	GE/RCA	CD4015 (2638)		• SCL4023	National	CD4023		• SCL4040	Motorola	CD4040 (2638)	
• SCL4006	Toshiba	TC4002B (3341)		• SCL4015	Motorola	MC14015 (2944)		• SCL4023	SGS-Thomson	F4023		• SCL4040	National	MC14040 (2943)	
• SCL4006	GE/RCA	CD4006 (2638, 2653)		• SCL4015	National	CD4015		• SCL4023	Signetics	MM74C10		• SCL4040	SGS-Thomson	CD4040	
• SCL4006	Motorola	MC14006 (2944)		• SCL4015	OKI	F4015		• SCL4023	SGS-Thomson	HCC/HCF4023		• SCL4040	SGS-Thomson	F4040	
• SCL4006	National	CD4006		• SCL4015	Sanyo	MM74C164		• SCL4023	Signetics	HEF4023		• SCL4040	Signetics	HCC/HCF4040	
• SCL4006	National	F4006		• SCL4015	SGS-Thomson	MSM4015		• SCL4024	Solitron	CM4023		• SCL4041	Solitron	HEF4040	
• SCL4006	SGS-Thomson	F4006B		• SCL4015	SGS-Thomson	LC4015		• SCL4024	Toshiba	TC4023 (3341)		• SCL4041	Toshiba	CM4040	
• SCL4006	SGS-Thomson	HCC/HCF4006		• SCL4016	Signetics	HCC/HCF4015		• SCL4024	GE/RCA	TC4023B (3341)		• SCL4041	GE/RCA	TC4040B (3341)	
• SCL4007	Signetics	HEF4006		• SCL4016	Solitron	HEF4015		• SCL4024	Motorola	CD4024 (2638)		• SCL4041	Motorola	CD4041 (2637, 2656)	
• SCL4007	Toshiba	TC4006B (3341)		• SCL4016	GE/RCA	CD4016 (2639, 2653, 2655)		• SCL4024	National	MC14024 (2943)		• SCL4041	National	CD4041	
• SCL4007	Motorola	CD4007 (2637)		• SCL4016	Motorola	MC14016 (2945)		• SCL4024	SGS-Thomson	HCC/HCF4024		• SCL4041	SGS-Thomson	F4041	
• SCL4007	National	CD4007		• SCL4016	National	CD4016		• SCL4024	Signetics	HEF4024		• SCL4042	Signetics	HCC/HCF4041	
• SCL4007	SGS-Thomson	F4007		• SCL4016	SGS-Thomson	CD4066 (2639, 2655, 2658)		• SCL4025	Solitron	CM4024		• SCL4042	GE/RCA	HEF4041	
• SCL4007	SGS-Thomson	HCC/HCF4007		• SCL4016	Motorola	MC14016 (2945)		• SCL4025	Toshiba	TC4024B (3341)		• SCL4042	Motorola	CM4041	
• SCL4008	Signetics	HEF4007		• SCL4016	National	CD4016		• SCL4025	GE/RCA	CD4025 (2637)		• SCL4042	National	MC14042 (2941)	
• SCL4008	Solitron	CM4007		• SCL4016	Sanyo	F4016		• SCL4025	Motorola	MC14025 (2938)		• SCL4042	SGS-Thomson	HCC/HCF4042	
• SCL4008	Toshiba	TC4007UB (3341)		• SCL4016	SGS-Thomson	F4066		• SCL4025	Signetics	HCC/HCF4025		• SCL4043	Signetics	HEF4042	
• SCL4008	GE/RCA	CD4008 (2639)		• SCL4016	SGS-Thomson	LC4016		• SCL4025	Solitron	HEF4025		• SCL4043	Toshiba	CM4042	
• SCL4008	Motorola	MC14008 (2947)		• SCL4016	SGS-Thomson	LC4066		• SCL4025	Toshiba	TC4025B (3341)		• SCL4043	GE/RCA	TC4042B (3341)	
• SCL4008	National	CD4008		• SCL4016	SGS-Thomson	HCC/HCF4016		• SCL4025	Motorola	MC14025 (2938)		• SCL4043	Motorola	CD4043 (2638)	
• SCL4008	National	F4008		• SCL4016	SGS-Thomson	HCC/HCF4066		• SCL4025	Signetics	HEF4025		• SCL4043	National	MC14043 (2941)	
• SCL4008	National	MM74C83		• SCL4016	SGS-Thomson	HCC/HCF4066		• SCL4025	Toshiba	TC4025B (3341)		• SCL4043	National	CD4043	

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	IC Master Page	Manufacturer Device	Replacement Source	IC Master Page	Manufacturer Device	Replacement Source	IC Master Page	Manufacturer Device	Replacement Source	IC Master Page	Manufacturer Device	Replacement Source	IC Master Page
Sprague Electric (Cont'd)			• SCL4066	Sanyo	LC4016 LC4066	• SCL4076	National	(Cont'd)	• SCL4099B	National	CD4099B	• SCL4099B	National	CD4099B
• SCL4043	SGS-Thomson	(Cont'd)	• SCL4066	SGS-Thomson	HCC/HCF4016 HCC/HCF4066	• SCL4076	SGS-Thomson	MM54C173 MM74C173	• SCL4099B	SGS-Thomson	HCC/HCF4099 HCC/HCF4099B	• SCL4099B	Toshiba	TC4099B (3341)
	Signetics	HEF4043	• SCL4066	Signetics	HEF4016	• SCL4076	Signetics	HEF4076	• SCL4160	GE/RCA	CD40160 (2638)	• SCL4160	GE/RCA	CD40160 (2638)
	Solitron	CM4043	• SCL4066	Solitron	CM4016	• SCL4077	Solitron	CM4076	• SCL4160	Motorola	MC14160 (2942)	• SCL4160	Motorola	MC14160 (2942)
• SCL4046	Toshiba	TC4043B (3341)	• SCL4066	Solitron	CM4016	• SCL4077	Toshiba	TC4076B (3341)	• SCL4160	National	CD40160 CD40160B F40160	• SCL4160	National	CD40160 CD40160B F40160
	GE/RCA	CD4046 (2639, 2656)	• SCL4066	Solitron	CM4066	• SCL4077	GE/RCA	CD4077 (2637, 2639)	• SCL4160	SGS-Thomson	HCC/HCF40160 HCC/HCF40160B	• SCL4160	SGS-Thomson	HCC/HCF40160 HCC/HCF40160B
	Motorola	MC14046 CD4046 F4046	• SCL4066	Motorola	TC4016B (3341)	• SCL4077	Motorola	MC14077 (2938)	• SCL4160	Signetics	HEF40160	• SCL4160	Signetics	HEF40160
• SCL4046	SGS-Thomson	HCC/HCF4046	• SCL4068	Unitrode	PIC7516	• SCL4077	National	CD4077	• SCL4161	Toshiba	TC40160 (3341)	• SCL4161	Toshiba	TC40160 (3341)
• SCL4047	Solitron	CM4046	• SCL4068	Motorola	MC14068 (2937)	• SCL4077	Raytheon	F4077	• SCL4161	GE/RCA	CD40160 (3341)	• SCL4161	GE/RCA	CD40160 (3341)
• SCL4047	National	CD4047 F4047	• SCL4068	SGS-Thomson	HCC/HCF4068	• SCL4077	SGS-Thomson	HCC/HCF4077 HCC/HCF4077B	• SCL4161	Motorola	MC14016B (2945)	• SCL4161	Motorola	MC14016B (2945)
• SCL4047	SGS-Thomson	HCC/HCF4047	• SCL4069	Signetics	HEF4068	• SCL4077	Signetics	HEF4077	• SCL4161	National	CD40161 CD40161B F40161	• SCL4161	National	CD40161 CD40161B F40161
	Signetics	HEF4047	• SCL4069	Solitron	CM4068	• SCL4077	Solitron	CM4077	• SCL4161	Panasonic	MN40161	• SCL4161	Panasonic	MN40161
• SCL4049	Toshiba	TC4047B (3341)	• SCL4069	Motorola	MC14069 (2939)	• SCL4077	Toshiba	TC4077B (3341)	• SCL4162	SGS-Thomson	HCC/HCF40161 HCC/HCF40161B	• SCL4162	SGS-Thomson	HCC/HCF40161 HCC/HCF40161B
• SCL4049	GE/RCA	CD4049 (2637, 2656)	• SCL4069	National	F4068	• SCL4078	GE/RCA	CD4078 (2637)	• SCL4162	Signetics	HEF40161	• SCL4162	Signetics	HEF40161
	Motorola	MC14049 CD4049 F4049	• SCL4069	SGS-Thomson	HCC/HCF4068	• SCL4078	Motorola	MC14078 (2938)	• SCL4162	Toshiba	TC40161 (3341)	• SCL4162	Toshiba	TC40161 (3341)
• SCL4049	National	CD4049 F4049	• SCL4069	OKI	MM54C04 MM74C04	• SCL4078	National	F4078	• SCL4162	GE/RCA	CD40162 (2638)	• SCL4162	GE/RCA	CD40162 (2638)
• SCL4049	OKI	MSM4049	• SCL4069	Sanyo	LC4069	• SCL4078	SGS-Thomson	HCC/HCF4078	• SCL4162	Motorola	MC140162B (2638)	• SCL4162	Motorola	MC140162B (2638)
	Sanyo	LC4049	• SCL4069	SGS-Thomson	HCC/HCF4069	• SCL4081	Signetics	HEF4078	• SCL4162	National	CD40162 CD40162B F40162	• SCL4162	National	CD40162 CD40162B F40162
	SGS-Thomson	HCC/HCF4049	• SCL4070	Signetics	HEF4069	• SCL4081	Solitron	CM4078	• SCL4162	SGS-Thomson	HCC/HCF40162 HCC/HCF40162B	• SCL4162	SGS-Thomson	HCC/HCF40162 HCC/HCF40162B
• SCL4050	Signetics	HEF4049	• SCL4070	Solitron	CM4069	• SCL4081	Toshiba	TC4078B (3341)	• SCL4162	Signetics	HEF40162	• SCL4162	Signetics	HEF40162
	Solitron	CM4049	• SCL4070	Motorola	MC14070 (2938)	• SCL4081	GE/RCA	CD4081 (2637)	• SCL4163	Toshiba	TC40162 (3341)	• SCL4163	Toshiba	TC40162 (3341)
• SCL4050	Toshiba	TC4049B (3341)	• SCL4070	National	F4069	• SCL4081	Motorola	MC14081 (2937)	• SCL4163	GE/RCA	CD40163 (2638)	• SCL4163	GE/RCA	CD40163 (2638)
	GE/RCA	CD4050 (2637, 2656)	• SCL4070	SGS-Thomson	MM54C04 MM74C04	• SCL4081	National	CD4081	• SCL4163	Motorola	MC140163B (2942)	• SCL4163	Motorola	MC140163B (2942)
	Motorola	MC14050 CD4050 F4050	• SCL4070	OKI	MSM4069	• SCL4081	SGS-Thomson	HCC/HCF4081	• SCL4163	National	CD40163 CD40163B F40163	• SCL4163	National	CD40163 CD40163B F40163
• SCL4050	SGS-Thomson	HCC/HCF4050	• SCL4070	Sanyo	LC4069	• SCL4082	Signetics	HEF4081	• SCL4163	SGS-Thomson	HCC/HCF40163B	• SCL4163	SGS-Thomson	HCC/HCF40163B
• SCL4051	Signetics	HEF4050	• SCL4071	SGS-Thomson	HCC/HCF4070	• SCL4082	Solitron	CM4081	• SCL4163	Signetics	HEF40163	• SCL4163	Signetics	HEF40163
	Solitron	CM4050	• SCL4071	Signetics	HEF4070	• SCL4082	Toshiba	TC4081B	• SCL4174B	Toshiba	TC40163 (3341)	• SCL4174B	Toshiba	TC40163 (3341)
• SCL4051	Toshiba	TC4050B (3341)	• SCL4071	Motorola	MC14071 (2937)	• SCL4082	GE/RCA	CD4082 (2637)	• SCL4174B	GE/RCA	CD40174B (2638)	• SCL4174B	GE/RCA	CD40174B (2638)
	GE/RCA	CD4051 (2639, 2655, 2658)	• SCL4071	National	CD4071	• SCL4082	Motorola	MC14082 (2937)	• SCL4174B	Motorola	MC140174B	• SCL4174B	Motorola	MC140174B
	Motorola	MC14051 (2945)	• SCL4071	SGS-Thomson	MM74C32	• SCL4082	National	F4082	• SCL4174B	National	CD40174B	• SCL4174B	National	CD40174B
• SCL4051	SGS-Thomson	HCC/HCF4051	• SCL4071	OKI	MSM4071	• SCL4082	NEC	μPC4082	• SCL4174B	SGS-Thomson	HCC/HCF40174 HCC/HCF40174B	• SCL4174B	SGS-Thomson	HCC/HCF40174 HCC/HCF40174B
• SCL4052	Signetics	HEF4051	• SCL4071	Sanyo	LC4071	• SCL4082	SGS-Thomson	HCC/HCF4082	• SCL4174B	Signetics	HEF40174	• SCL4174B	Signetics	HEF40174
	Solitron	CM4051	• SCL4071	SGS-Thomson	HCC/HCF4071	• SCL4082	Signetics	HEF4082	• SCL4192	GE/RCA	CD40192 (2638)	• SCL4192	GE/RCA	CD40192 (2638)
• SCL4052	Toshiba	TC4051B (3341)	• SCL4071	Motorola	MC14071 (2937)	• SCL4082	Toshiba	TC4082B	• SCL4192	Motorola	MC14029 (2638)	• SCL4192	Motorola	MC14029 (2638)
• SCL4052B	Harris	HI1828A	• SCL4071	SGS-Thomson	HCC/HCF4071B	• SCL4082	SGS-Thomson	HCC/HCF4082	• SCL4192	National	CD40192 CD40192B F40192	• SCL4192	National	CD40192 CD40192B F40192
	Motorola	MC14052 (2945)	• SCL4071	Signetics	HEF4071	• SCL4082	Signetics	HEF4082	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B
• SCL4052B	Toshiba	TC4052B (3341)	• SCL4071	Solitron	CM4071	• SCL4082	Signetics	HEF4082	• SCL4192	Signetics	HEF40192	• SCL4192	Signetics	HEF40192
	GE/RCA	CD4052 (2639, 2653, 2655)	• SCL4071	Toshiba	TC4071B	• SCL4082	Toshiba	TC4082B	• SCL4192	GE/RCA	CD40192 (2638)	• SCL4192	GE/RCA	CD40192 (2638)
	National	CD4052 CD4052B F4052	• SCL4071	Fujitsu	MB4072	• SCL4082	SGS-Thomson	HCC/HCF4082	• SCL4192	Motorola	MC14029 (2638)	• SCL4192	Motorola	MC14029 (2638)
• SCL4052B	SGS-Thomson	HCC/HCF4052	• SCL4071	Motorola	MC14071 (2937)	• SCL4082	Signetics	HEF4082	• SCL4192	National	CD40192 CD40192B F40192	• SCL4192	National	CD40192 CD40192B F40192
• SCL4053	Signetics	HEF4052	• SCL4071	National	CD4071	• SCL4082	Signetics	HEF4082	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B
	Solitron	CM4052	• SCL4071	OKI	MSM4071	• SCL4082	Toshiba	TC4082B	• SCL4192	Signetics	HEF40192	• SCL4192	Signetics	HEF40192
• SCL4053	GE/RCA	CD4053 (2639, 2655, 2658)	• SCL4071	Sanyo	LC4071	• SCL4082	SGS-Thomson	HCC/HCF4082	• SCL4192	GE/RCA	CD40192 (2638)	• SCL4192	GE/RCA	CD40192 (2638)
	Motorola	MC14053 (2945)	• SCL4071	SGS-Thomson	HCC/HCF4071	• SCL4082	Signetics	HEF4082	• SCL4192	Motorola	MC14029 (2638)	• SCL4192	Motorola	MC14029 (2638)
• SCL4053	SGS-Thomson	HCC/HCF4053	• SCL4071	Motorola	MC14071 (2937)	• SCL4082	Signetics	HEF4082	• SCL4192	National	CD40192 CD40192B F40192	• SCL4192	National	CD40192 CD40192B F40192
• SCL4060	Signetics	HEF4053	• SCL4071	SGS-Thomson	HCC/HCF4071B	• SCL4082	Signetics	HEF4082	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B
	Solitron	CM4053	• SCL4071	Signetics	HEF4071	• SCL4082	Signetics	HEF4082	• SCL4192	Signetics	HEF40192	• SCL4192	Signetics	HEF40192
• SCL4066	GE/RCA	CD4066 (2639, 2653, 2655)	• SCL4071	Motorola	MC14071 (2937)	• SCL4082	Toshiba	TC4082B	• SCL4192	GE/RCA	CD40192 (2638)	• SCL4192	GE/RCA	CD40192 (2638)
	Motorola	MC14066 (2943)	• SCL4071	SGS-Thomson	HCC/HCF4071	• SCL4082	SGS-Thomson	HCC/HCF4082	• SCL4192	Motorola	MC14029 (2638)	• SCL4192	Motorola	MC14029 (2638)
• SCL4066	National	CD4066 F4066	• SCL4071	Signetics	HEF4071	• SCL4082	Signetics	HEF4082	• SCL4192	National	CD40192 CD40192B F40192	• SCL4192	National	CD40192 CD40192B F40192
	SGS-Thomson	HCC/HCF4060	• SCL4071	Solitron	CM4073	• SCL4082	Signetics	HEF4082	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B
• SCL4066	Signetics	HEF4060	• SCL4071	Motorola	MC14073 (2937)	• SCL4082	Signetics	HEF4082	• SCL4192	Signetics	HEF40192	• SCL4192	Signetics	HEF40192
	GE/RCA	CD4016 (2639, 2653, 2655)	• SCL4071	SGS-Thomson	HCC/HCF4073	• SCL4082	Signetics	HEF4082	• SCL4192	GE/RCA	CD40192 (2638)	• SCL4192	GE/RCA	CD40192 (2638)
• SCL4066	Motorola	MC14016 (2945)	• SCL4071	Signetics	HEF4073	• SCL4082	Signetics	HEF4082	• SCL4192	Motorola	MC14029 (2638)	• SCL4192	Motorola	MC14029 (2638)
	National	CD4016 CD4066 F4016 F4066	• SCL4071	Solitron	CM4073	• SCL4082	Signetics	HEF4082	• SCL4192	National	CD40192 CD40192B F40192	• SCL4192	National	CD40192 CD40192B F40192
	SGS-Thomson	HCC/HCF4060	• SCL4071	Motorola	MC14075 (2937)	• SCL4082	Signetics	HEF4082	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B
• SCL4066	Signetics	HEF4060	• SCL4071	SGS-Thomson	HCC/HCF4073	• SCL4082	Signetics	HEF4082	• SCL4192	Signetics	HEF40192	• SCL4192	Signetics	HEF40192
	GE/RCA	CD4016 (2639, 2653, 2655)	• SCL4071	Signetics	HEF4073	• SCL4082	Signetics	HEF4082	• SCL4192	GE/RCA	CD40192 (2638)	• SCL4192	GE/RCA	CD40192 (2638)
• SCL4066	Motorola	MC14016 (2945)	• SCL4071	Solitron	CM4073	• SCL4082	Signetics	HEF4082	• SCL4192	Motorola	MC14029 (2638)	• SCL4192	Motorola	MC14029 (2638)
	National	CD4016 CD4066 F4016 F4066	• SCL4071	Motorola	MC14075 (2937)	• SCL4082	Signetics	HEF4082	• SCL4192	National	CD40192 CD40192B F40192	• SCL4192	National	CD40192 CD40192B F40192
	SGS-Thomson	HCC/HCF4060	• SCL4071	SGS-Thomson	HCC/HCF4073	• SCL4082	Signetics	HEF4082	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B
• SCL4066	Signetics	HEF4060	• SCL4071	Signetics	HEF4073	• SCL4082	Signetics	HEF4082	• SCL4192	Signetics	HEF40192	• SCL4192	Signetics	HEF40192
	GE/RCA	CD4016 (2639, 2653, 2655)	• SCL4071	Solitron	CM4073	• SCL4082	Signetics	HEF4082	• SCL4192	GE/RCA	CD40192 (2638)	• SCL4192	GE/RCA	CD40192 (2638)
• SCL4066	Motorola	MC14016 (2945)	• SCL4071	Motorola	MC14075 (2937)	• SCL4082	Signetics	HEF4082	• SCL4192	Motorola	MC14029 (2638)	• SCL4192	Motorola	MC14029 (2638)
	National	CD4016 CD4066 F4016 F4066	• SCL4071	SGS-Thomson	HCC/HCF4073	• SCL4082	Signetics	HEF4082	• SCL4192	National	CD40192 CD40192B F40192	• SCL4192	National	CD40192 CD40192B F40192
	SGS-Thomson	HCC/HCF4060	• SCL4071	Signetics	HEF4073	• SCL4082	Signetics	HEF4082	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B	• SCL4192	SGS-Thomson	HCC/HCF40192 HCC/HCF40192B
• SCL4066	Signetics	HEF4060	• SCL4071	Solitron	CM4073	• SCL4082	Signetics	HEF4082	• SCL4192	Signetics	HEF40192	• SCL4192	Signetics	HEF40192
	GE/RCA	CD4016 (2639, 2653, 2655)	• SCL4071	Motorola	MC14075 (2937)	• SCL4082	Signetics	HEF4082	• SCL4192	GE/RCA	CD40192 (2638)	• SCL4192	GE/RCA	CD40192 (2638)
• SCL4066	Motorola	MC14016 (2945)	• SCL4071	SGS-Thomson										

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Sprague Electric (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
* SCL4402	SGS-Thomson	HCC/HCF4048	(Cont'd)	* SCL4515	Solitron	CM4515	(Cont'd)	* SCL4555	SGS-Thomson	HCC/HCF4555	(Cont'd)	* SCM21C16	Krueger	2128-200	(2877)
* SCL4445	GE/RCA	CD4521B (2638)		* SCL4516	Toshiba	TC4515B (3341)		* SCL4556	Signetics	HEF4555	(3341)			6116-120	(2877)
	Gould/AMI	S4521			GE/RCA	CD4516 (2638)			Toshiba	TC4555B (2637, 2639)				6116-150	(2877)
	Motorola	MC14521 (2946)			Motorola	MC14516 (2942)			GE/RCA	CD4556 (2637, 2639)				6116-200	(2877)
	National	F4521			National	CD4516 F4516			Motorola	MC14556 (2945)				6116LP-120	(2877)
	SGS-Thomson	HCC/HCF4045		* SCL4516	SGS-Thomson	HCC/HCF4516			National	F4556				6116LP-150	(2877)
	Signetics	HEF4521			Signetics	HEF4516			Raytheon	RC4556				6116LP-200	(2877)
	Solitron	CM4045		* SCL4517	Toshiba	TC4516B (3341)		* SCL4581	SGS-Thomson	HCC/HCF4556		* SCM21C16	Matra-Harris	HM6166	
	Toshiba	TC4521B (3341)			GE/RCA	CD4517 (2638, 2653)			Signetics	HEF4556				HM65161	
* SCL4449	GE/RCA	CD4069 (2637)			Motorola	MC14517 (2944)			Toshiba	TC4556B (3341)				HM65162	
	Motorola	MC14069 (2939)			SGS-Thomson	HCC/HCF4517			GE/RCA	CD40181 (2639)				HM65163	
	National	CD4069 F4069		* SCL4518	Signetics	HEF4517			Motorola	MC14581 (2947)				HN65728	
		MM54C04			GE/RCA	CD4518 (2638)		* SCL4582	SGS-Thomson	HCC/HCF40181		* SCM21C16	MicronTech	MT5C1608	
		MM74C04			Motorola	MC14518 (2942)			GE/RCA	CD40182 (2639)			Mitsubishi	MS8725	
* SCL4449	OKI	MSM4069			National	CD4518 F4518			Motorola	MC14582 (2947)				M5M116	
	Sanyo	LC4069		* SCL4518	SGS-Thomson	HCC/HCF4518		* SCL4582	National	F4582				M5M5116	
	SGS-Thomson	HCC/HCF4069			Signetics	HEF4518			SGS-Thomson	MM74C182				M5M5118	
	Signetics	HEF4069			Solitron	CM4518		* SCL4584	SGS-Thomson	HCC/HCF40182				M58275	
	Solitron	CM4069		* SCL4520	Toshiba	TC4518B (3341)			GE/RCA	CD40106 (2637, 2653)		* SCM21C16	Motorola	MCM2016	
	Toshiba	TC4069UB (3341)			GE/RCA	CD4520 (2638)		* SCL4584	Motorola	CD4584B				MCM2016H	
* SCL4502	GE/RCA	CD4502 (2637)			Gould/AMI	S4520			Motorola	MC14106 (2940)				MCM2018P	
	Motorola	MC14502 (2939)			Motorola	MC14520 (2942)			National	MC14584B (2940)		* SCM21C16	National	MCM6116	
	SGS-Thomson	HCC/HCF4502			National	CD4520 F4520			SGS-Thomson	CD40106			OKI	MCM2116	
		HCC/HCF4502B		* SCL4520	OKI	MSM4520				CD4584				MSM2128	
		MK4502			Sanyo	LC4520				CD4584B				MSM5126	
	Signetics	HEF4502			SGS-Thomson	HCC/HCF4520				F40014				MSM5128	
	Toshiba	TC4502B (3341)			Signetics	HEF4520		* SCL4584	SGS-Thomson	MM54C14		* SCM21C16	Performance	MSM5129	
	Unicorn	UC4502			Solitron	CM4520			Signetics	MM74C14			P4C116		
* SCL4504B	GE/RCA	CD4504B (2637)		* SCL4522	Toshiba	TC4520B (3341)			Toshiba	HCC/HCF40106			S-MOS	SMC6116	
	Motorola	MC14504 (2939)			GE/RCA	CD4522B (2638)			Signetics	HEF40106			Saratoga	SSM6116	
	Motorola	MC14504B (2939)			Motorola	MC14522B (2943)			Toshiba	TC4584B (3341)		* SCM21C16	Sharp	ET2128	
	SGS-Thomson	HCC/HCF4508		* SCL4522	National	CD4522			GE/RCA	CD4585 (2639)			Signetics	MK2817	
		HEF4508		* SCL4526	Toshiba	TC4522B (3341)			Motorola	MC14585 (2946)			Sony	NC5517	
	Signetics	HEF4508B (3341)			Motorola	MC14526 (2943)			National	F40085			Sprague	UDN6116	
	Toshiba	TC4510B (2638)			National	CD4526			SGS-Thomson	MM74C85			STC	STC2018	
	Motorola	MC14510 (2942)		* SCL4526	Signetics	HEF4526				HCC/HCF4585				STC6116	
	National	CD4510 F4510			Toshiba	TC4526B (3341)		* SCM21C14	Signetics	HEF4585			TI	SMJ68CE16	
* SCL4510	SGS-Thomson	HCC/HCF4510		* SCL4527	GE/RCA	CD4527 (2639)			Toshiba	TC4585B			Toshiba	TC5517B	
	Signetics	HEF4510			Motorola	MC14527 (2947)			AMD	AM9114				TMM2015A	
	Solitron	CM4510			National	CD4527 F4527			Intel	AM9124				TMM2018	
	Toshiba	TC4510B (3341)			SGS-Thomson	HCC/HCF4527			Krueger	2114A				TMM2018AP	
	GE/RCA	CD4511 (2656, 2658)		* SCL4528	Signetics	HEF4527				2114-150 (2877)		* SCM21C16	UMC	UM6116	
	Motorola	MC14511 (2946, 2985)			Toshiba	TC4527B (3341)				2114-200 (2877)			Vitelc	V61C16	
	National	CD4511 F4511			Motorola	MC14528				2114-450 (2877)				V62C16	
* SCL4511	NEC	μPD4511			National	CD4528 F4528				MSL2114				VT20C18 (3343, 3345, 3349)	
	SGS-Thomson	HCC/HCF4511		* SCL4528	SGS-Thomson	HCC/HCF4098				MCM2114					
	Signetics	HEF4511			Signetics	HEF4528				MCM2114					
	Solitron	CM4511			Toshiba	TC4528B (3341)				MSL2114					
	Toshiba	TC4511B (3341)			Motorola	MC14531 (2947)				F2114					
	GE/RCA	CD4512 (2653)			National	CD4528 F4528				NMC2114A					
	Motorola	MC14512 (2944)			SGS-Thomson	MM74C221				MSM2114					
	National	CD4512 F4512		* SCL4528	SGS-Thomson	HCC/HCF4098				R6514					
* SCL4512	SGS-Thomson	HCC/HCF4512			Signetics	HEF4528				LH2114					
	Toshiba	TC4512B (3341)			Toshiba	TC4528B (3341)				TMM2114A					
	GE/RCA	CD4514 (2637)			Motorola	MC14531 (2947)				TMM314A					
	Motorola	MC14514 (2945)			National	F4531				UM6114					
	National	F4514			SGS-Thomson	HCC/HCF40101				CY6116					
* SCL4514	SGS-Thomson	HCC/HCF4514			Signetics	HEF4531				CY7C128 (2580)					
	Signetics	HEF4514			Toshiba	TC4531B (3341)				GE/Intersil	IH6116 (2670)				
	Solitron	CM4514			GE/RCA	CD4532 (2637)				GE/RCA	CDM6116 (2644, 2653)				
	Toshiba	TC4514B (3341)			Motorola	MC14532 (2946)				CDM6116A (2644, 2653)					
	GE/RCA	CD4515 (2637)			National	F4532				GM76C28 (2696, 2700)					
	Motorola	MC14515 (2945)			SGS-Thomson	HCC/HCF4532				HM6516 (2747)					
* SCL4515	SGS-Thomson	HCC/HCF4515			Signetics	HEF4532				HM65162 (2747)					
	Signetics	HEF4515			Toshiba	TC4532B (3341)				HM6716					
		(Continued)			GE/RCA	CD4543 (2639, 2653, 2656)				HM6719					
					Motorola	MC14543 (2946, 2985)				HY61C16A					
					National	CD4543 F4543				HY6116A (2778)					
					SGS-Thomson	HCC/HCF4532				IMS1433					
					Signetics	HEF4532				IDT6116 (2835)					
					Toshiba	TC4543B (3341)				IDT6116A (2835)					
					GE/RCA	CD4555 (2637, 2639)				IDT6116L (2835)					
					Motorola	MC14555 (2945)				IDT6116S (2835)					
					National	F4555				IDT6166					
						(Continued)				81C28					
										2128-100 (2877)					
										2128-120 (2877)					
										2128-150 (2877)					
										(Continued)					

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Sprague Electric (Cont'd)				• SCM5101	AMD	AM2101 AM91L01 AM9101		• SCM6116	Sharp Signetics Sony Sprague STC	LH5115 NE5517 CXK5814P UDN6116 STC2018 STC6116 SMJ68CE16 TC5517B TMM2015A TMM2018 TMM2018AP		• SCM6168	VLSI Tech	(Cont'd)	
• SCM23C128	AMD Gould/AMI Microchip Mitsubishi NCR Signetics Supertex UMC VLSI Tech	AM9128 S23128 R09128 M5M23128 NCR23128 23128 CM1310 UM23128 VT23128 VT23129 VT23129A VT23130 VT23131 VT23138		• SCM5101	Datal Harris Intel MicroNet Mitsubishi Motorola	ADC5101 HA5101 5101 MN5101 MSL5101 MCM51L01 MCM145101	(2595) (2767)	• SCM6116	TI Toshiba	SG3524 Cherry Semi Exar GE/RCA IPS LinearTech National SGS-Thomson	VT20C69 VT20C98 VT2069 CS3524 XR3524 CA3524 IP3524 IP3524B LT3524 LM3524	(3343, 3345, 3350)			
• SCM23C256	Dense-Pac Gould/AMI Mitsubishi NCR	DPS92256 S23256 M5M23256 NCR23256 NCR23257 MSM38256 MN23256 MN23257 SMM23256 SMM6325 SMM6326	(2609)	• SCM5101	National Panasonic Sharp AMD CMD Micro Cypress Harris	MM74C920 MNS101 LH5101 AM9124 G2114 CY7C148 HA5114 HM6514 IMS1223	(2580) (2748) (2789)	• SCM6116	UMC Vitellic	SG3524 Signetics SiliconG TI Toshiba Unitrode	SG3524 UC3524A SG3524 SG3524B SG3524 TA76524 UC3524 UC3524A	(2619) (2651, 2657, 2659)			
• SCM23C256	OKI Panasonic	MSM38256 MN23256 MN23257 SMM23256 SMM6325 SMM6326		• SCM5114	Inmos Intel Matra-Harris Mitsubishi OKI Sanyo Signetics UMC SiliconG	5114 HM6514 M58981 MSM5114 LC3514 5114 UM6104 SG3851		• SCM6116	VLSI Tech	SG3526 IPS LinearTech SiliconG Unitrode	IP3526 LT3526 SG3526 UC3526 UC3626				
• SCM23C256	S-MOS	SMM23256 SMM6325 SMM6326		• SCM6113	Sprague Cypress	ULN2011 CY6116 CY7C128 IH6116 CDM6116	(2580) (2670) (2644, 2653)	• SCM6167	IDT Intel Matra-Harris	MT5C1601 M5M21C67 M5M2167 μPD4311 SRM2267 SRM2367		• SN54HC137	GE/RCA Motorola	CD54HC137 MC54HC137	(2640) (2945)
• SCM23C256	Signetics	23256 23256A TC53257 VT23256 VT23257		• SCM6116	GE/Intersil GE/RCA	CDM6116A GM76C28 HM6516 HM65162 HM6116 HM6716 HM6719 HY61C16A	(2644, 2653) (2696, 2700) (2747) (2778)	• SCM6167	MicronTech Mitsubishi	SCM6168 AMD	MMI	MM54HC237 SN54HC137 CD54HC237			
• SCM27C128	Hitachi Intel	HN27C128 M27C128 27C128A 27C128-200 27C128-250		• SCM6116	GoldStar Harris	GM76C28 HM6516 HM65162 HM6116 HM6716 HM6719 HY61C16A	(2696, 2700) (2747) (2778)	• SCM6167	Sharp STC	SCM6168 AMD	MMI	MM54HC237 SN54HC137 CD54HC237			
• SCM27C128	Krueger	27C128-200 27C128-250		• SCM6116	Hitachi	HM6116 HM6716 HM6719 HY61C16A	(2747) (2778)	• SCM6167	TI UMC	SCM6168 AMD	MMI	MM54HC237 SN54HC137 CD54HC237			
• SCM27C128	Microchip Mitsubishi TI	27C128 M5L27C128 SMJ27C128 TMS27C128 TMS27PC128	(2912) (3286) (3326) (3326)	• SCM6116	Hyundai	HY61C16A HY6116A IMS1433 IDT6116 IDT6116A IDT6116L IDT6116S IDT6166 81C28	(2778) (2835) (2835) (2835) (2877)	• SCM6167	Sharp STC	SCM6168	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10	(4257)		
• SCM27C128	VLSI Tech	VT27C128 WS27C128		• SCM6116	Inmos IDT	IMS1433 IDT6116 IDT6116A IDT6116L IDT6116S IDT6166 81C28	(2835) (2835) (2835) (2877)	• SCM6167	TI UMC AMD	SCM6168 AMD	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C256	AMD	AM27C256 AT27C256		• SCM6116	Intel Krueger	2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2835) (2835) (2835) (2877) (2877) (2877) (2877) (2877) (2877) (2877)	• SCM6167	Sharp STC	SCM6168	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C256	Atmel Fujitsu	MBM27C256A HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300	(2628)	• SCM6116	Intel Krueger	2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877)	• SCM6167	TI UMC AMD	SCM6168 AMD	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C256	Hitachi Intel	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300		• SCM6116	Intel Krueger	2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877)	• SCM6167	TI UMC AMD	SCM6168 AMD	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C256	Krueger	27C256-200 27C256-250 27C256-300		• SCM6116	Intel Krueger	2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877)	• SCM6167	TI UMC AMD	SCM6168 AMD	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C256	Microchip	RO9256 27C256 27C256-200 27C256-250 27C256-300		• SCM6116	Intel Krueger	2128-100 2128-120 2128-150 2128-200 6116-120 6116-150 6116-200 6116LP-120 6116LP-150 6116LP-200	(2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877) (2877)	• SCM6167	TI UMC AMD	SCM6168 AMD	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C256	Mitsubishi National NEC OKI SEEQ SGS-Thomson	M5L27256 NMC27C256 μPD27C256A MSM27C256 27C256 TS27C256 27C256 CXK54256P SMJ27C256 TMS27C256 TMS27PC256	(2913) (3286) (3326) (3326)	• SCM6116	Matra-Harris	HM6166 HM65161 HM65162 HM65163 HN65728 MT5C1608 MS8725 M5M116 M5M5116 M5M5117 M5M5118 M58275 M58725 MCM2016 MCM2016H MCM2018P MCM6116 MCM2116 MSM2128 MSM5126 MSM5128 MSM5129		• SCM6167	Hitachi	SCM6168	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C256	Toshiba	TC54256 TC57256 VT27C256		• SCM6116	MicronTech Mitsubishi	MT5C1608 MS8725 M5M116 M5M5116 M5M5117 M5M5118 M58275 M58725 MCM2016 MCM2016H MCM2018P MCM6116 MCM2116 MSM2128 MSM5126 MSM5128 MSM5129		• SCM6167	Hitachi	SCM6168	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C256	VLSI Tech	WS27C256 WS57C256 WS57C256F	(3390) (3390) (3390)	• SCM6116	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MCM2116 MSM2128 MSM5126 MSM5128 MSM5129		• SCM6167	Hitachi	SCM6168	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C64	Fujitsu Intel	MBM27C64 M27C64 27C64 27C64-200 27C64-250 27C64-300		• SCM6116	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MCM2116 MSM2128 MSM5126 MSM5128 MSM5129		• SCM6167	Hitachi	SCM6168	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C64	Krueger	27C64-200 27C64-250 27C64-300		• SCM6116	Motorola	MCM2016 MCM2016H MCM2018P MCM6116 MCM2116 MSM2128 MSM5126 MSM5128 MSM5129		• SCM6167	Hitachi	SCM6168	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C64	Microchip OKI S-MOS SGS-Thomson	27C64 MSM27C64 SPM27C64 TS27C64 27C64 TMS27C64 VT27C64 WS27C64	(2911) (3326) (3326)	• SCM6116	Performance S-MOS Saratoga SGS-Thomson	P4C116 SMC6116 SSM6116 ET2128 MK2817 MK6116		• SCM6167	Hitachi	SCM6168	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			
• SCM27C64	Signetics TI VLSI Tech Waferscale	TS27C64 27C64 TMS27C64 VT27C64 WS27C64	(3326)	• SCM6116	Performance S-MOS Saratoga SGS-Thomson	P4C116 SMC6116 SSM6116 ET2128 MK2817 MK6116		• SCM6167	Hitachi	SCM6168	MMI	MM54HC237 SN54HC137 AMPAL20L10 PAL20L10 PEEL20CG10 PEEL20CG10			

Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

WALT. SOURCE DIRECTORY

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Sprague Electric (Cont'd)				(Cont'd)				GE/RCA CD74HCT273 (2640)				(Cont'd)			
• SS54HC640	GE/RCA	CD54HC640	(2641)	• SS74HCT237	Supertex	74HCT237	(2640)	• SS74HCT273	National	MM74HCT273	(2640)	• SS74HCT563	National	MM74HCT563	(2641)
	Motorola	MC54HC640	(2940)	• SS74HCT238	CTI	74HCT238	(2640)		Signetics	74HCT273	(3057)		Plessey	MM74HCT563	
	National	MM54HC640			GE/RCA	CD74HCT238	(2640)	• SS74HCT354	GE/RCA	CD74HCT354	(2640)		SGS-Thomson	M74HCT563	
• SS54HC643	GE/RCA	CD54HC643	(2641)		Plessey	MV74HCT238	(3057)		Signetics	74HCT354	(3057)		Signetics	74HCT563	(3057)
	Motorola	MC54HC643		• SS74HCT240	CTI	74HCT240	(2640)	• SS74HCT365	GE/RCA	CD74HCT365	(2641)	• SS74HCT564	TI	SN74HCT563	
	National	MM54HC643			GE/RCA	CD74HCT240	(2640)		Signetics	74HCT365	(3057)		Toshiba	TC74HCT563	
• SS54HC645	National	MM54HC645			Hitachi	HD74HCT240		• SS74HCT373	CMD Micro	74HCT373	(2641, 2653)		CTI	74HCT564	
• SS54HC646	GE/RCA	CD54HC646	(2641)		Micrel	MIC74HCT240			GE/RCA	CD74HCT373	(2641, 2653)		GE/RCA	CD74HCT564	(2641)
	Motorola	MC54HC646	(2940)		Motorola	MC74HCT240			Hitachi	HD74HCT373			Micrel	MIC74HCT564	
	National	MM54HC646			National	MM74HCT240		• SS74HCT373	Micrel	MIC74HCT373			Motorola	MC74HCT564	
• SS54HC648	GE/RCA	CD54HC648	(2641)		Plessey	MV74HCT240			Motorola	MC74HCT373			National	MM74HCT564	
	Motorola	MC54HC648	(2940)		SGS-Thomson	74HCT240		• SS74HCT374	National	MM74HCT373			Plessey	MV74HCT564	
• SS74HCT00	GE/RCA	CD74HCT00	(2639, 2653)	• SS74HCT241	Supertex	74HCT241	(2640)		Plessey	MV74HCT373		• SS74HCT573	SGS-Thomson	M74HCT564	
	Motorola	MC74HCT00			TI	SN74HCT240			SGS-Thomson	M74HCT373			Signetics	74HCT564	(3057)
	National	MM74HCT00			Toshiba	TC74HCT240A		• SS74HCT374	Signetics	74HCT373	(3057)		TI	SN74HCT564	
• SS74HCT02	Signetics	74HCT00	(3057)		CTI	74HCT241			Supertex	74HCT373			Toshiba	TC74HCT564	
	GE/RCA	CD74HCT02	(2639)		GE/RCA	CD74HCT241	(2640)		TI	SN74HCT373			CTI	74HCT573	
• SS74HCT04	Signetics	74HCT02	(3057)		Hitachi	HD74HCT241			Toshiba	TC74HCT373		• SS74HCT574	Micrel	MIC74HCT573	
	GE/RCA	CD74HCT04	(2639)		Micrel	MIC74HCT241			CMD Micro	74HCT374			National	MM74HCT573	
	Motorola	MC74HCT04			Motorola	MM74HCT241			GE/RCA	CD74HCT374	(2641, 2653)		Plessey	MV74HCT573	
	National	MM72HCT04			SGS-Thomson	74HCT241			Hitachi	HD74HCT374			SGS-Thomson	M74HCT573	
	SGS-Thomson	M74HCT04			Supertex	74HCT241	(3057)	• SS74HCT374	SGS-Thomson	M74HCT374			Signetics	74HCT573	(3057)
	Signetics	74HCT04	(3057)	• SS74HCT242	TI	SN74HCT241			Signetics	74HCT374	(3057)		Supertex	74HCT573	
• SS74HCT137	TI	SN74HCT04			Toshiba	TC74HCT241A			Supertex	74HCT374			TI	SN74HCT573	
	CTI	74HCT137			GE/RCA	CD74HCT242	(2640)	• SS74HCT377	TI	SN74HCT374			Toshiba	TC74HCT573	
	GE/RCA	CD74HCT137	(2640)		Hitachi	HD74HCT242			Toshiba	TC74HCT374A		• SS74HCT574	CTI	74HCT574	
	Plessey	MV74HCT137			Micrel	MIC74HCT242			GE/RCA	CD74HCT377	(2641)		GE/RCA	CD74HCT574	(2641)
	SGS-Thomson	M74HCT137		• SS74HCT243	Signetics	74HCT242	(3057)	• SS74HCT533	Signetics	74HCT377	(3057)		Micrel	MIC74HCT574	
	Supertex	74HCT137			TI	SN74HCT242			CTI	74HCT533			National	MM74HCT574	
• SS74HCT138	TI	SN74HCT137			GE/RCA	CD74HCT243	(2640)		GE/RCA	CD74HCT533	(2641)	• SS74HCT640	Plessey	MV74HCT574	
	Toshiba	TC74HCT137			Hitachi	HD74HCT243			Hitachi	HD74HCT533			SGS-Thomson	M74HCT574	
	CTI	74HCT138		• SS74HCT244	Micrel	MIC74HCT243		• SS74HCT534	Signetics	74HCT374	(3057)		Signetics	74HCT574	(3057)
	GE/RCA	CD74HCT138	(2640)		Signetics	74HCT243	(3057)		TI	SN74HCT374			Supertex	74HCT574	
	National	MM74HCT138			CTI	74HCT244			Toshiba	TC74HCT374A			TI	SN74HCT574	
	Plessey	MV74HCT138			GE/RCA	CD74HCT244	(2640, 2653)	• SS74HCT540	GE/RCA	CD74HCT377	(2641)		Toshiba	TC74HCT574	
	SGS-Thomson	M74HCT138			Hitachi	HD74HCT244			Signetics	74HCT377	(3057)		GE/RCA	CD74HCT640	(2641)
	Signetics	74HCT138	(3057)	• SS74HCT245	Micrel	MIC74HCT244			CTI	74HCT533			Hitachi	HD74HCT640	
• SS74HCT139	TI	SN74HCT138			Motorola	MC74HCT244		• SS74HCT541	Hitachi	HD74HCT533			Motorola	MC74HCT640	
	Toshiba	TC74HCT138A			National	MM74HCT244			Micrel	MIC74HCT533			National	MM74HCT640	
	CTI	74HCT139			Plessey	MV74HCT244			Motorola	MC74HCT533		• SS74HCT643	SGS-Thomson	M74HCT640	
	GE/RCA	CD74HCT139	(2640)		SGS-Thomson	74HCT244			National	MM74HCT533			Signetics	74HCT640	(3057)
	IDT	IDT74HCT139			Hitachi	HD74HCT244		• SS74HCT540	TI	SN74HCT533	(3057)		TI	SN74HCT640	
• SS74HCT147	National	MM74HCT139			Micrel	MIC74HCT244			Toshiba	TC74HCT533			Toshiba	TC74HCT640A	
	Plessey	MV74HCT139			Motorola	MC74HCT244			GE/RCA	CD74HCT534	(2641)	• SS74HCT645	GE/RCA	CD74HCT643	(2641)
	Signetics	74HCT139	(3057)		National	MM74HCT244			Hitachi	HD74HCT534			Motorola	MC74HCT643	
	Supertex	74HCT139			Plessey	MV74HCT244		• SS74HCT541	Micrel	MIC74HCT534			SGS-Thomson	M74HCT643	
	GE/RCA	CD74HCT147	(2640)		SGS-Thomson	74HCT244			TI	SN74HCT534		• SS74HCT646	TI	SN74HCT645	
• SS74HCT157	GE/RCA	CD74HCT157	(2640, 2653)		Hitachi	HD74HCT245			CTI	74HCT534			GE/RCA	CD74HCT646	(2641)
	National	MM74HCT157			Micrel	MIC74HCT245		• SS74HCT540	GE/RCA	CD74HCT540	(2641)		Signetics	74HCT646	(3057)
• SS74HCT161	Signetics	74HCT157	(3057)		Motorola	MC74HCT245			Hitachi	HD74HCT540		• SS74HCT648	TI	SN74HCT646	
	GE/RCA	CD74HCT161	(2640)		National	MM74HCT245			Motorola	MC74HCT540			Toshiba	TC74HCT646A	
• SS74HCT163	Signetics	74HCT161	(3057)		Plessey	MV74HCT245			National	MM74HCT540			GE/RCA	CD74HCT648	(2641)
	GE/RCA	CD74HCT163	(2640)	• SS74HCT245	SGS-Thomson	M74HCT245		• SS74HCT541	SGS-Thomson	M74HCT540			SGS-Thomson	M74HCT648	
	Signetics	74HCT163	(3057)		Supertex	74HCT245	(3057)		Signetics	74HCT540	(3057)		Signetics	74HCT648	(3057)
• SS74HCT174	GE/RCA	CD74HCT174	(2640)		TI	SN74HCT245			TI	SN74HCT541		• SS74HCT00	TI	SN74HCT648	
	Signetics	74HCT174	(3057)		Toshiba	TC74HCT245			Toshiba	TC74HCT541			TI	SN74HCT648A	
• SS74HCT175	GE/RCA	CD74HCT175	(2640)		GE/RCA	CD74HCT251	(2640)	• SS74HCT563	GE/RCA	CD74HCT563	(2641)		GE/RCA	CD74HCT00	(2639, 2653)
• SS74HCT192	Signetics	74HCT175	(3057)		National	MM74HCT251			Micrel	MIC74HCT541			Hitachi	HD74HCT00	
	GE/RCA	CD74HCT192	(2640)	• SS74HCT253	Signetics	74HCT251	(3057)		Motorola	MC74HCT541		• SS74HCT02	Motorola	MC74HCT00	(2937)
	Signetics	74HCT192	(3057)		GE/RCA	CD74HCT253	(2640)	• SS74HCT563	Supertex	74HCT541			National	MM74HCT00	
• SS74HCT237	GE/RCA	CD74HCT237	(2640)		National	MM74HCT253			TI	SN74HCT541			SGS-Thomson	M74HCT00	
	Plessey	MV74HCT237		• SS74HCT27	Signetics	74HCT253	(3057)		Toshiba	TC74HCT541			Signetics	74HCT00	(3057)
	Signetics	74HCT237	(2640)		GE/RCA	CD74HCT27	(2640)		CTI	74HCT563			TI	SN74HCT00	
	(Continued)				Signetics	74HCT27	(3057)		GE/RCA	CD74HCT563	(2641)		Toshiba	TC74HCT00A	(3340)
					(Continued)				Micrel	MIC74HCT563	(Continued)		Hitachi	HD74HCT02	
													Motorola	MC74HCT02	(2938)
													National	MM74HCT02	
													SGS-Thomson	M74HCT02	(Continued)

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Sprague Electric (Cont'd)				• SS74HC163	(Cont'd)			• SS74HC242	(Cont'd)			• SS74HC354	(Cont'd)		
• SS74HC02	Signetics	74HC02	(3057)	• SS74HC174	Signetics	74HC163	(3057)	• SS74HC243	Signetics	74HC242	(3057)	• SS74HC365	Signetics	74HC354	(3057)
	TI	SN74HC02			Toshiba	SN74HC163			TI	SN74HC242			TI	SN74HC354	
• SS74HC04	Toshiba	TC74HC02A	(3340)		GE/RCA	CD74HC174	(2640)		Toshiba	TC74HC242	(3340)		Toshiba	TC74HC354A	(3340)
	GE/RCA	CD74HC04	(2639)		Hitachi	HD74HC174			GE/RCA	CD74HC243	(2640)		GE/RCA	CD74HC365	(2641)
	Hitachi	HD74HC04			Motorola	MC74HC174	(2942)		Hitachi	HD74HC243			Hitachi	HD74HC365	
	Motorola	MC74HC04	(2939)		National	MM74HC174			Motorola	MC74HC243	(2939)		Motorola	MC74HC365	(2939)
	National	MM74HC04			SGS-Thomson	M74HC174			National	MM74HC243			National	MM74HC365	
	SGS-Thomson	M74HC04			Signetics	74HC174	(3057)		SGS-Thomson	M74HC243			SGS-Thomson	M74HC365	
	Signetics	74HC04	(3057)	• SS74HC175	Signetics	74HC174	(3057)	• SS74HC244	Signetics	74HC243	(3057)	• SS74HC373	Signetics	74HC365	(3057)
	TI	SN74HC04			TI	SN74HC174			TI	SN74HC243			TI	SN74HC365	
	Toshiba	TC40H004			Toshiba	TC74HC174A	(3340)		Toshiba	TC74HC243	(3340)		Toshiba	TC74HC365	(3340)
• SS74HC137	GE/RCA	CD74HC137	(2640)		GE/RCA	CD74HC175	(2640)		GE/RCA	CD74HC244	(2640, 2653)		GE/RCA	CD74HC373	(2641, 2653)
	Hitachi	HD74HC137			Hitachi	HD74HC175			Hitachi	HD74HC244			Hitachi	HD74HC373	
	Motorola	MC74HC137	(2945)		Motorola	MC74HC175	(2942)		Motorola	MC74HC244	(2939)		Motorola	MC74HC373	(2941)
	National	MM74HC137			National	MM74HC175			National	MM74HC244			National	MM74HC373	
	SGS-Thomson	M74HC137			SGS-Thomson	M74HC175			SGS-Thomson	M74HC244			SGS-Thomson	M74HC373	
	Signetics	74HC137	(3057)	• SS74HC192	Signetics	74HC175	(3057)	• SS74HC245	Signetics	74HC244	(3057)	• SS74HC374	Signetics	74HC373	(3057)
	TI	SN74HC137			TI	SN74HC175			Supertex	74HC244			Supertex	74HC373	
	Toshiba	TC74HC137A	(3340)		Toshiba	TC74HC175A	(3340)		TI	SN74HC244			TI	SN74HC373	
• SS74HC138	GE/RCA	CD74HC138	(2640)		GE/RCA	CD74HC192	(2640)		Toshiba	TC74HC244A	(3340)		Toshiba	TC74HC373A	(3340)
	Hitachi	HD74HC138			Hitachi	HD74HC192			GE/RCA	CD74HC245	(2640, 2653)		GE/RCA	CD74HC374	(2641, 2653)
	Motorola	MC74HC138	(2945)		Motorola	MC74HC192			Hitachi	HD74HC245			Hitachi	HD74HC374	
	National	MM74HC138			National	MM74HC192			Motorola	MC74HC245	(2939)		Motorola	MC74HC374	(2942)
	SGS-Thomson	M74HC138			SGS-Thomson	M74HC192			National	MM74HC245			National	MM74HC374	
	Signetics	74HC138	(3057)	• SS74HC237	Signetics	74HC192	(3057)	• SS74HC251	Signetics	74HC245	(3057)	• SS74HC377	Signetics	74HC374	(3057)
	TI	SN74HC138			TI	SN74HC192			TI	SN74HC245			TI	SN74HC374	
	Toshiba	TC74HC138A	(3340)		Toshiba	TC74HC192A	(3340)		Toshiba	TC74HC245A	(3340)		Toshiba	TC74HC374A	(3340)
• SS74HC139	GE/RCA	CD74HC139	(2640)		GE/RCA	CD74HC237	(2640)		GE/RCA	CD74HC251	(2640)	• SS74HC377	GE/RCA	CD74HC377	(2641)
	Hitachi	HD74HC139			Motorola	MC74HC237	(2945)		Hitachi	HD74HC251			Hitachi	HD74HC377	
	Motorola	MC74HC139	(2945)		National	MM74HC237			Motorola	MC74HC251	(2944)		Motorola	MC74HC377	
	National	MM74HC139			SGS-Thomson	M74HC237			National	MM74HC251			SGS-Thomson	M74HC377	
	SGS-Thomson	M74HC139			Signetics	74HC237			SGS-Thomson	M74HC251			Signetics	74HC377	(3057)
	Signetics	74HC139	(3057)	• SS74HC238	Signetics	74HC237	(3057)	• SS74HC253	Signetics	74HC251	(3057)	• SS74HC533	Signetics	74HC377	(3057)
	TI	SN74HC139			TI	SN74HC237			TI	SN74HC251			TI	SN74HC377	
	Toshiba	TC74HC139A	(3340)		Toshiba	TC74HC237A	(3340)		Toshiba	TC74HC251A	(3340)		Toshiba	TC74HC377	(3340)
• SS74HC147	GE/RCA	CD74HC147	(2640)		GE/RCA	CD74HC238	(2640)		GE/RCA	CD74HC253	(2640)		GE/RCA	CD74HC533	(2641)
	Hitachi	HD74HC147			Motorola	MC74HC238			Hitachi	HD74HC253			Hitachi	HD74HC533	
	Motorola	MC74HC147			National	MM74HC238			Motorola	MC74HC253	(2944)		Motorola	MC74HC533	(2941)
	National	MM74HC147			SGS-Thomson	M74HC238			National	MM74HC253			National	MM74HC533	
	SGS-Thomson	M74HC147			Signetics	74HC238	(3057)		SGS-Thomson	M74HC253			SGS-Thomson	M74HC533	
	Signetics	74HC147	(3057)	• SS74HC240	Signetics	74HC238	(3057)		Signetics	74HC253	(3057)	• SS74HC534	Signetics	74HC533	(3057)
	TI	SN74HC147			TI	SN74HC238			TI	SN74HC253			TI	SN74HC533	
	Toshiba	TC74HC147	(3340)		Toshiba	TC74HC238A	(3340)		Toshiba	TC74HC253A	(3340)		Toshiba	TC74HC533A	(3340)
• SS74HC157	GE/RCA	CD74HC157	(2640, 2653)		GE/RCA	CD74HC240	(2640)		GE/RCA	CD74HC253A	(3340)		GE/RCA	CD74HC534	(2641)
	Hitachi	HD74HC157			Hitachi	HD74HC240			Hitachi	HD74HC253			Hitachi	HD74HC534	
	Motorola	MC74HC157	(2944)		Motorola	MC74HC240	(2939)	• SS74HC27	Hitachi	HD74HC27			Motorola	MC74HC534	
	National	MM74HC157			National	MM74HC240			Motorola	MC74HC27	(2938)		Motorola	MC74HC534	(2942)
	SGS-Thomson	M74HC157			SGS-Thomson	M74HC240			National	MM74HC27			National	MM74HC534	
	Signetics	74HC157	(3057)		Signetics	74HC240	(3057)		SGS-Thomson	M74HC27			SGS-Thomson	M74HC534	
	TI	SN74HC157		• SS74HC241	Supertex	74HC240		• SS74HC273	Signetics	74HC27	(3057)	• SS74HC540	Signetics	74HC534	(3057)
	Toshiba	TC74HC157A	(3340)		TI	SN74HC240			TI	SN74HC27			TI	SN74HC534	
• SS74HC161	GE/RCA	CD74HC161	(2640)		Toshiba	TC74HC240A	(3340)		Toshiba	TC74HC27A	(3340)		Toshiba	TC74HC534A	(3340)
	Hitachi	HD74HC161			GE/RCA	CD74HC241	(2640)		Universal	US74HC27			GE/RCA	CD74HC540	(2641)
	Motorola	MC74HC161	(2942)		Hitachi	HD74HC241			CTI	74HC273			Hitachi	HD74HC540	
	National	MM74HC161			Motorola	MC74HC241	(2939)		GE/RCA	CD74HC273	(2640)		Motorola	MC74HC540	(2940)
	SGS-Thomson	M74HC161			National	MM74HC241			Hitachi	HD74HC273			National	MM74HC540	
	Signetics	74HC161	(3057)		SGS-Thomson	M74HC241			Motorola	MC74HC273	(2942)		SGS-Thomson	M74HC540	
	TI	SN74HC161		• SS74HC242	Signetics	74HC241	(3057)	• SS74HC354	Signetics	74HC273	(3057)	• SS74HC541	Signetics	74HC540	(3057)
	Toshiba	TC74HC161A	(3340)		Supertex	74HC241			TI	SN74HC273			TI	SN74HC540	
• SS74HC163	GE/RCA	CD74HC163	(2640)		Toshiba	TC74HC241A	(3340)		Toshiba	TC74HC273A	(3340)		Toshiba	TC74HC540A	(3340)
	Hitachi	HD74HC163			GE/RCA	CD74HC242	(2640)		GE/RCA	CD74HC354	(2640)		GE/RCA	CD74HC541	(2641)
	Motorola	MC74HC163	(2942)		Hitachi	HD74HC242			Hitachi	HD74HC354			Hitachi	HD74HC541	
	National	MM74HC163			Motorola	MC74HC242	(2939)		Motorola	MC74HC354	(2945)		Motorola	MC74HC541	(2940)
	SGS-Thomson	M74HC163			National	MM74HC242			National	MM74HC354			National	MM74HC541	
	(Continued)				SGS-Thomson	M74HC242			SGS-Thomson	M74HC354			SGS-Thomson	M74HC541	
					(Continued)				(Continued)				Signetics	74HC541	(3057)
													(Continued)		

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Sprague Electric (Cont'd)				* SS74HC648 (Cont'd)				UDN6116 (Cont'd)				UDN6118A (Cont'd)			
* SS74HC541 (Cont'd)				Motorola MC74HC648 (2940)				Inmos IMS1433				National DM8887			
TI SN74HC541				National MM74HC648				IDT IDT6116 (2835)				OKI MSL912			
Toshiba TC74HC541A (3340)				SGS-Thomson M74HC648				IDT IDT6116A (2835)				Sanyo LB1290			
* SS74HC563 (2641)				Signetics 74HC648 (3057)				IDT IDT6116L (2835)				Signetics NE594			
GE/RCA CD74HC563				TI SN74HC648				IDT IDT6116S (2835)				Sanyo SA594			
Hitachi HD74HC563				Toshiba TC74HC648 (3340)				Intel IDT6166				Sprague UDN6118 (3258)			
Motorola MC74HC563				TC74HC648A (3340)				81C28				UDN6118A-1 (3258)			
National MM74HC563				* UCN4801				Krueger 2128-100 (2877)							
SGS-Thomson M74HC563				* UCN4810				2128-120 (2877)							
Signetics 74HC563 (3057)				Sprague UCN5801 (3258)				2128-150 (2877)							
TI SN74HC563				Gould/AMI S4534				2128-200 (2877)				TI TL594C			
Toshiba TC74HC563A (3340)				Signetics HEF4534				6116-120 (2877)				Toshiba TL594M			
* SS74HC564 (2641)				Sprague UCN5810				6116-150 (2877)				Toshiba TD62781			
GE/RCA CD74HC564				TI TL4810				6116-200 (2877)				Cherry Semi CS594			
Hitachi HD74HC564				UCN4810A				6116LP-120 (2877)				Dionics CS594C			
Motorola MC74HC564 (2942)				UCN5810				6116LP-150 (2877)				Dionics DI513B			
National MM74HC564				Gould/AMI S4534				6116LP-200 (2877)				DI514B			
SGS-Thomson M74HC564				Signetics HEF4534								Exar XR6118 (2619)			
Signetics 74HC564 (3057)				TI TL4810								Motorola MC3490			
TI SN74HC564				UCN4810A								National DM8887			
Toshiba TC74HC564A (3340)				UCN5812				Matra-Harris HM6166				OKI MSL912			
* SS74HC573 (2641)				UCN5818				HM65161				Sanyo LB1290			
GE/RCA CD74HC573				Gould/AMI S4535				HM65162				NE594			
Hitachi HD74HC573				TI SN75518				HM65163				SA594			
Motorola MC74HC573 (2941)				Siliconix SI9551				HM65728				Sprague UDN6118 (3258)			
National MM74HC573				Supertex HV5122				MT5C1608				UDN6118A (3258)			
SGS-Thomson M74HC573				TI SN75551				Mitsubishi MS8725							
Signetics 74HC573 (3057)				Siliconix SI9552				MSM116				TI TL594C			
TI SN74HC573				TI SN75552				M5M5116				Toshiba TL594M			
Toshiba TC74HC573A (3340)				UCN5853				M5M5117				Toshiba TD62781			
* SS74HC574 (2641)				UCN5854				M5M5118				Exar XR6128			
GE/RCA CD74HC574				UC3842				M58275				Toshiba TD62782			
Hitachi HD74HC574				Motorola UC3842 (2963, 2991)				M58725				Dionics DI502B			
Motorola MC74HC574 (2942)				SGS-Thomson UC3842				MCM2016				* UDN6144A			
National MM74HC574				SiliconG SG3842				MCM2016H				* UDN6164A			
SGS-Thomson M74HC574				TeledyneS TSC38C42				MCM2018P				Dense-Pac DPS88H08			
Signetics 74HC574 (3057)				Unitrode UC3842				MCM6116				Exar XR8464 (2620)			
TI SN74HC574				Motorola UDN2841				MSM2128				Fujitsu MB88464			
Toshiba TC74HC574A (3340)				SiliconG SG3635				MSM5126				MB8464A			
* SS74HC640 (2641)				UDN2935				MSM5128				* UDN6164A			
GE/RCA CD74HC640				UDN2950				MSM5129				GE/RCA CDM6264 (2644, 2653)			
Hitachi HD74HC640				UDN2981				Performance P4C116				GoldStar GM76C88 (2696, 2703)			
Motorola MC74HC640 (2940)				UDN3611				S-MOS SMC6116				Harris HM65642 (2747)			
National MM74HC640				National DS3611				Saratoga SSM6116				Hitachi HM6264			
SGS-Thomson M74HC640				SiliconG SG75471				SGS-Thomson ET2128				Hyundai HY6264 (2778)			
Signetics 74HC640 (3057)				TI SN75471				Sharp LH5115				Inmos IMS1630 (2796)			
TI SN74HC640				National DS3612				Signetics NE5517				IDT IDT7165			
Toshiba TC74HC640A (3340)				National DS3632				Sony CXK5814P				Krueger 6264-100 (2877)			
* SS74HC643 (2641)				UDN3613				STC STC2018				6264-120 (2877)			
GE/RCA CD74HC643				UDN3614				TI STC6116				6264-150 (2877)			
Hitachi HD74HC643				National LM3613				SMJ68CE16				6264LP-100 (2877)			
Motorola MC74HC643				National DS3614				Toshiba TC5517B							
National MM74HC643				National LM3614				TMM2015A				6264LP-120 (2877)			
SGS-Thomson M74HC643				National LM3614				TMM2018							
Signetics 74HC643 (3057)				SiliconG SG75474				TMM2018AP				6264LP-150 (2877)			
TI SN74HC643				TI SN75476				UMC UM6116							
Toshiba TC74HC643A (3340)				UDN5711				Vitelc V61C16				* UDN6164A			
* SS74HC645 (2641)				UDN5712				V62C16				Matra-Harris HM2064			
GE/RCA CD74HC645				UDN5713				VLSI Tech VT20C18 (3343, 3349)				HM56162			
Hitachi HD74HC645				UDN5714				Cherry Semi CS594				HM62641			
Motorola MC74HC645				Toshiba TD62477				Dionics DI513B				HM65641			
National MM74HC645				TI SN75478				DI514B				ML8464			
SGS-Thomson M74HC645				UDN5713				DI514BR				MT5C6408			
Signetics 74HC645 (3057)				Toshiba TD62478				Exar XR6118 (2619)				MT5C6408			
TI SN74HC645				Motorola MC1374 (2950)				Motorola MC3490				AM99C88			
Toshiba TC74HC646 (3340)				TI SN75479				National DM8887				M5M165			
* SS74HC646 (2641)				UDN5722				DS8887				M5M5164			
GE/RCA CD74HC646				UDN6116				OKI MSL912				M5M5165			
Hitachi HD74HC646				TI SN75477				Sanyo LB1290				M5M5178			
Motorola MC74HC646 (2940)				Cypress CY6116				Signetics NE594				MS6264			
National MM74HC646				GE/Intersil IH6116 (2670)				SA594				MCM6064			
SGS-Thomson M74HC646				GE/RCA CDM6116 (2644, 2653)				Sprague UDN6118A (3258)				MCM61164			
Signetics 74HC646 (3057)				CDM6116A (2644, 2653)				UDN6118A-1 (3258)				MCM6164			
TI SN74HC646				GoldStar GM76C28 (2696, 2700)								MCM6164C			
Toshiba TC74HC646A (3340)				Harris HM6516 (2747)								MCM6264			
* SS74HC648 (2641)				Hitachi HM65162 (2747)				UDQ6118				DP8464			
GE/RCA CD74HC648				Hitachi HM6716				TL594C				National NMC6164			
Hitachi HD74HC648				Hyundai HM6719				CS594C				NEC μPD4364			
				HY61C16A				TD62781				OKI MSM5164			
				HY6116A (2778)				CS594C				MSM5165			
								DI513B				MSM5188			
								DI514B				P4C164			
								DI514BR				P4C188			
								XR6118 (2619)				SRM2064			
								MC3490				SRM2264			

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Sprague Electric (Cont'd)				UGN3075	Asahi	EW500		ULN2001		(Cont'd)		ULN2046	GE/RCA	CA3046 (2650)		
♦ UDN6164A	Samsung	KM6264 (3036)		UGN3076	TI	TL175C			National	μA9665			Motorola	CA3146 (2650)		
♦ UDN6164A	Sharp	LH5164		UGN3113U	Sprague	UGN3013U (3259)			Sanyo	LB1231				MC3346 (2951, 2990)		
♦ UDN6164A	Sony	LH5165		UGN3119U	TRWLSI	OHN3013U			SGS-Thomson	L201			National	μA3046		
		CVK5864			Sprague	UGN3019U (3259)				ULN2001				μA3086		
		CKX5164P		UGN3120U	TRWLSI	OHN3019U			SiliconG	SG2001			Plessey	LM3046		
		CKX5863P				OHS3019U			Sprague	ULQ2001				SL3046		
		CKX5865				OHN3020U				ULS2001				SL3086		
		CKX5865P		UGN3130U	Sprague	UGN3020U (3259)			TI	ULN2001			Sanyo	SL3146		
♦ UDN6164A	STC	STC6264			TRWLSI	OHS3020U			Toshiba	ULN2001A			SGS-Thomson	LA3046		
	TI	SMJ68CE64		UGN3130U		OHS3020U				TD62001				CA3046		
	Toshiba	TC5565				OHN3030U				TD62101				LM3046		
		TC5565A		UGN3131	Microswitch	OHS3030U			ULN2002	XR2002C (2619)				SFC2046		
		TC5585		UGN3140U	Sprague	SS81EA				XR2202 (2619)				TBA331		
		TC5588			TRWLSI	UGN3040U (3259)			Mitsubishi	M54525				SG3046		
		TMM2063				OHS3040U			Motorola	MC1412 (2984)			SiliconG	SG3146		
		TMM2064		UGN3201K	Matsushita	DN834			National	μA9666				SG3821		
		TMM2088				DN837			NEC	MC1412			ULN2054	GE/RCA	CA3054 (2649, 2655)	
♦ UDN6164A	Vitellic	V61C62				DN839			Sanyo	μPA2002				Matra-Harris	HC3054	
		V61C64				DN834			SGS-Thomson	LB1232				Motorola	CA3054 (2951)	
		V62C64				DN837				L202				National	LM3054	
		V65C64				DN839				ULN2002				TP3054		
♦ UDN6164A	VLSI Tech	VT20C98			Siemens	SAS241			SiliconG	SG2002				SGS-Thomson	SFC2054	
		VT20C99		UGN3203K	Matsushita	SAS250			Sprague	ULS2002				IPN3054		
♦ UDN6510	Dionics	DI510B			National	SAS251			TI	ULN2002				IPS	IP2064	
UDN7180	Dionics	DI300		UGN3275K	Siemens	DN838			Toshiba	ULN2002A				Mitsubishi	M54532	
♦ UDN7183	Dionics	DI300				SAS251S4			Exar	TD62002				Motorola	ULN2064	
		DI302		UGN3501	Matsushita	SAS251S5				XR2003C (2619)				SGS-Thomson	ULN2064	
♦ UDN7183	Sprague	UDN7180				DN6835			Mitsubishi	XR2203 (2619)					ULN2064	
♦ UDN7184	Dionics	DI300				DN6836				M52523				TI	SN75064	
		DI302				103SR			Motorola	M54523				ULN2064		
♦ UDN7184	Sprague	UDN7180				92SS12-2				MC1413 (2984, 2989)				Toshiba	TA75064	
♦ UDN7186	Dionics	DI300		UGN3503	National	DN3836			National	ULN2003				TD62064		
		DI302			Microswitch	DN6835				μA9667				IPS	IP2065	
♦ UDN7186	Sprague	UDN7180			TI	91SS12-2			Sanyo	MC1413				Motorola	ULN2065	
UDQ6118	Cherry Semi	CS594		UGN3604	Asahi	TL173C			SGS-Thomson	LB1233				SGS-Thomson	ULN2065	
		CS594C				TL1731				L203					ULN2065	
		DI513B				HW101A				ULN2003				SiliconG	SG2065	
		DI514B				HW200A				SG2003				TI	SN75065	
		DI514BR				HW300A			SiliconG	ULS2003				ULN2065		
	Exar	XR6118 (2619)				HW300B			Sprague	ULS2003				IPN2066		
	Motorola	MC3490				H300A			TI	ULN2003				Motorola	ULN2066	
	National	DM8887				BHA900			Toshiba	TD62003				SGS-Thomson	ULN2066	
	OKI	MSL912				BH200				TD62103					ULN2066	
	Sanyo	LB1290				BH700			ULN2004	Exar	XR2204 (2619)				ULN2066	
	Signetics	NE594				FH301				Mitsubishi	M54526			SiliconG	SG2066	
		SA594				KSY10			Motorola	MC1416 (2984)				TI	SN75066	
	Sprague	UDN6118 (3258)				UGN3605K (3259)				ULN2004				ULN2066		
		UDN6118A (3258)				THS102			Sanyo	LB1234				IPS	IP2067	
		UDN6118A-1 (3258)		UGN3605K	Toshiba	HW101A			SGS-Thomson	L204				Motorola	ULN2067	
					Asahi	HW200A				ULN2004				SGS-Thomson	ULN2067	
						HW300A				SG2004					ULN2067	
						HW300B			SiliconG	ULS2004				SiliconG	SG2067	
UGN3013	Microswitch	103SR5A-1				H300A			Sprague	ULN2004				TI	SN75067	
		55SS16				BHA900			TI	ULN2004A				ULN2067		
		65SS2				BH700			Toshiba	ULN2004A				IPS	IP2068	
		8SS3E1				FH301				TD62004				Motorola	ULN2068 (2984)	
UGN3013U	Sprague	UGN3113U (3259)				UGN3013U			ULN2005	Exar	XR2205				ULN2068	
UGN3019	TRWLSI	OHN3013U				OHN3019U				TI	ULN2005			SiliconG	SG2068	
	Matsushita	DN6837				OHN3019U			ULN2011	Exar	XR2011C (2619)			TI	SN75068	
		DN6839				OHS3019U				SiliconG	SG2011				ULN2068	
	Microswitch	613SS2				OH360			Sprague	ULS2011				IPS	IP2069	
		8SS7				OH360			SiliconG	SG2012				Motorola	ULN2069	
		8SS7E1				OHN3020U				ULS2012				SGS-Thomson	ULN2069	
		DN6837				OHS3020U			ULN2013	Exar	XR2013C (2619)				ULN2069	
		DN6839				OH360				SG2013				SiliconG	SG2069	
		SAS261				OH360				ULS2013				TI	SN75069	
UGN3019U	TI	TL172C				OH360			Sprague	ULS2013					ULN2069	
	Sprague	UGN3119U (3259)				OH360			ULN2014	Exar	XR2014C (2619)				ULN2070	
	TRWLSI	OHN3019U				OHN3019U				SiliconG	SG2014				SGS-Thomson	ULN2070
UGN3020	TRWLSI	OH360				OHS3019U					SG3854					ULN2070
UGN3020U	Sprague	UGN3120U (3259)				OH360			Sprague	ULS2014				SiliconG	SG2070	
	TRWLSI	OHN3020U				OHN3020U			ULN2021	SiliconG	SG2021				SGS-Thomson	ULN2071
		OHS3020U				OHS3020U				Sprague	ULS2021					ULN2071
UGN3030	Matsushita	DN6838				OH360			TI	SN75466				SiliconG	SG2071	
	Microswitch	SS46				OH360				SG2002				IPS	IP2074	
		8SS1E1				OH360			Sprague	SG2022				Motorola	ULN2074 (2984)	
		8SS5E1				OH360				ULS2022				SGS-Thomson	ULN2074	
		DN6838				OH360			TI	SN75467					ULN2074	
	National	TL170				OH360			ULN2023	Exar	XR2003 (2619)			SiliconG	SG2074	
	TI	TL170				OH360				SG2023				TI	ULN2074	
UGN3030U	Sprague	UGN3130U (3259)				OHN3030U				ULQ2003				Toshiba	TD62074	
	TRWLSI	OHN3030U				OHN3030U				ULS2023				IPS	IP2075	
		OHS3030U				OHN3030U			ULN2024	TI	SN75468			Motorola	ULN2075	
UGN3040	Asahi	EW550				OHS3030U				SG2024				SGS-Thomson	ULN2075	
UGN3040U	Sprague	UGN3140U (3259)				OHS3030U				ULS2024					ULN2075	
	TRWLSI	OHN3040U				OHS3030U				SG2024				SiliconG	SG2075	
		OHS3040U				OHS3040U				TI	SN75469			TI	ULN2075	
		OHS3040U				OHS3040U			ULN2025	TI	SN75465				(Continued)	
		OHS3040U				OHS3040U										

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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Sprague Electric (Cont'd)				ULN2823	SGS-Thomson	L603		ULN8161	Cherry Semi	CS5561 CS5561N CS5561S		ULS2002			(Cont'd)	
• ULN2076	SGS-Thomson	ULN2076			SiliconG	SG2823		• ULN8161	GoldStar	GL5561 IP5561 IP5561C			Mitsubishi Motorola	M54525 MC1412	(2984)	
ULN2081	GE/RCA	CA3081	(2650, 2653, 2656)	ULN2824	SiliconG	SG2824			IPS	IP5561C			National	ULN2002 μA9666		
ULN2082	GE/RCA	CA3082	(2650, 2653, 2656)	ULN2825	Sprague	ULS2824		• ULN8161	Signetics	NE5561	(3184)		NEC	MC1412 μPA2002		
ULN2083	GE/RCA	CA3083	(2650, 2653, 2656)		Plessey	ZN429		• ULN8161	Toshiba	SE5561 TC5561 TMM5561			Sanyo SGS-Thomson	LB1232 L202		
				ULN3054	GE/RCA	CA3054	(2649, 2655)	ULN8168	Signetics	NE5568	(3187)			ULN2002		
								• ULN8194	Fujitsu	MB3759			SiliconG	SG2002		
ULN2086	GE/RCA	CA3086	(2650)		Matra-Harris	HC3054			IPS	IP494 TL494 TL494M			Sprague	ULN2002	(3258)	
		SG3083 SG3183 LM3086 Sanyo LA3086			National	μA3054 LM3054 TP3054			TI	TL494M UC494A CS494M			TI	ULN2002 ULN2002A		
		SGS-Thomson						• ULN8194	Unitrode	UC494A			Toshiba	TD62002		
		SFC2086			SGS-Thomson	SFC2054		• ULN8194A	Cherry Semi	CS494M			Exar	XR2003C	(2619)	
		SG3086				ULN2054			Exar	XR494	(2619)			XR2203	(2619)	
		SG3886		ULN3701	National	LM2002			IPS	IP494A			Mitsubishi	M52523 M54523		
ULN2111	GE/RCA	CA2111A	(2657)			LM2002A			Motorola	TL494	(2964)		Motorola	MC1413	(2984, 2989)	
		LM2111 LM2113				LM383 LM383A		• ULN8195	Unitrode	TL494M UC494A				ULN2003		
		LM2113				ULN3702			Cherry Semi	CS595			National	μA9667		
		SN76642		ULN3702	National	LM2002			Fujitsu	MB3760				MC1413		
• ULN2124	GE/RCA	CA3070	(2658)			LM2002A		ULQ2001	Exar	XR2001	(2619)		Sanyo	LB1233		
• ULN2127	GE/RCA	CA3071	(2658)			LM383				XR2001C	(2619)		SGS-Thomson			
		SN76242				LM383A				XR2201	(2619)			L203		
ULN2204	Telefunken	TDA1083		ULN3703	National	ULN3701			Mitsubishi	M54524			SiliconG	ULN2003		
		U417B			SGS-Thomson	TDA2003			Motorola	MC1411	(2984)		Sprague	ULN2003	(3258)	
• ULN2217	Motorola	TDA1327		ULN3751	SGS-Thomson	TDA2003			National	ULN2001			TI	ULN2003		
ULN2243	Sanyo	LA1150				L165			Sanyo	μA9665			Toshiba	TD62003		
ULN2249	Hitachi	HA1199		ULN3784	SiliconG	SG1173			SGS-Thomson	LB1231				TD62103		
ULN2270	GoldStar	GL1170		ULN3793	National	LM384							Exar	XR2204	(2619)	
		μA7327			AMD	29520/1 29520/1A			SiliconG	SG2001	(3258)		Mitsubishi	M54526		
• ULN2278	Telefunken	TDA1170				AD3445			Sprague	ULS2001			Motorola	MC1416	(2984)	
	National	LM377			AD	AD3445			TI	ULN2001			Sanyo	ULN2004		
ULN2280	TI	SN76177			Hitachi	HA1393			Toshiba	ULN2001A			SGS-Thomson	LB1234		
ULN2290	National	LM380		ULN3809	GoldStar	GL3130	(2711)			TD62001				L204		
	SGS-Thomson				National	μA705		ULQ2002	Exar	XR2002	(2619)		SiliconG	ULN2004		
		TDA1190Z				LM1800		ULQ2003	Exar	XR2003	(2619)		Sprague	ULN2004	(3258)	
		TDA3190				LA705			SiliconG	SG2023			TI	ULN2004		
ULN2801	Mitsubishi	M54517			Sanyo	LA758			Sprague	ULN2023	(3258)		Toshiba	ULN2004A		
	Sanyo	LB1275		• ULN3810	Signetics	ULN3812				ULS2023				TD62004		
ULN2802	Toshiba	TD62105			Sprague	SN76111		ULQ2004	TI	SN75468	(2619)		Exar	XR2011C	(2619)	
	SGS-Thomson				TI	SN76116		• ULQ8125	Exar	XR2004			SiliconG	SG2011		
		ULN2802				SN76116		• ULQ8126	Unitrode	UC2525			Sprague	ULN2011		
		SG2802			Exar	XR1310			Cherry Semi	CH1526				SG2012		
ULN2803	Sprague	ULS2802		ULN3812	National	LM1310			IPS	IP1526			Sprague	ULN2012		
	Toshiba	TD62082			TI	SN76115			LinearTech	LT1526			Exar	XR2013C	(2619)	
	SGS-Thomson				GoldStar	GL3130	(2711)		Motorola	SG1526	(2964)		SiliconG	SG2013		
		ULN2803			National	μA705				SG3526	(2964)			SG3853		
		SG2803				LM1800		• ULQ8126	SiliconG	SG1526			Sprague	ULN2013		
		SG2813				LA705				SG1526B			Exar	XR2014C	(2619)	
		ULS2803			Sanyo	LA758				SG3526			SiliconG	SG2014		
ULN2804	Sprague	ULS2803			Signetics	μA758		• ULQ8126	Sprague	SG3526				SG3854		
	Toshiba	TD62083			Sprague	ULN3809			Unitrode	UC1526			Sprague	ULN2014		
	Motorola	ULN2804	(2984)		TI	SN76111		• ULQ8127	Cherry Semi	CS2526			SiliconG	SG2021		
	SGS-Thomson					SN76116			IPS	IP2526			Sprague	ULN2021	(3258)	
		ULN2804		ULN3820	AD	AD7628	(2413)		LinearTech	LT2526			TI	SN75466		
		SG2804			Dionics	DI604A			Motorola	SG2526	(2964)			SG2002		
		ULS2804			Maxim	AD7628				SG2526			Sprague	ULN2022	(3258)	
ULN2805	Toshiba	TD62084			MicroPwr	MP7628		• ULQ8194	SiliconG	SG2526			TI	SN75467		
	SGS-Thomson				Motorola	MC12020			Unitrode	UC2526			Exar	XR2003	(2619)	
		ULN2805			SGS-Thomson	L604		• ULQ8195	Fujitsu	MB3759			SiliconG	ULN2023	(3258)	
		SG2805				SO41P			TI	TL494 TL495I TL595I				ULQ2003		
ULN2811	Plessey	ZN504				NE604	(3157)			XR2001	(2619)		ULS2024	SG2024		
	SiliconG	SG2811			Siemens	MC3359	(2972, 2990)	ULS2001	Exar	XR2001C	(2619)		Sprague	ULN2024	(3258)	
	SiliconSys	SSI6072C			Motorola					XR2201	(2619)		TI	SN75469		
ULN2812	Sprague	ULS2811				MC3361	(3040)			M54524			SiliconG	SG3854		
	Plessey	ZN512		ULN3859						MC1411	(2984)			ULN2014		
	SiliconG	SG2812			Motorola					ULN2001			National	μA3045		
	SiliconSys	SSI6074		ULN3862						μA9665			Sanyo	LM3045		
ULN2813	Sprague	ULS2812								LB1231			SGS-Thomson	LM3045		
	Plessey	ZN439		• ULN8124	Samsung	MC3361	(3040)			L201				LM3045		
	SiliconG	SG2813			Signetics	MC3361				ULN2001			ULS2801	Motorola	(2984)	
ULN2814	SiliconSys	SSI6080		• ULN8126	LinearTech	SG3524				SG2001			SGS-Thomson	ULN2801		
	Plessey	ZN509			National	μA3524				ULN2001	(3258)			ULN2801		
	SiliconG	SG2814			Cherry Semi	CH1526				ULQ2001				SG2801		
ULN2815	SiliconSys	SSI6082			IPS	IP1526				ULN2001				TD62081		
	Plessey	ZN426			LinearTech	LT1526				ULN2001A			SGS-Thomson	ULN2802		
	SiliconG	SG2815		• ULN8126	Motorola	SG1526	(2964)			TD62001				SG2802		
	SiliconSys	SSI6220				SG3526	(2964)			TD62101				Sprague	ULN2802	(3258)
ULN2821	SGS-Thomson			• ULN8126		SG1526B				XR2002C	(2619)		SiliconG	SG2802		
		L601				SG3526		ULS2002	Exar	XR2202	(2619)		Sprague	ULN2802		
		SG2821		• ULN8126	Sprague	UC1526							Toshiba	TD62082		
ULN2822	Sprague	ULS2821			Unitrode	UC1526A										
	SiliconG	SG2822		• ULN8160	Plessey	ZN1060										
	Sprague	ULS2822														
	Sprague	ULS2822														

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Sprague Electric (Cont'd)				COM5016	Western	BR1941		STC2018		(Cont'd)		STC2167	AMD	SSM6167	
ULS2803	SGS-Thomson	ULN2803		COM7210	IDT	IDT7210		GoldStar	GM76C28	(2696, 2700)		Cypress	CY7C167	(2580)	
	SiliconG	SG2803			NEC	μPD7210		Harris	HM6516	(2747)		Fujitsu	MB8167A		
		SG2813		COM8017	Microchip	AY31015		Hitachi	HM65162	(2747)		GE/RCA	CDM5167		
	Sprague	ULN2803	(3258)	COM8116	Microchip	AY58116			HM6116			Harris	HM65262	(2747)	
ULS2804	Toshiba	TD62083			Western	WD1943			HM6716			Hitachi	HM6267		
	Motorola	ULN2804	(2984)	COM8136	Microchip	AY58136			HM6719			Inmos	IMS1400		
	SGS-Thomson	ULN2804			Western	WD1945		Hyundai	HY61C16A				IMS1403	(2790)	
		ULN2804		COM82501	Intel	82C501			HY6116A	(2778)		IDT	IDT6167		
	SiliconG	SG2804			SEEQ	82501			IMS1433			Intel	51C67		
	Sprague	ULN2804	(3258)			80234		Inmos	IDT6116	(2835)		Matra-Harris	HM65262		
ULS2811	Toshiba	TD62084		COM82502	Intel	82502		IDT	IDT6116A	(2835)			HM65263		
	Plessey	ZN504		COM8251A	AMD	8251			IDT6116L	(2835)		MicronTech	MT5C1601		
	SiliconG	SG2811			Intel	P8251			IDT6116S	(2835)		Mitsubishi	M5M2167		
	SiliconSys	SSI6072C				82C51			IDT6166				μPD4311		
ULS2812	Sprague	ULN2811			National	INS8251		Intel	81C28	(2877)		S-MOS	SRM2267		
	Plessey	ZN512			NEC	μPD8251A		Krueger	2128-100	(2877)		SGS-Thomson	MK41H66		
	SiliconG	SG2812			OKI	MSM82C51			2128-120	(2877)			MK41H67		
	SiliconSys	SSI6074			S-MOS	SMC82C51AC			2128-150	(2877)		Sharp	STC6167		
ULS2821	Sprague	ULN2812			Toshiba	TMP8251	(3339)		6116-120	(2877)		TI	SMJ61CD16		
	SGS-Thomson	L601		COM82586	Intel	82586			6116-150	(2877)		UMC	UM6167		
		SG2821		COM9064	National	DP8340			6116LP-120	(2877)		AMD	AM2168		
ULS2822	Sprague	ULN2821	(3258)	CRT9007	STC	CRT9007			6116LP-150	(2877)		Cypress	CY7C168	(2580)	
	SiliconG	SG2822		CRT9212	STC	CRT9212			6116LP-200	(2877)		Fujitsu	MB81C69		
ULS2823	Sprague	ULN2822	(3258)	FDC1791	SMC	FDC9791						GoldStar	GM76C164		
	SGS-Thomson	L603		FDC1793	SMC	FDC9793						Inmos	IMS1420		
		SG2823		FDC1795	Siemens	SAB1795							IMS1421		
	SiliconG	SG2823			SMC	FDC9795		Matra-Harris	HM6166				IDT6120		
ULS2824	Sprague	ULN2823	(3258)	FDC1797	Siemens	SAB1797			HM65161			Matra-Harris	HMI65769		
	SiliconG	SG2824			SMC	FDC9797			HM65162				HM65682		
ULS8124	Sprague	ULN2824	(3258)	FDC72C65	NEC	μPD72065			HM65163			GoldStar	GM76C164		
	Cherry Semi	CS1524				μPD765A			HN65728			Inmos	IMS1420		
ULS8124	Exar	XR1524	(2619)		SMC	FDC765A			MT5C1608				IMS1424		
	IPS	IP1524			Zilog	Z765A		MicronTech	MS8725			IDT	IDT6120		
		IP1524B		FDC7265	NEC	μPD7265		Mitsubishi	M5M116				IDT6169		
ULS8124	LinearTech	LT1524		FDC765	NEC	μPD765			M5M5116			Matra-Harris	HM65769		
		SG1524		FDC765A	NEC	μPD72065			M5M5117				HM65682		
ULS8124	National	μA1524				μPD765A			M5M5118			MicronTech	MT5C1604		
		LM1524			SMC	FDC72C65			M58275				MT5C1605		
ULS8124	SGS-Thomson	SG1524			Zilog	Z765A		Motorola	MCM2016				MCM1423		
		SG1524A		FDC92C36	SMC	FDC9216			MCM2016H			National	F1620		
		UC1524A			Unicorn	UC9216			MCM2018P			NEC	μPD4314		
ULS8124	SiliconG	SG1524			UMC	UM8326			MCM6116			S-MOS	SRM2274		
		SG1524B				UM9216			MMC2116			SGS-Thomson	MK41H68		
ULS8124	Unitrode	UC1524			Western	WD92C32			MSM2128			TI	SMJ64C16		
		UC1524A				WD9216			MSM5126			Toshiba	TMM2068		
ULS8125	Cherry Semi	CS1525		FDC9216	SMC	FDC92C36			MSM5128			Vitelc	V61C62		
ULS8127	Cherry Semi	CS1527			Unicorn	UC9216			MSM5129			VLSI Tech	VT20C19	(3349)	
ULS8194	Cherry Semi	CS494M			UMC	UM8326							VT20C69	(3343, 3345, 3350)	
	Exar	XR494	(2619)			UM9216			P4C116						
	IPS	IP494A			Western	WD92C32			SMC6116			STC4027	Motorola	MCM4027	
	Motorola	TL494	(2964)			WD9216			SSM6116				National	M4027	
	TI	TL494M		FDC9229	Hitachi	HA17818			ET2128				Toshiba	TC4013B	(3341)
	Unitrode	UC494A			VDA	V3829			MK2817			ITT	ITT4116		
ULS8195	TI	TLS9SM			VLSI Tech	V86			MK6116			Krueger	4116-120	(2877)	
	Unitrode	UC495A		FDC9791	SMC	FDC1791			LH5115				4116-150	(2877)	
				FDC9793	SMC	FDC1793			NE5517				4116-200	(2877)	
				FDC9795	Siemens	SAB1795			CXK5814P			National	F16K		
					SMC	FDC1795			UDN6116				F4116		
				FDC9797	Siemens	SAB1797			STC6116				MM5290		
					SMC	FDC1797			SMJ68CE16			OKI	MSM3716		
				HDC7261	NEC	μPD7261A			TC5517B			SGS-Thomson	M4116		
				HDC7262	NEC	μPD7262			TMM2015A				HYB4116		
				HDC9224	Fujitsu	MBM100490			TMM2018				2690		
				KR9600	Microchip	AY53600			TMM2018AP				TMM416		
				MPU800	National	NSC800			UM6116			Siemens	HYB4116		
				MPU810	National	NSC810			V61C16			Signetics	2690		
				MPU830	National	NSC830			V62C16			Toshiba	TMM416		
				MPU831	National	NSC831			VT20C18	(3343, 3345, 3349)		ITT	SBA5089		
				SR5015	National	3347						National	TP5089		
												Samsung	MK5089		
												SGS-Thomson	MK5089		
													CM5089		
													UM5089		
													UM6116		
													CY6116		
													CY7C128	(2580)	
													GE/Intersil	IH6116	(2670)
													GE/RCA	CDM6116	(2644, 2653)
														CDM6116A	(2644, 2653)
												GoldStar	GM76C28	(2696, 2700)	
												Harris	HM6516	(2747)	
													HM65162	(2747)	
												Hitachi	HM6116		
													HM6716		
													HM6719		
												Hyundai	HY61C16A		
													HY6116A	(2778)	

* Discontinued

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Manufacturer Device	Replacement Source	Device	IC Master Page
STC Semiconductors (Cont'd)			
STC6116	(Cont'd)		
Inmos	IMS1433		
IDT	IDT6116 (2835) IDT6116A (2835) IDT6116L (2835) IDT6116S (2835) IDT6166 81C28		
Intel	2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116-200 (2877) 6116LP-120		
Krueger	6116LP-150 (2877) 6116LP-200 (2877)		
Matra-Harris	HM6166 HM65161 HM65162 HM65163 HN65728		
MicronTech	MT5C1608		
Mitsubishi	MS8725 M5M116 M5M5116 M5M5117 M5M5118 M58275 M58725 MCM2016 MCM2016H MCM2018P MCM6116 MMC2116 MSM2128 MSM5126 MSM5128 MSM5129		
Motorola	P4C116 SMC6116 SSM6116		
National	ET2128 MK2817 MK6116 LH5115 NE5517 CXK5814P UDN6116 STC2018 STC2018 SMJ68CE16 TC5517B TMM2015A TMM2018 TMM2018AP		
OKI	UM6116 V61C16 V62C16		
Performance	V720C18 (3343, 3345, 3349)		
S-MOS	SSM6167		
Saratoga	CY7C167 (2580)		
SGS-Thomson	MB8167A CDM5167 HM65262 (2747) HM6267 IMS1400 IMS1403 (2790) IDT6167 51C67 HM65262 HM65263 MT5C1601 M5M21C67 M5M2167 μ PD4311 SRM2267 SRM2367		
Sharp	MK41H66 MK41H67 LH5167 STC2167 SMJ61CD16 UM6167		
Signetics			
Sony			
Sprague			
STC			
TI			
Toshiba			
UMC			
Vitellic			
VLSI Tech			
AMD			
Cypress			
Fujitsu			
GE/RCA			
Harris			
Hitachi			
Inmos			
IDT			
Intel			
Matra-Harris			
MicronTech			
Mitsubishi			
NEC			
S-MOS			
SGS-Thomson			
Sharp			
STC			
TI			
UMC			
(Continued)			

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Supertex (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
54HCT241	Vitelc	V51C256 V51C257	(Cont'd)	74HCT139	National	MM74HCT139		74HCT374	SGS-Thomson	M74HCT374		LH0002	Elantec	ELH0002 EL2002 EL2003	
54HCT244	CTI	54HCT244		74HCT237	Plessey	MV74HCT139			Signetics	74HCT374 (3057)			Harris	HA5002 (2765)	
	GE/RCA	CD54HCT244	(2640, 2653)		GE/RCA	CD74HCT237	(2640)	74HCT541	Toshiba	SN74HCT374 TC74HCT374A			Hytek	HY0002	
	Micrel	MIC54HCT244			Plessey	MV74HCT237			CTI	74HCT541			LinearTech	LT1010	
	Motorola	MC54HCT244		74HCT240	Signetics	74HCT237			GE/RCA	CD74HCT541	(2641)		Micra	MC0002	
	National	MM54HCT244			TI	SN74HCT237			Micrel	MIC74HCT541			National	LH0002	
	Signetics	54HCT244			CTI	74HCT240			Motorola	MC74HCT541		LH0032	AD	ADLH0032 (2428, 2461)	
54HCT245	CTI	SN54HCT244			GE/RCA	CD74HCT240	(2640)		Plessey	MV74HCT541				HOS050 (2428, 2461)	
	GE/RCA	CD54HCT245	(2640, 2653)		Hitachi	HD74HCT240			SGS-Thomson	M74HCT541				HOS060 (2428, 2461)	
	Motorola	MC54HCT245			Micrel	MIC74HCT240			Signetics	74HCT541 (3057)				MOS050	
	National	MM54HCT245			Motorola	MC74HCT240			TI	SN74HCT541			DataLinear	SP2542	
	Signetics	54HCT245			Plessey	MV74HCT240		74HCT573	Toshiba	TC74HCT541			Elantec	ELH0032	
	TI	SN54HCT245			Samsung	74HCT240			CTI	74HCT573			Harris	HA2542 (2763)	
54HCT373	CTI	54HCT373			SGS-Thomson	M74HCT240			GE/RCA	CD74HCT573	(2641)		Micra	MC0032	
	GE/RCA	CD54HCT373	(2641, 2653)		Signetics	74HCT240 (3057)			Micrel	MIC74HCT573			National	LH0032	
	Micrel	MIC54HCT373		74HCT241	TI	SN74HCT240			National	MM74HCT573		LH0033	TeledyneP	TP0032	
	Motorola	MC54HCT373			Toshiba	TC74HCT240A			Plessey	MV74HCT573			AD	ADLH0033 (2429, 2461)	
	National	MM54HCT373			CTI	74HCT241			SGS-Thomson	M74HCT573				HOS100 (2429)	
	Signetics	54HCT373			GE/RCA	CD74HCT241	(2640)		Signetics	74HCT573 (3057)			Burr-Brown	OPA633 (2542, 2544)	
54HCT374	CTI	SN54HCT373			Hitachi	HD74HCT241			TI	SN74HCT573				ELH0033	
	GE/RCA	CD54HCT374	(2641, 2653)		Micrel	MIC74HCT241		74HCT574	Toshiba	TC74HCT573			Elantec	ELH2004	
	Micrel	MIC54HCT374			Motorola	MC74HCT241			CTI	74HCT574				ELH2005	
	Motorola	MC54HCT374			National	MM74HCT241			GE/RCA	CD74HCT574	(2641)			EL2004	
	National	MM54HCT374			Plessey	MV74HCT241			Micrel	MIC74HCT574				EL2005	
	TI	SN54HCT374			Samsung	74HCT241			National	MM74HCT574				EL2033	
54HCT540	CTI	54HCT540			SGS-Thomson	M74HCT241			Plessey	MV74HCT574			Harris	HA5033 (2766)	
	GE/RCA	CD54HCT540	(2641)	74HCT244	Signetics	74HCT241 (3057)			SGS-Thomson	M74HCT574			Maxim	LH0033	
	Motorola	MC54HCT540			TI	SN74HCT241			Signetics	74HCT574 (3057)				MAX460	
	National	MM54HCT540			Toshiba	TC74HCT241A		74HCT240	TI	SN74HCT574			Micra	MC0033	
	TI	SN54HCT540			CTI	74HCT244			Toshiba	TC74HCT574			MicroPwr	MP0033	
	CTI	54HCT541			GE/RCA	CD74HCT244	(2640, 2653)		GE/RCA	CD74HCT574	(2640)			MP0033C	
	Motorola	MC54HCT541			Hitachi	HD74HCT244			Hitachi	HD74HCT574			National	MP2004	
	National	MM54HCT541			Micrel	MIC74HCT244			Motorola	MC74HCT574	(2939)		OEI	LH0033	
	TI	SN54HCT541			Motorola	MC74HCT244			National	MM74HCT574			TeledyneP	AH001	
54HC240	GE/RCA	CD54HC240	(2640)		Plessey	MV74HCT244			SGS-Thomson	M74HCT240			Fujitsu	MB7117	
	Motorola	MC54HC240	(2939)	74HCT245	Samsung	74HCT244			SGS-Thomson	M74HCT240			Maxim	ICL7117	
	National	MM54HC240			Signetics	74HCT244 (3057)			Signetics	74HC240 (3057)			TeledyneS	TSC7117 (3279)	
	Signetics	54HC240			TI	SN74HCT244			TI	SN74HCT240			Datel	AM7650 (2598)	
	TI	SN54HC240			Toshiba	TC74HCT244A		74HC241	Toshiba	TC74HC240A	(3340)		LinearTech	LTC1052	
54HC241	GE/RCA	CD54HC241	(2640)		CTI	74HCT245			GE/RCA	CD74HC241	(2640)			LTC7652	
	Motorola	MC54HC241	(2939)		CMD Micro	G74SC245			Hitachi	HD74HC241			Maxim	ICL7650	
	National	MM54HC241			GE/RCA	CD74HCT245	(2640, 2653)		Motorola	MC74HC241	(2939)		Siliconix	SI7135	
	TI	SN54HC241			Hitachi	HD74HCT245			National	MM74HC241				SI7652	
	GE/RCA	CD54HC244	(2640, 2653)		Micrel	MIC74HCT245			SGS-Thomson	M74HC241			TeledyneS	TSC7650	
	Motorola	MC54HC244	(2939)		Motorola	MC74HCT245			Signetics	74HC241 (3057)				TSC7652	
	National	MM54HC244			National	MM74HCT245		74HC244	TI	SN74HC241	(3340)		Datel	V17660	(2600)
	Signetics	54HC244			Plessey	MV74HCT245			Toshiba	TC74HC241A	(3340)		LinearTech	LTC1044	
	TI	SN54HC244			SGS-Thomson	M74HCT245			Hitachi	HD74HC244			Maxim	ICL7660	
54HC373	GE/RCA	CD54HC373	(2641, 2653)		Signetics	74HCT245 (3057)			Motorola	MC74HC244	(2939)		National	LMC7660	
	Motorola	MC54HC373	(2941)	74HCT374	TI	SN74HCT245			GE/RCA	CD74HC244	(2640, 2653)		Siliconix	SI7660	
	National	MM54HC373			Toshiba	TC74HCT245A			Hitachi	HD74HC244			TeledyneS	TSC7660	
	Signetics	54HC373			CTI	74HCT373			National	MM74HC244					
	TI	SN54HC373			CMD Micro	G74SC373		74HC241	SGS-Thomson	M74HC244					
	GE/RCA	CD54HC374	(2641, 2653)		GE/RCA	CD74HCT373	(2641, 2653)		Signetics	74HC244 (3057)					
	Motorola	MC54HC374	(2942)		Hitachi	HD74HCT373			TI	SN74HC244					
	National	MM54HC374			Micrel	MIC74HCT373		74HC244	Toshiba	TC74HC244A	(3340)				
	Signetics	54HC374			Motorola	MC74HCT373			GE/RCA	CD74HC373	(2641, 2653)				
	TI	SN54HC374			National	MM74HCT373		74HC373	Hitachi	HD74HC373					
	GE/RCA	CD54HC374	(2641, 2653)		Plessey	MV74HCT373			Motorola	MC74HC373	(2941)				
	Motorola	MC54HC374	(2942)		SGS-Thomson	M74HCT373			National	MM74HC373					
	National	MM54HC374			Signetics	74HCT373 (3057)			SGS-Thomson	M74HC373					
	Signetics	54HC374			TI	SN74HCT373		74HCT374	Hitachi	HD74HC373					
	TI	SN54HC374			Toshiba	TC74HCT373			Motorola	MC74HC373	(2941)				
	GE/RCA	CD74HCT137	(2640)		CTI	74HCT374			National	MM74HC373					
	Plessey	MV74HCT137			CMD Micro	G74SC374			Signetics	74HC373 (3057)					
	SGS-Thomson	M74HCT137			GE/RCA	CD74HCT374	(2641, 2653)		TI	SN74HC373					
	TI	SN74HCT137			Hitachi	HD74HCT374			Toshiba	TC74HC373A	(3340)				
	Motorola	MC74HCT137			Micrel	MIC74HCT374									
	CTI	74HCT139			Motorola	MC74HCT374									
	GE/RCA	CD74HCT139	(2640)		National	MM74HCT374									
	IDT	IDT74HCT139	(Continued)		Plessey	MV74HCT374									

• Discontinued

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IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Teledyne Philbrick (Cont'd)				TP4140	Datel	ADCEK8B (2595)		TP574A			(Cont'd)	TSC18C44			(Cont'd)
TP0032			(Cont'd)	TP4141	TeledyneS	TSC8700			Maxim	MAX574			Unitrode	UC1844	
TP1319-01	National	LH0032		TP4142	Datel	ADCEK10B (2595)			MCE	MCE574				UC1844A	
	TeledyneC	LH0032			Datel	ADCEK12B (2595)			MicroNet	MN574				UC1845	
TP1322	AD	AD504			TeledyneS	TSC8702		TP7541	MicroPwr	MN574A		TSC18C45	IPS	IP1844-45	
	PMI	OP05		TP4143	Datel	TSC8750			AD	AD7541 (2411, 2462, 2470)			Motorola	UC1844A	
	AD	AD509	(2428, 2462)	TP4144	TeledyneS	ADCEK8B								UC1845A	
			(2543)	TP4145	Datel	TSC8703			Burr-Brown	DAC7541A (2552)			SGS-Thomson	UC1844-45	
TP1326	Burr-Brown	3507			Datel	ADCEK10B			Datel	DAC7541 (2596)			TeledyneS	TSC18C44	
	DataLinear	SP2520		TP4146	TeledyneS	ADCEK12B (2595)				DA867541				TSC28C45	
	Elantec	EHA2520		TP4146	Datel	TSC8705			GE/Intersil	AD7541 (2666)			Unitrode	UC1844	
	Harris	HA2520		TP4551	TeledyneS	ADCEK12D (2595)				AD7641				UC1844A	
	Elantec	EHA2600			AD	AD7507 (2425, 2462)			Honeywell	HDAC7541				UC1845	
	Harris	HA2600							HybridSys	DAC331				UC1845A	
	Hitachi	HA17741			Datel	MVD807 (2600)				HS7541				UC1846	
	Motorola	MC1556 (2954)				MXD807 (2600)			Maxim	AD7541		TSC18C46	LinearTech	UC1846	
		ML1556				IH6216 (2670)			MicroPwr	MP7541			National	DM54ALS468	
	Signetics	SE556			GE/Intersil				Siliconix	SI7541A				DM54AS1034	
	TI	MC1556			Harris				TeledyneS	TSC7541			SGS-Thomson	UC1846	
		SE556M			MicroPwr	MP7507				SCH804				SG1846	
TP1332	Harris	HA2645		TP4552	PMI	MUX28		4860	Burr-Brown	SHC804 (2556)			SiliconG	SG1846	
	Motorola	MC1436 (2953, 2989)		TP4553	Siliconix	DG507A				SHM4860 (2597)			Siliconix	SG1846	
					Burr-Brown	HI506A			Datel				TeledyneS	TSC170 (3268)	
	National	LM1436		TP4554	Harris	HI506A			HybridSys	HS9720			TI	SN54AS1034A	
		LM343			Motorola	MC14553 (2943)			ILC-DDC	THA05203			Unitrode	UC1846	
	SiliconG	SG1436			National	F4553			TeledyneP	TP4860			Dallas	DS1228	
TP1341	DataLinear	SP2540			Burr-Brown	MPC8S								DS232	
	Harris	HA2540 (2761)			Datel	MUX808	(2600)						LinearTech	LT108	
						ICL6108								LT1081	
TP1342	PMI	OP64			GE/Intersil	IH6108	(2670)		TSC04	GE/RCA	CD54AC00 (2642)			MAX232	
	DataLinear	SP2539			Harris	HI508				LinearTech	LM385-1.2		TSC28C42	Maxim	MAX232
	Harris	HA2539 (2760)			Maxim	DG508A			National	LM385-1.2			Cherry Semi	CS2842	
TP1344	Harris	HA5190				MAX358				54AC00				CS2842A	
TP1345	Harris	HA5160				MAX368			Plessey	REF12			Gennum	LS2842	
TP1346	Burr-Brown	3527			MicroPwr	MP7508DI			LinearTech	LM336-2.5			SGS-Thomson	UC2842	
	Harris	HA5180			Motorola	MC6108 (2970)				LM385-2.5				SG2842	
	PMI	OP43			National	LF11508			Motorola	LM385-2.5			TSC28C43	Unitrode	UC2842
TP1347	Harris	HA5180A			PMI	DMX88			National	LM385-2.5				Cherry Semi	CS2843
TP1359	AD	ADLH0033 (2429, 2461)				MUX88			Plessey	REF25			IPS	IP2843	
						MUX88			TI	LM385-2.5			SGS-Thomson	UC2843	
					Siliconix	DG508A			National	LM103-1.8				SG2843	
					Datel	VFQ1			SGS-Thomson	SG103-1.8			TSC28C44	Unitrode	UC2843
	Burr-Brown	OP4633 (2429, 2544)		TP4780	TeledyneS	TSC9400								UC2844	
				TP4781	National	LM231			TSC14433	Motorola	MC14433 (2970, 2991)		TSC28C45	IPS	IP1844-45
	Elantec	ELH0033				LM231A				TeledyneS	TSC14433A			UC1844A	
		ELH2004				LM331				Motorola	MC14433 (2970, 2991)			UC1845A	
		ELH2005				LM331A							SGS-Thomson	UC1844-45	
		EL2004			TeledyneS	TSC9401				TeledyneS	TSC14433			TSC18C44	
		EL2005			TeledyneS	TSC9402				LinearTech	UC1846			TSC18C45	
		EL2033			AD	AD583 (2423)				National	DM54ALS468			UC1844	
	Harris	HA5033 (2766)		TP4782	Datel	SHMIC-1 (2597)					DM54AS1034			UC1845	
	Maxim	LH0033		TP4856	Harris	HA2475				SGS-Thomson	UC1846			UC1845A	
		MAX460			PMI	SMP10					UC1846			DM54ALS519	
		MAX460				SMP11				SiliconG	SG1846			DM54AS1036	
	Micra	MC0033		TP4860	Burr-Brown	SCH804				Siliconix	SG1846				
	MicroPwr	MP0033				SHC804 (2556)				TeledyneS	TSC18C46			SGS-Thomson	UC2846
		MP0033C			Datel	SHM4860 (2597)				TI	SN54AS1034A				
		MP2004			HybridSys	HS9720				Unitrode	UC1846			SiliconG	SG2846
	National	LH0033			ILC-DDC	THA05203				UC1847				TeledyneS	TSC170 (3268)
	OEI	AH001			TeledyneP	4860				LinearTech	UC1847			TI	SN54AS1036A
	TeledyneC	LH0033		TP4866	Burr-Brown	SHC5320 (2556)				National	DM54ALS521			Unitrode	UC2846
	AD	AD506 (2462, 2470)			Datel	SHM20 (2597)					DM54AS04			SGS-Thomson	UC2847
					Harris	HA5320				SiliconG	SG1847				
						HI5320				Siliconix	SG1847			TSC38C42	Cherry Semi
						LL5320					SG2847				CS3842A
	National	LH0022		TP5214	LSI Logic	AD5214 (2462)				Unitrode	UC1847				UC3842
		LH740A			AD	ADC5214 (2595)				Cherry Semi	CS1842				TSC28C42
		LM0052			Datel	MN5214				IPS	IP1842				CS3843
	PMI	OP41			HybridSys	MN5214				LinearTech	LT1842				IP3843
		OP43			MicroNet	AD565A (2411, 2462)				Motorola	UC1842A				SGS-Thomson
TP1424	TeledyneP	TP1425		TP565A	AD	AD565J (2411, 2462)				SGS-Thomson	UC1842				UC3843
	AD	AD506 (2462, 2470)									UC1842				SG3843
										SiliconG	SG1842				UC3843
										Unitrode	UC1842				UC3844
											UC1842A				UC3845
	National	LH0022			Harris	HI565A					CS1843				RL3846
		LH740A			Maxim	AD565A					IP1843				UC3846
		LM0052			MCE	MCE565					LT1843				SG3846
	PMI	OP41			MicroNet	MN565A					UC1843A				SG3846
		OP43			National	LM565									TeledyneS
		TP1424			Signetics	NE565					UC1843				UC3846
TP1430	TeledyneP	TP1437		TP574A	Adv Analog	ADC574 (2401)					SG1843				UC3847
TP1437	Datel	AM500 (2598)				ADC574A (2401)					UC1843				SG3847
TP1468	HyComp	HC1437			AD	AD574 (2460)					IP1844-45				SG3847
	Apex	PA01 (2480)				AD574 (2460)					UC1843A				SG3847
		PA10 (2480)													TeledyneS
		PA12 (2480)													UC3847
		OPA511 (2544)			Burr-Brown	ADC574A (2557)									UC3847
		OPA512 (2544)			Datel	ADC574A (2595)									ADG201 (2450, 2461, 2470)
		PA83 (2480)			GoldStar	GL574 (2714)									
TP1480	Apex	PA83 (2480)			Harris	HI574 (2756)									
TP3554	Burr-Brown	3554 (2543)			HybridSys	HS574									
TP4065	HybridSys	HS9393				HS574A									
			(Continued)				(Continued)				(Continued)				(Continued)

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Teledyne Semiconductor (Cont'd)				TSC7212	GE/Intersil	ICM7212 (2686)		TSC9491		(Cont'd)		U686BS	AD	AD7576 (2416, 2462)			
TSC4201	Harris	HI201	(Cont'd)	TSC747	IDT	IDT7212	(2647)	National	LM113	(2426, 2462)		Maxim	AD7576				
	Maxim	DG201A			GE/RCA	CA747			LM313				NEC		μPD23C1000A		
	MicroPwr	MP201			Hitachi	HA17747			ZN404				Plessey		SP4632		
	National	LF11201			MicroPwr	MPOF04			ZN423				TeledyneS		SP4653		
TSC4202	PMI	SW201	(2462)	TSC7541	Motorola	MC1747 (2954, 2989)	(2411, 2462, 2470)	TI	TSC04	(2426, 2462)		SEEQ	8023				
	Siliconix	DG201A			National	μA747			TSC05				Siemens		SDA4212		
	TeledyneS	TSC4202			NEC	μPC1418			AD				ADREF01		S062P	Telefunken	U684
	AD	ADG202			PMI	OP04			AD581								
TSC426	GE/Intersil	DG202	(2676)	TSC7650	Raytheon	RC747 (3024)	(2598)	Maxim	LTREF01	(3012, 3025)		M957	SiliconG	SM635			
	Motorola	MMH0026			Signetics	μA747			REF01A				SiliconSys	SS1980			
	National	DS0026			TI	μA747			REF01				AD581	Unitrode		PIC635	
	SGS-Thomson	NMH0026			AD	AD7541 (2411, 2462, 2470)			REF01				MicroPwr	MPREF01		SiliconG	SM636
TSC441		SG1626	(2424, 2462)	TSC7652	Burr-Brown	DAC7541A (2552)	(2598)	MicroPwr	MC1400AG10	(2426, 2462)		M980	AD	AD636 (2432)	(2432)		
		SG2626			Datel	DAC7541 (2596)			Motorola				MC1504	SiliconSys		SS1981	
		SG3626			GE/Intersil	AD7541 (2666)			PMI				REF01	Unitrode		PIC636	
	Siliconix	SG1626			Honeywell	HDAC7541			REF01AZ				SiliconG	SM636			
TSC442	AD	ADG221	(2424, 2462)	TSC7656	HybridSys	DAC331	(2598)	Raytheon	REF02	(3012, 3025)		M981	AD	AD636 (2432)	(2432)		
		GoldStar			Maxim	AD7541			REF02				REF01	SiliconSys		SS1981	
		TI			MicroPwr	MP7541			REF02				REF01	Unitrode		PIC636	
		Unicorn			Siliconix	SI7541A			REF02				REF01	SiliconG		SG55236	
TSC444	AD	ADG222	(2424, 2462)	TSC7660	TeledyneP	TP7541	(2598)	Raytheon	REF01	(3012, 3025)		M982	AD	AD636 (2432)	(2432)		
		AD7512			Datel	AM7650			LinearTech				LTREF02	REF02E		SG55236A	
		AD7592			LinearTech	LTC1052			Maxim				ICL7650	REF02E		SS1982	
		AD7599			Maxim	ICL7652			Siliconix				SI7135	REF01		SNJ55236	
TSC445	MicroPwr	MP7512DI	(2424, 2462)	TSC7662	TeledyneS	TSC7652	(2598)	Raytheon	REF02	(3012, 3025)		M988	Burr-Brown	3293			
	Unitrode	PIC7512			Datel	AM7650			LinearTech				LTREF02	REF02E			
	AD	AD7511			LinearTech	LTC1052			Maxim				ICL7650	REF02			
		AD7590			Maxim	ICL7652			Siliconix				SI7135	REF02			
TSC450	MicroPwr	MP7511DI	(2424, 2462)	TSC7666	TeledyneS	TSC7650	(2600)	Telefunken	TBA120	(2416, 2462)		μAA170	Siemens	μAA170	(2619)		
	National	DM7590			Datel	VI7660			National				LM301	Exar		KR2240	
	PMI	SW7511			LinearTech	LTC1044			LinearTech				LM301	GE/Intersil		ICL8240	
	Unitrode	PIC7511			Maxim	ICL7660			Maxim				ICL7652	National		AD2240	
TSC500	GoldStar	GD74LS590	(2708)	TSC7662	National	LMC7660	(2676)	MicroPwr	MPREF02	(2426, 2462)		μA301	AD	AD301	(2647)		
	Samsung	KS74AHCT590			Siliconix	SI7660			PMI				REF01	GE/Intersil		AD301	
	TI	SN74LS590			TeledyneS	TSC7652			Raytheon				REF02	GE/RCA		CA301A	
		TL500			LinearTech	LTC1052			LinearTech				LTC1054	LinearTech		LM301	
TSC7106	GE/Intersil	ICL7106	(2667)	TSC7668	Maxim	ICL7652	(2600)	Telefunken	TBA120	(2416, 2462)		μA709	National	μA301	(2952)		
	Maxim	ICL7106			Datel	VI7660			Siemens				TBA120	μA301A			
	GE/Intersil	ICL7107			LinearTech	LTC1044			Plessey				TBA530	LM301			
	Maxim	ICL7107			Maxim	ICL7660			Plessey				TBA540	LM301A			
TSC7107	Datel	ADC7109	(2595)	TSC7670	Siliconix	SI7660	(2676)	GoldStar	GL1170	(2416, 2462)		μA710M	NEC	μPC301	(3024)		
	GE/Intersil	ICL7109			TeledyneS	TSC7652			National				ULN2204	μPC301A			
	Maxim	ICL7109			LinearTech	LTC1052			Telefunken				U4178	OP77			
	Maxim	ICL7109			Maxim	ICL7652			SGS-Thomson				ULN2270	LM301			
TSC7116	Siliconix	TSC7109A	(2667)	TSC7672	TI	ADC0803	(2669)	MicroLinear	ML510	(2416, 2462)		μA711M	SiliconG	SG301	(2952)		
	Fujitsu	MB7116			GE/Intersil	ADC0803			SGS-Thomson				TDA2002	TI		SG301	
	GE/Intersil	ICL7116			Signetics	ADC0803			SGS-Thomson				TDA2030	Toshiba		TA7506	
	Maxim	ICL7116			TI	ADC0803			SGS-Thomson				TDA2140	Motorola		MC1709	
TSC7117	Fujitsu	MB7117	(2667)	TSC7674	Datel	ADCEK12B	(2595)	SGS-Thomson	TDA2151	(2416, 2462)		μA723	National	LM1709	(2651, 2659)		
	GE/Intersil	ICL7117			TeledyneP	TP4142			SGS-Thomson				TDA2161	LM709			
	Maxim	ICL7117			TeledyneS	TSC8750			SGS-Thomson				TDA2591	NEC		μPC55	
	Maxim	ICL7126			Datel	ADCE78B			SGS-Thomson				TDA2593	PMI		OP06	
TSC7126	GE/Intersil	ICL7126	(2667)	TSC7676	TeledyneP	TP4143	(2595)	National	TDA2593	(2416, 2462)		μA723	TI	μ709	(3039)		
	Maxim	ICL7126			Datel	ADCE78B			National				TDA2593	μPC55			
	Samsung	KS7126			TeledyneP	TP4144			Plessey				TDA2593	OP06			
	GE/Intersil	ICL7129			TeledyneS	TSC8702			SGS-Thomson				TDA2593	μ709			
TSC7129	Maxim	ICL7129	(2667)	TSC7678	Datel	ADCEK12B	(2595)	National	TBA800	(2416, 2462)		μA723	GE/Intersil	LM723	(2651, 2659)		
	Maxim	ICL7129			TeledyneP	TP4145			National				TBA810	LM723			
	Maxim	ICL7129			TeledyneP	TP4145			SGS-Thomson				TBA810	HA17723			
	Maxim	ICL7135			National	LM231			Telefunken				AD7576	Motorola		MC1723	
TSC7135	GE/Intersil	ICL7135	(2667, 2669)	TSC7680	LM231A	(2677)		NCM	NCM6001Z	(2416, 2462)		μA723	National	μA723	(2962, 2989)		
		LM331			TeledyneP				TP4781				SGS-Thomson	MK2870		μA723M	
		LM331A			TeledyneP				TP4782				Telefunken	ULN2204		LM723	
		LM331A			Maxim				MAX420				AD	AD7576		RC723	
TSC7136	Maxim	ICL7136	(2667, 2656)	TSC7682	COP421	(2677)		Maxim	AD7576	(2416, 2462)		μA723	Samsung	LM723	(3039)		
	Siliconix	SI7135			GE/Intersil				ICL8069				NEC	μPD23C1000A		SGS-Thomson	μA723
	GE/Intersil	ICL7136			LinearTech				LT1004				Plessey	SP4632		Signetics	SFC2723
	Intel	ICL7136			Maxim				ICL8069				SEEQ	8023		SiliconG	SG723
TSC7211	Maxim	ICL7136	(2667, 2656)	TSC7684	MicroPwr	MP5010	(2677)	Telefunken	U686BS	(2416, 2462)		μA723M	TI	μA723M	(2962, 2989)		
	GE/Intersil	ICL7211			GE/Intersil	ICL8069			Siemens				SDA4212	SG723			
	GE/RCA	CD7211			LinearTech	LT1004			Siemens				SDA4212	SG723			
	Hughes	HLCD7211			Maxim	ICL8069			Telefunken				U686BS	SG723			
	Maxim	ICM7211															
(Continued)				(Continued)				(Continued)				(Continued)					

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Texas Instruments (Cont'd)				μA741M	Motorola	MC1741	(Cont'd) (2953, 2989)	μA78L06			(Cont'd)	μA78M05	SiliconG	SG14005 SG14012 SG7805AT TA78M05 μA78M05M MC78M06	(Cont'd) (2960)	
μA723M	Fujitsu	MB3752 MB723 LM723 CA723	(2651, 2657, 2659)		National	μA741M LM741 μPC151 μPC741		μA78L06A	TI	μA78L06A TA78L012 μA78L06 μA78L06A LM78L06		μA78M05M	Toshiba	SG14005 SG14012 SG7805AT TA78M05 μA78M05M MC78M06	(Cont'd) (2960)	
	GE/Intersil	LM723 HA17723			NEC	OP02 OP77 PM741			National	μA78L06 μA87L06 TA78L012		μA78M06	National	LM78M06 MC78M06 L78M06		
	Hitachi	MC1723	(2962, 2989)		PMI	RM741		μA78L08	TI	MC78L08	(2960, 2990)		Samsung	SGS-Thomson	L78M06 L78M06CV TA78M06 MC78M08	(2960)
	Motorola	μA723 μA723M LM723 RC723 RM723			Raytheon	Samsung LM741	(3039)		Motorola	μA78L08 μA78L08A LM78L08		μA78M08	National	LM78M08 LM78M08 μA78M08 μPC78M08		
	National	μA723 μA723M LM723 RC723 RM723			SGS-Thomson	μA741 LM741 LS141			National	μA78L08 μA78L08A LM78L08			NEC	μPC78M08		
	Raytheon	Samsung LM723	(3039)		Signetics	μA741 SG741		μA78L08A	TI	TA78L008 MC78L08	(2960, 2990)	μA78M09	Samsung	SGS-Thomson	L78M08 L78M08CV TA78M08 μA78M09 LM78M09	
	SGS-Thomson	μA723 LM723 L123 SFC2723			SiliconG	μA741 TA7504 PIC7504			Toshiba	μA78L08 LM78L08 μPC78L08 μA78L08 TA78L008			Sanyo	SGS-Thomson	L78M08 L78M08CV TA78M08 μA78M09 LM78M09	
	Signetics	μA723 SG723		μA747	GE/RCA CA747	(2647)			National	μA78L08 μA78L08A LM78L08		μA78M10	Toshiba	TA78M09 TA78M10 LM78M10		
	SiliconG	μA723 SG723			Hitachi	HA17747			NEC	μA78L08 μPC78L08 μA78L08 TA78L008			National	LM78M09 TA78M09 μA78M10 LM78M10		
	TI	μA723 A733			MicroPwr	MPOPO4	(2954, 2989)	μA78L09	TI	μA78L09 TA78L008 μA78L09	(2960, 2990)		SGS-Thomson	L78M09 TA78M09 μA78M10 LM78M10		
μA733	Adv Analog	μA733 NE592-8 SE592			Motorola MC1747	(2954, 2989)			Toshiba	μA78L09 LM78L09 μA78L09A μA78L09		μA78M12	Toshiba	LM78M12 LM78M12CV TA78M12 μA78M12M	(2961, 2990)	
	GE/Intersil	μA733 NE592-8 SE592			National	μA747 LM747 μPC1418 OP04 PM747			National	μA78L10 μA78L10A LM78L10 μA78L10A TA78L010			National	μA78M12 LM341-12 LM342-12 LM78M12 μPC78M12		
	Hitachi	HA17733		μA747M	GE/RCA CA747	(2647)		μA78L10A	TI	μA78L10 μA78L10A LM78L10 μA78L10A TA78L010		μA78M15	NEC	μPC78M12		
	Motorola	MC1733	(2953, 2989)		Hitachi	HA17747			Toshiba	μA78L10 μA78L10A LM78L10 μA78L10A TA78L010			Samsung	MC78M12 L78M12		
		NE592 SE592	(2991)		MicroPwr	MPOPO4	(2954, 2989)		TI	μA78L10 μA78L10A LM78L10 μA78L10A TA78L010		μA78M18	Sanyo	L78M12		
	National	μA733 LM733			Motorola MC1747	(2954, 2989)			TI	μA78L10 μA78L10A LM78L10 μA78L10A TA78L010			SGS-Thomson	L78M12 L78M12CV TA78M12 μA78M12M		
	Signetics	μA733 NE592 SE592			National	μA747 LM747 μPC1418 OP04 PM747		μA78L12	National	μA78L12 μA78L12A LM340LA-12 LM78L12 μPC78L12 TA78L012	(2961, 2990)	μA78M12M	Toshiba	LM78M12 LM78M12CV TA78M12 μA78M12M	(2961, 2990)	
	SiliconG	SG1401			Raytheon	RC747 RM747	(3024)		National	μA78L12 μA78L12A LM340LA-12 LM78L12 μPC78L12 TA78L012			National	μA78M15 LM341-15 LM342-15 LM78M15 μPC78M15		
	TI	μA733M NE592 NE592-8 SE592			Signetics	μA747 TSC747			National	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015	(2961, 2990)		NEC	MC78M15 L78M15		
μA733M	Adv Analog	A733 μA733 NE592-8 SE592		μA748	GE/RCA CA748	(2647)			TI	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015		μA78M18	Samsung	MC78M15 L78M15		
	GE/Intersil	μA733 NE592-8 SE592			Motorola MC1747	(2954, 2989)		μA78L15A	Toshiba	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015			SGS-Thomson	L78M15 L78M15CV TA78M15 MC78M18	(2961)	
	Hitachi	HA17733			Raytheon	RC747 RM747	(3024)		National	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015		μA78M20	Toshiba	LM78M15 L78M15CV TA78M15 MC78M18	(2961)	
	Motorola	MC1733	(2953, 2989)		Signetics	μA747 TSC747			TI	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015			National	μA78M18 MC78M18 L78M18		
		NE592 SE592	(2991)		TI	μA747			National	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015			SGS-Thomson	L78M18 L78M18 TA78M18 MC78M20	(2961)	
	National	μA733 LM733			GE/RCA CA748	(2647)			NEC	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015		μA78M24	Toshiba	LM78M18 L78M18 TA78M18 MC78M20	(2961)	
	Signetics	μA733 LM733			Motorola LM201	(2952, 2989)		μA78L15	Toshiba	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015			National	μA78M20 LM78M20		
		NE592 SE592			National	μA201 LM748			National	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015			SGS-Thomson	LM78M20 LM78M20 TA78M20 MC78M24	(2961)	
	SiliconG	SG1401			PMI	OP06 OP77 PM1008			TI	μA78L15 μA78L15A LM340LA-15 LM340T-15 LM78L15 μPC78L15 μA78L15A TA78L015		μA78M24	Toshiba	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	TI	μA733 NE592 NE592-8 SE592			SGS-Thomson	LM201 LM748 LS148 SG201 LM201 LM748 SN72748P		μA78L18	Toshiba	μA78L18 LM78L18 μA78L18 TA78L018			National	μA78M24 MC78M24 L78M24		
μA741	AD	AD741	(2427, 2462)		SiliconG	SG201 LM201 LM748 SN72748P			National	μA78L18 LM78L18 μA78L18 TA78L018		μA78M24	Samsung	SGS-Thomson	LM78M24 L78M24 TA78M24 MC78M24	(2961)
	Fujitsu	MB3609		μA78L02	National	μA78L02 μA78L02A			NEC	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	Hitachi	HA17741			TI	μA78L02 μA78L02A		μA78L20	TI	μA78L18 LM78L18 μA78L18 TA78L018		μA78M24	Toshiba	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	MicroPwr	MPOPO2			National	μA78L02 μA78L02A			Toshiba	μA78L18 LM78L18 μA78L18 TA78L018			National	μA78M24 MC78M24 L78M24		
	Motorola	MC1741	(2953, 2989)		TI	μA78L02 μA78L02A			National	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	National	μA741M LM741			Motorola MC78L05	(2990)			TI	μA78L18 LM78L18 μA78L18 TA78L018		μA78M24	Toshiba	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	NEC	μPC151			National	μA78L05 μA78L05A LM340LA-5 LM78L05			National	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	PMI	OP02 OP77 PM741			NEC	μPC78L05 μA78L05 LM340LA-5 LM78L05		μA78L20	Toshiba	μA78L18 LM78L18 μA78L18 TA78L018		μA78M24	Samsung	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	Raytheon	RM741			TI	μA78L05 μA78L05A LM340LA-5 LM78L05			National	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	Samsung	LM741	(3039)		Toshiba	TA78L005 μA78L05 LM340LA-5 LM78L05			TI	μA78L18 LM78L18 μA78L18 TA78L018		μA78M24	Samsung	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	SGS-Thomson	μA741 LM741 LS141			NEC	μPC78L05 μA78L05 LM340LA-5 LM78L05			Toshiba	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	Signetics	μA741 SG741			TI	μA78L05 μA78L05A LM340LA-5 LM78L05		μA78M05	National	μA78L18 LM78L18 μA78L18 TA78L018	(2990)	μA7805	Toshiba	LM78M24 L78M24 TA78M24 MC78M24	(2961)	
	SiliconG	μA741M TA7504 PIC7504			Motorola MC78L05	(2990)			National	μA78L18 LM78L18 μA78L18 TA78L018			National	μA78M24 MC78M24 L78M24		
	TI	μA741M			National	μA78L05 μA78L05A LM340LA-5 LM78L05			NEC	μA78L18 LM78L18 μA78L18 TA78L018			NEC	μA78M24 MC78M24 L78M24		
	Toshiba	TA7504			NEC	μPC78L05 μA78L05 LM340LA-5 LM78L05			Samsung	μA78L18 LM78L18 μA78L18 TA78L018			Samsung	μA78M24 MC78M24 L78M24		
	Unitrode	PIC7504			TI	μA78L05 μA78L05A LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
μA741M	AD	AD741	(2427, 2462)		Motorola MC78L05	(2990)			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	Fujitsu	MB3609			National	μA78L05 μA78L05A LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	Hitachi	HA17741			NEC	μPC78L05 μA78L05 LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	MicroPwr	MPOPO2			TI	μA78L05 μA78L05A LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	Motorola	MC1741	(2953, 2989)		Toshiba	TA78L005 μA78L05 LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	National	μA741M LM741			Motorola MC78L05	(2990)			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	NEC	μPC151			National	μA78L05 μA78L05A LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	PMI	OP02 OP77 PM741			NEC	μPC78L05 μA78L05 LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	Raytheon	RM741			TI	μA78L05 μA78L05A LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	Samsung	LM741	(3039)		Toshiba	TA78L005 μA78L05 LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	SGS-Thomson	μA741 LM741 LS141			Motorola MC78L05	(2990)			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	Signetics	μA741 SG741			National	μA78L05 μA78L05A LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	SiliconG	μA741M TA7504 PIC7504			NEC	μPC78L05 μA78L05 LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	TI	μA741M			TI	μA78L05 μA78L05A LM340LA-5 LM78L05			SGS-Thomson	μA78L18 LM78L18 μA78L18 TA78L018			SGS-Thomson	μA78M24 MC78M24 L78M24		
	Toshiba															

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				μA7818	Motorola	MC7818	(2961)	μA79M12M	Motorola	MC7912	(Cont'd)	μA7915	NEC	μPC7915	(Cont'd)
μA7805	SiliconG	SG7805	(Cont'd)	National	μA7818	LM7818		National	μA79M12	μA79M12M	(2960)	Samsung	SGS-Thomson	MC7915	
	Toshiba	TA78005		NEC	μPC7818	MC7818			μA7912	LM320MP12			SiliconG	μA7915	
μA7806	Unitrode	UC7805		Samsung	SGS-Thomson	μA7818			LM79M12	LM7912				SG320-15	
	GoldStar	GL7806	(2714)		SiliconG	SG7818			LM7912	LM7912				SG7915	
	Motorola	MC7806	(2960)			SG7818A			μPC7912	μPC7912				SG7915A	
	National	μA7806			Toshiba	TA78018			SGS-Thomson	MC7912				TA79015	
	NEC	LM7806		μA7820	AD	AD7820	(2414, 2416, 2462)					μA7918	Motorola	UC320-15	
	Samsung	μPC7806			Crystal	CS7820							National	UC7915	
	SGS-Thomson	MC7806			Maxim	AD7820			SiliconG	SG320P-12				MC7918	
		μA7806				MAX150				SG7912			Samsung	MC7918	
		L7806			National	μA7820				SG7912A			SGS-Thomson	SG7918	
	SiliconG	SG340-6				DS7820			TI	μA7912				L7918	
		SG7806				LM7820			Toshiba	TA78024			SiliconG	SG7918	
		SG7806A			PMI	PM0820				TA79012				SG7918A	
μA7808	Toshiba	TA78006			Samsung	KAD0820		μA7905	IPS	IP7905		μA7920	Toshiba	TA79018	
	GoldStar	GL7808	(2714)		SGS-Thomson				Motorola	MC7905	(2959)		National	μA7920	
	Hitachi	HA17808				L7820			National	LM7905				LM7920	
	Motorola	MC08			SiliconG	SG7820				MC7905			SGS-Thomson	L7920	
	National	μA7808				SG7820A				μPC7905			SiliconG	SG7920	
	NEC	LM7808			Siliconix	SI7820				SGS-Thomson				SG7920A	
	Samsung	μPC7808			TI	SN55182				L7905		μA7924	SiliconSys	TA79020	
	SGS-Thomson	MC7808		μA7824	AD	AD7824	(2414, 2416, 2462)			SG7905			Toshiba	GL7924	
		μA7808			GoldStar	GL7824	(2714)			SG7905A			GoldStar	HD74LS195A	
		L7808			Maxim	AD7824		μA7906	Unitrode	UC7905	(2960)		Hitachi	MC719924	
	SiliconG	SG340-8			Motorola	MC7824	(2961)		National	μA7906			Motorola	MC7924	(2961)
		SG7808			National	μA7824				LM7906				SN74LS195A	(2944)
		SG7808A				LM7824				LM7906			National	μA7924	
μA7809	Toshiba	TA78008			NEC	μPC7824			Samsung	MC7906				DM74LS195	
	GoldStar	GL7809	(2714)		Samsung	MC7824			SGS-Thomson	L7906				LM7924	
	Hitachi	HA17809			SGS-Thomson					TA78006				74LS195A	
	Motorola	MC7809				μA7824		μA7908	Toshiba	TA78006	(2960)		NEC	μPC7924	
	National	μA7809				L7824			National	μA79M08			Panasonic	DN74LS195A	
		LM7809			SiliconG	SG7824				μA7908			SGS-Thomson	L7924	
	NEC	μPC7809			TI	LM340-24				LM7908				T74LS195A	
μA7810	Toshiba	TA78009			Toshiba	TA78024				MC7908				74LS195A	
	National	μA7810		μA79M05	IPS	IP120-5			Samsung	MC7908			Signetics	74LS195A	(3057)
	SGS-Thomson	LM7810		μA79M05	National	IP320-5			SGS-Thomson	L7908		μA87L06	TI	SN74LS195A	
		L7810				LM120				SG7908			Toshiba	TA79024	
μA7812	Toshiba	TA78010				LM320-05			SiliconG	SG7908A			National	μA78L06	
	GoldStar	GL7812				LM79M05				μA79M08				LM78L06	
	IPS	IP140-12		μA79M05	SiliconG	SG120-5		μA7909	TI	TA79008	(2714)		TI	μA78L06	
		IP340-12				SG320-05				TA79008				μA78L06A	
		IP7812				SH12005			Toshiba	GL7909				μA78L06A	
		IP7812AC		μA79M05	Unitrode	UC320-05			National	μA7909			Toshiba	TA78L012	
	Motorola	LM340-12	(2960)	μA79M05M	National	μA79M05M				LM7909		μA9636A	National	μA9636A	
	MC7812	(2960)		μA79M06	National	μA79M06			NEC	μPC7909		μA9637A	National	μA9637A	
	National	μA7812		Motorola		MC7908	(2960)		SGS-Thomson	L7909		μA9638	National	μA9638	
		LM340-12				μA79M08		μA7910		TA79009				μA9679	
		LM7812				μA7908			Toshiba	AM7910			TI	SN75ALS191	
	NEC	μPC7812				LM7908			AMD	μA7910		μA9639	National	μA9639	
	Samsung	MC7812				MC7908			National	LM7910		μ709	Motorola	MC1709	(2952)
	SGS-Thomson					MC7908				LM7910			National	μA709	
		μA7812			Samsung	MC7908			SGS-Thomson	EF7910				LM1709	
		L7812			SGS-Thomson	L7908				TA78020				LM709	
	SiliconG	SG340-12				SG7908		μA7912	Toshiba	GL7912	(2714)		NEC	μPC55	
		SG7812			SiliconG	SG7908A			GoldStar	GL7912			PMI	OP06	
		SG7812A				μA7908			IPS	IP320-12			TI	μA709	
		SG7812AT			TI	TA79008				IP7912				ADC0801	
	Toshiba	TA78012		μA79M12	GoldStar	GL7912	(2714)		Motorola	MC7912	(2960)	ADC0801	National	ADC0801	
	Unitrode	UC340-12			IPS	IP320-12			National	μA79M12M		ADC0802	National	ADC0802	(2669)
		UC7812				IP7912				μA7912		ADC0803	Datel	ADC830	(2595)
μA7815	GoldStar	GL7815	(2714)	μA79M12	Motorola	MC7912	(2960)			LM320MP12			GE/Intersil	ADC0803	(2669)
	IPS	IP140-15				μA79M12				LM79M12			National	ADC0803	
		IP340-15				μA79M12M				LM7912			Signetics	ADC0803	
		IP7815				μA7912				μPC7912			TeledyneS	TSC8701	
		IP7815AC				LM320MP12				MC7912		ADC0804	GE/Intersil	ADC0804	(2669)
	Lambda	LA51515				LM79M12				SGS-Thomson			National	ADC0804	
	Motorola	LM340-15	(2960)	μA79M12	NEC	μPC7912				μA7912			Signetics	ADC0804	
	MC7815	(2961)			Samsung	MC7912			SiliconG	L7912		ADC0805	National	ADC0805	
	National	μA7815			SGS-Thomson	MC7912				SG320P-12			Signetics	ADC0805	
		LM340-15				μA7912				SG7912			TI	ADC0824A	
		LM7815				LM7912				SG7912A		ADC0808	MicroLinear	ML2258	
	NEC	μPC7815		μA79M12	SiliconG	SG320P-12			TI	μA79M12M			National	ADC0808	
	Samsung	MC7815				SG7912		μA7915	Toshiba	TA78024			Samsung	KAD0808	
	SGS-Thomson					SG7912A				TA79012			SGS-Thomson		
		μA7815		μA79M12	TI	μA79M12M			GoldStar	GL7915	(2714)		Siemens	MK0808	
		L7815				μA7912			IPS	IP320-15		ADC0809	MicroLinear	SDA0808	
	SiliconG	SG340-15				TA78024				IP7915			National	ADC0809	
		SG7815		μA79M12	Toshiba	TA79012			Motorola	MC7915	(2961)		Samsung	KAD0809	
		SG7815A				IP320T15			National	μA7915			National	ADC0805	
	TI	LM340-15		μA79M12M	GoldStar	GL7912	(2714)			LM320-15		ADC0824A	Signetics	ADC0805	
	Toshiba	TA78015			IPS	IP7912				LM320T15			TI	ADC0805	
	Unitrode	UC340-15				IP7912				LM7915					
		UC7815													

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Texas Instruments (Cont'd)				HA17082	SGS-Thomson	LF353	(Cont'd)	♦ JBP38S165	Fujitsu	MB7138E	(Cont'd)	LF412	MicroPwr	MPOP14	(Cont'd)	
ADC0831	Intel	ADC0831				TL082		♦ JBP38S165	MMI	MB7138H			Motorola	MC1458	(2954, 2989)	
	MicroLinear	ADC0831			TI	TL082				63S1681			National	µA1458HC		
	National	ADC0831		JAN855325	Motorola	MC55325		♦ JBP38S165	Motorola	MCM76			NEC	µPC1458		
	TI	ADC0831A			National	DS55325			National	DM878291			PMI	µPC251		
ADC0831A	Intel	ADC0831			SiliconG	JAN55325		♦ JBP38S165	Raytheon	932511				OP14		
	MicroLinear	ADC0831				SG55325			TI	29683A				OP215		
		ML2281			TI	SNJ55325		♦ JBP38S165		TBP38A166			Raytheon	OP270		
	National	ADC0831		♦ JBP28L86A	AMD	SN55325				TBP38S166			Samsung	RC2041		
ADC0832	TI	ADC0831			Cypress	CY7C282M (2585)		♦ JBP38S165	Waferscale	WS57C191 (3390)			SGS-Thomson	MC1458	(3039)	
	Intel	ADC0832			Gould/AMI	S25089		LF347	National	WS57C291 (3390)				µA1458		
	MicroLinear	ADC0832			Hitachi	HN25089		LF347B	National	LF347B				MC1458		
		ML2282			MMI	63S881		LF351	AMD	27S29			Signetics	NE5512		
	National	ADC0832			National	DM77LS181			MicroPwr	MP157				SA1458		
ADC0832B	TI	ADC0832B				DM77S181			National	LF157A			Toshiba	SE5512		
	Intel	ADC0832				DM77S281				LF351				TA75458		
	MicroLinear	ADC0832				DM87S181				LF353				TA75558		
		ML2282				DM87S281			NEC	µPC157		LF4126	National	LF4126	(2953, 2990)	
	National	ADC0832		♦ JBP28L86A	Raytheon	932451			PMI	OP15		LL081BC	Motorola	MC34001A	(2953, 2990)	
ADC0834A	TI	ADC0832				932451				PM157		♦ LM101	AD	AD101	(2470)	
	MicroLinear	ADC0834				29631			Raytheon	PM157A			GE/Intersil	AD101		
		ML2284				29631AM			Signetics	PLS157	(3209, 3213)		LinearTech	LM101		
ADC0838B	National	ADC0834		♦ JBP28L86A	Signetics	29632		LF353	TI	LF353			Motorola	LM101	(2952)	
	MicroLinear	ADC0838				S82S181			AD	AD381	(2428, 2462)		National	µA101		
AM26LS31	AMD	AM26LS31		♦ JBP28L86A	TI	28586-60				AD544	(2427, 2462)	♦ LM101	Raytheon	LM101	(3024)	
		26LS31		♦ JBP34L162	AMD	AM27S41			Burr-Brown	OPA606	(2540, 2543)		SGS-Thomson	LM101		
	Motorola	AM26LS31	(2983)			AM27S41A			LinearTech	LF155				LS101		
	National	µA26LS31		♦ JBP34L162	Fujitsu	27S41				LT1022				SG101		
		DS26LS31			MMI	53S1641				LT1055		♦ LM101A	LinearTech	LM101A		
AM26LS32A	Signetics	AM26LS31				63S1641				LT1056			National	LM101A		
	AMD	AM26LS32		♦ JBP34L162	National	63S1641A				OP15			National	LM106		
		AM26LS32A				DM77S195			MicroPwr	MP155		LM106	AD	AD741S	(2427, 2462)	
	Motorola	AM26LS32		♦ JBP34L162	Signetics	DM87S195			National	LF155				3500		
	National	µA26LS32				N82HS195				LF353			Burr-Brown	LM107		
		DM26LS32		♦ JBP34L162	TI	N82HS195A				LF411			LinearTech	LH741A		
		DS26LS32		♦ JBP34L162	AMD	82HS195				LM110			National	LM107		
	Signetics	AM26LS32		♦ JBP34S162		TBP34S162				LM210				OP02		
	TI	AM26LS32AM				AM27S41			NEC	µPC811		♦ LM107	PMI	OP77		
AM26LS32AM	AMD	AM26LS32		♦ JBP34S162	Fujitsu	27S41			PMI	OP215				PM741		
		AM26LS32A			MMI	53S1641				OP42		♦ LM107	Raytheon	RC741	(3024)	
	Motorola	AM26LS32				63S1641				OP43			SGS-Thomson	LM107		
	National	µA26LS32		♦ JBP34S162	National	63S1641A				PM155				SG107		
		DM26LS32				DM77S195				SGS-Thomson		♦ LM108	TI	SN74154		
		DS26LS32		♦ JBP34S162	Signetics	DM87S195				LF155			GE/Intersil	LM108	(2470)	
	Signetics	AM26LS32				N82HS195				LF411			LinearTech	LM108		
	TI	AM26LS32A		♦ JBP34S162	TI	N82HS195A		LF398	LinearTech	LF398			MicroPwr	MP108		
AM26LS33A	AMD	AM26LS33		♦ JBP34S162	AMD	82HS195			National	LM298			Motorola	LM108	(2952)	
		AM26LS33AM		♦ JBP38L165		TBP34S162				SMP10			National	µA108		
AM26LS33AM	AMD	AM26LS33				AM27S191				LF398				µA208		
	TI	AM26LS33A				AM27S291				NE5537				LM108		
AM26S10	AMD	AM26S10				AM27S291A		LF411	AD	AD381	(2428, 2462)	♦ LM108	PMI	OP97		
	Motorola	MC26S10		♦ JBP38L165	Cypress	AM27S291SA				AD544	(2427, 2462)			PM1008		
	National	DS26S10			Fujitsu	CY7C291 (2585)				OPA606	(2540, 2543)	♦ LM108	SiliconSys	PM108		
AM26S11	AMD	AM26S11		♦ JBP38L165	MMI	MB7138				LinearTech	LF155			SS108		
	National	DS26S11				MB7138E					LT1022			LM208		
♦ DM54S472	Fujitsu	MBM7124		♦ JBP38L165	Motorola	MB7138H					LT1055			AD	AD108A	
DP8480	National	DP8480			National	63S1681					LT1056			LinearTech	LM108A	(2952)
DP8481	National	DP8481		♦ JBP38L165		63S1681A					OP15			Motorola	µA108A	
DS3680	National	µA3680				MCM76					OP215			PMI	PM108A	
		DS3680		♦ JBP38L165	Raytheon	DM878291					OP42		♦ LM109	IPS	IP140-5	
D51C69	Commodore	MPS2332				932511					PM155			Motorola	IP140-5	(2959)
	Fujitsu	P51C69		♦ JBP38L165	Waferscale	WS57C191 (3390)			MicroPwr	MP155				National	µA109	
	Hitachi	P51C69				WS57C291 (3390)			National	LF155					LM109	
	Intel	UM2168		♦ JBP38S030	AMD	AM27LS19				LF353				SGS-Thomson	LM109	
		51C69				AM27S19				LF411					LM109	
	Microchip	RO9432		♦ JBP38S030	Fujitsu	27S19				LM110					SFC2109	
	Mitsubishi	M58333				MB7112				LM210					SG109	
	National	F3532		♦ JBP38S030	MMI	53S081				LM310				AD	AD111	(2470)
		NM52132				63S081				µPC811				LinearTech	LM111	
	NCR	NCR2332		♦ JBP38S030	Motorola	MCM27S19				OP15				Motorola	LM111	(2958)
	Panasonic	MN2332			National	DM74S288				OP215				National	µA111	
	Sharp	LH2332		♦ JBP38S030	Signetics	DM8578				OP42				PMI	LM111	
	Siemens	SAB8332				N82S123				OP43				Raytheon	LM111	(3025)
		SA88332		♦ JBP38S030	AMD	S82S123			SGS-Thomson	PM155				SGS-Thomson	LM111	
	Signetics	2332				82S123				LF155					LM111	
		2632A		♦ JBP38S165		AM27S191		LF411C	TI	LF353				Signetics	LM111	
	SiliconG	SG3532				AM27S291		LF412	National	LF411C				SiliconG	SG111	
	Supertex	CM3200		♦ JBP38S165	Cypress	AM27S291A	(2585)		GE/RCA	CA1458	(2647)	♦ LM117	TI	TL111		
		23SC32			Fujitsu	AM27S291S			Harris	HA21458			IPS	IP117		
	TI	P51C69				MB7138				HA5102	(Continued)		Lambda	LLM117	(Continued)	
	Toshiba	TMM333P														
HA17082	VLSI Tech	VT2332	(2619)													
	Exar	XR082	(2647)													
	Fujitsu	MB47082		♦ JBP38S165	Cypress	CY7C291 (2585)										
	GE/RCA	CA082	(Continued)		Fujitsu	MB7138	(Continued)									

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Texas Instruments (Cont'd)				LM201	National	μA201 LM748	(Cont'd)	LM258	GE/RCA Motorola	CA258A LM258	(2647) (2955, 2989)	LM301	LinearTech	LM301 LM301A	(Cont'd)	
♦ LM117	LinearTech MCE Motorola National	LM117 MCELM117 LM117 μA117 LM117	(2962)		PMI	OP06 OP77 PM1008			National	LM258A OP221			Motorola	LM301	(2952, 2989)	
♦ LM117	SGS-Thomson	LM117 SG117 TL117 UC117 LM118 LM118 LM118 OP42			SGS-Thomson	LM201 LM748 LS148 SG201 μA748 LM748 SN72748P		LM2900	Signetics Hitachi Motorola	LM258 HA17301 LM2900 MC3301	(2957) (2957)		National	μA301 μA301A LM301 LM301A μPC301 μPC301A OP77		
♦ LM118	LinearTech National PMI	LM118 LM118 OP42		LM201A	National	LM201A		LM2901	Raytheon	LM2900 RC3301	(2590)		NEC	μPC301 μPC301A	(3024)	
LM124	GE/RCA LinearTech National	CA124 LT1014 μA124 LM124A OP400 OP421 SG124 IP137 LM137 LT137	(2647)	♦ LM204	SGS-Thomson	LM204 LS204 SG204 LM207 Plessey ZNF050 OP02 OP77 SG207 SSI6505			Cypress IDT	CY7C901 IDT39C01	(2590)		PMI	Raytheon	LM301 LM301A LM301A LM301A μA301 LM301A TA7506 AD301 AD301 GE/Intersil GE/RCA	(2647)
♦ LM137	SGS-Thomson	LM137 SG137 SG137A UC137		♦ LM204	SiliconG	LM204			National	μA2901 μA3302 LM2901 LM3302 CMP04 PM139 PM339 LM2901 RC3302	(2958, 2989) (2958)	LM301A	Toshiba AD GE/Intersil GE/RCA	LM301 LM301A LM301A LM301A μA301 LM301A TA7506 AD301 AD301 CA301A	(2647)	
♦ LM137	MCE Motorola National SGS-Thomson	MCELM137 LM137 LM137 SG137 SG137A UC137	(2962)	LM207	National	LM207 Plessey ZNF050 OP02 OP77 SG207 SSI6505			PMI	LM2901 RC3302 CMP04 PM139 PM339 LM2901 RC3302			LinearTech	LM301 LM301A LM301A LM301A μA301 μA301A LM301 LM301A TA7506 AD301 AD301 GE/Intersil GE/RCA	(2952, 2989)	
♦ LM137	SGS-Thomson	LM137 SG137 SG137A UC137		LM208	SiliconSys AD AD108 GE/Intersil LinearTech MicroPwr Motorola	LM108 LM108 μA108 μA208 LM108 OP97 PM1008 PM108 SSI108 AD AD211 Motorola LM211	(2470) (2952)	LM2902	Signetics SiliconG TI Toshiba GoldStar Hitachi Motorola	MC3302 MC3302 SG324A LM3302 TA75339 GL324 HA17902 LM2902	(2714)		NEC	μPC301 μPC301A OP77		
♦ LM137	Unitrode GE/RCA Motorola National	LM137 SG137 SG137A UC137 CA139 LM139 μA139 LM139 CMPO4 PM139 LM139 LM139 CA139A LM139A LM3302 LM139A CMP04 PM139A LM339 XR4741 HA4741 LT1014 MPOP11 LM148 LM248 MC33174 MC4741	(2648) (2958)	LM211	National	LM211 PM211	(2470) (2958, 2989)	LM2903	SiliconG TI Toshiba AD GE/RCA	LM2902 LM324 TA75902 AD311 CA311 LM311 LM311 LM311 LM311	(2956, 2989) (2957, 2990)	♦ LM305A	Toshiba National SiliconG National	LM301 LM301A SG301 μA301 LM301 TA7506 LM305A SG305A LM306 LM307 LM307 ZNFREF100 OP02 OP77 SG307 AD Burr-Brown 3500 3501 AD308 LM308 LM308 LM308	(3024)	
LM139A	Raytheon Signetics GE/RCA Motorola	LM139 LM139 CA139A LM139A LM3302 LM139A CMP04 PM139A LM339 XR4741 HA4741 LT1014 MPOP11 LM148 LM248 MC33174 MC4741	(3025) (2648) (2958)	♦ LM217	SGS-Thomson	LM217 SG217 SG217A UC217 VTC VM217 LM218 PMI OP42 SGS-Thomson LM218 LM224 Motorola LM224	(2952)		NEC	μPC324 μPC451 OP400 OP421 LM2902		LM306	LinearTech	LM306 LM307 LM307 ZNFREF100 OP02 OP77 SG307 AD Burr-Brown 3500 3501 AD308 LM308 LM308 LM308	(2470)	
LM148	Signetics Exar Harris LinearTech MicroPwr Motorola	LM148 LM248 MC33174 MC4741	(2619)	♦ LM217	IPS MCE Motorola National SGS-Thomson	IP217 MCELM217 LM217 LM217 LM218 PMI OP42 SGS-Thomson LM218 LM224 Motorola LM224	(2962)	LM2904	Raytheon SGS-Thomson	LM2902 LM324 TA75902 AD311 CA311 LM311 LM311 LM311 LM311	(2470) (2648)	♦ LM308	SiiconG AD	SG307 AD308 3500 3501 AD308 LM308 LM308 LM308	(2952, 2989)	
	National	μA148 μA248 LM148 μPC4741 OP11 OP400 OP421 OP470 PM148 PM248 HA14741 HA34741 HA4741 LM148 RM4158 A158 CA158A LT1013 MAX158 LM158 LM158A OP200 OP221 RM4139 LM158 LT1013 LM185-2.5	(2957) (2956) (2957, 2990) (2956, 2990)	LM218	SGS-Thomson	LM218 LM224 Motorola LM224	(2956, 2989)	LM2904	NEC PMI Raytheon SGS-Thomson	μPC311 PM211 LM311 LM311 LM311 LM311 LM311 LM311 LM311	(2958, 2989) (2958, 2989)	♦ LM308	PMI	OP97 PM1008 PM1012 PM308 LM308 LM308 LM308	(2470)	
LM158	Adv Analog GE/RCA LinearTech Maxim Motorola National PMI	LM158 LM248 MC33174 MC4741	(2957, 2990) (2956, 2990)	♦ LM217	IPS MCE Motorola National SiliconG	IP237 MCELM237 LM237 LM237 SG237 SG237A UC237 CA239 LM239	(2962)		LinearTech Motorola	LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311	(2958, 2989) (2958, 2989)	♦ LM308	Raytheon AD GE/RCA	LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311	(2958, 2989)	
LM185-2.5	LinearTech	LM185-2.5	(2958)	♦ LM237	SiliconG SiliconSys IPS MCE Motorola National SiliconG	SG224 SSI6051 IP237 MCELM237 LM237 LM237 SG237 SG237A UC237 CA239 LM239	(2648) (2958, 2989)	LM2904	NEC PMI Raytheon SGS-Thomson	μPC311 PM211 LM311 LM311 LM311 LM311 LM311 LM311 LM311	(2647) (2955, 2989)	♦ LM308	Raytheon AD GE/RCA	LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311	(2470) (2648)	
LM193	Motorola National Signetics TI	LM193 LM193A LM193 LT1013	(2958)	♦ LM237	SGS-Thomson	LM237 LM239			LinearTech Motorola	LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311	(2958, 2989) (2958, 2989)	♦ LM308	PMI	OP97 PM1008 PM1012 PM308 LM308 LM308 LM308	(2952, 2989)	
LM201	GE/RCA Motorola	CA748 LM201	(2647) (2952, 2989)	♦ LM248	Signetics National PMI SGS-Thomson	LM248 LM248 PM248 LM248		LM2904	Toshiba Motorola	TA75358 LM293 LM293 LM293 LM293 LM293 LM293 LM293 LM293	(2958, 2989)	LM311	Raytheon AD GE/Intersil GE/RCA	LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311 LM311	(2958, 2989)	
	Motorola	MC1748	(2952)		SGS-Thomson	LM248			National	μA239 μA250 μA250 CMP04 PM139 PM239 LM239		LM317	LinearTech MCE	LM317 IP317 LM317 LM317 LM317 LM317 LM317 LM317 LM317 LM317	(2714)	

♦ Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				MC1556			(Cont'd)	MC4558C			(Cont'd)	NE555			(Cont'd)
MC1458	National		(Cont'd)		Signetics	SE556			NEC	μPC1458			Signetics	NE555	
				TeledyneP	TP1326			PMI	OP14			TI	SE555		
		LM1458		MC1558	Exar	XR1458				OP270				SE555M	
	NEC	μPC1458				XR4558	(2619)		Raytheon	RC1458			Toshiba	TA7555	(3325)
		μPC4558			GE/RCA	CA1558	(2647)			RC4558	(3024)		GoldStar	GLC556	(2713)
	PMI	OP14			GoldStar	GL4558	(2714)			RM1558			National	LM556	
	Raytheon	OP270			Hitachi	HA17458				RM4558	(3024)		NCR	NCR65C00-1	
		RC1458				HA17558			Samsung	MC4558	(3039)		NEC	μPC556	
		RC4558	(3024)		Motorola	MC1558	(2955)		SGS-Thomson	LS4558			Rockwell	R65C10	(3027)
		RM1558				MC4558	(2955, 2990)			MC4558			Adv Analog	A733	
		RM4558	(3024)						Signetics	MC1458			GE/Intersil	μA733	
	Samsung	MC4558	(3039)		National	μA1458				MC1558				NE592-8	
	SGS-Thomson	LS4558				μA4558				NE4558				SE592	
		MC4558				LM1458				SA4558			Hitachi	HA17733	
	Signetics	MC1458				LM1558				SE4558			Motorola	MC1733	(2953, 2989)
		MC1558			NEC	μPC1458				MC1458				NE592	(2991)
		NE4558				μPC4558			TI	MC1558				SE592	
		SA4558			PMI	OP14				RC4558			National	μA733	
		SE4558				OP270				RM4558				LM733	
	TI	MC1558			Raytheon	RC1458	(3024)			RV4558			Signetics	μA733	
		MC4558C				RC4558				TL4558				NE592	
		RC4558				RM1558			Toshiba	TA75458				SE592	
		RM4558	(3024)			RM4558	(3024)			TA75558				SG1401	
		RV4558	(3024)		Samsung	MC4558	(3039)		NE5532	XR5532			SiliconG	μA733	
		TL4558			SGS-Thomson				Exar	MP5532			TI	μA733M	
	Toshiba	TA75458				LS4558			MicroPwr	OP270				NE592-8	
		TA75558				MC4558			Signetics	NE5532A	(3144)			SE592	
MC1488	Exar	XR1488	(2619)		Signetics	MC1458				SE5532			NE592-8	A733	
		XR1489A	(2619)			MC1558				SE5532A				μA733	
	GoldStar	GD75188	(2708)			NE4558				SE5532A				NE592-8	
	Motorola	MC1488	(2983, 2989)			SA4558			NE5532A	NE5532A	(3144)			SE592	
		MC1489	(2989)			SE4558			TI	XR5532			Hitachi	HA17733	
		MC1489A	(2989)		TI	MC1458			Exar	MP5532			Motorola	MC1733	(2953, 2989)
	National	μA1489				MC4558C			MicroPwr	OP270				NE592	(2991)
		μA1489A				RC4558			Signetics	NE5532	(3144)			SE592	
		μA212A				RM4558				SE5532A			National	μA733	
		μA750				RV4558				SE5532A				LM733	
	DS1488					TL4558			TI	NE5532			Signetics	μA733	
	DS1489					TA75458			Exar	XR5533				NE592	
	DS1489A					TA75558			Signetics	NE5533				SE592	
	MC1488			MC3303	Fujitsu	MB3615				NE5533A			SiliconG	SG1401	
	MC1489				Motorola	MC3303	(2957)		NE5534	MA332			TI	μA733	
	SGS-Thomson	MC1488			National	μA3303			AnalogSys	AM453-2C	(2598)			μA733M	
		MC1489			PMI	OP421			DateI	RM5534				NE592	
		MC1488			SGS-Thomson	MC3303			Raytheon	NE531				SE592	
	Signetics	MC1488				MC3303			Signetics	NE5534	(3145)		OP07	LinearTech	OP07
		MC1489			Motorola	MC3403	(2956, 2990)			NE5534A	(3145)			National	μA714
		MC1489A				OP421				SE5534				PMI	OP77
	SiliconG	SG1489			PMI					SE5534A			OP07D	AD	(2429, 2462)
		SG1489A			SGS-Thomson	MC3403			SSM Audio	SSM2134					
		SG75188				MC3404	(2990)		TI	NE5534A				Harris	OP07
	TI	MC1489			Signetics	MC3423				SE5534					HA5130
		SN75188			Motorola	MC3423	(2990)			SE5534A					HA5135
MC1489	Exar	XR1488	(2619)		Motorola	MC3446A	(2982)		NE5534A	MA332			LinearTech	LT1001	
		XR1489A	(2619)		Motorola	MC3450	(2990)		AnalogSys	AM453-2C	(2598)				OP07
	GoldStar	GD75188	(2708)		National	DS3650			Raytheon	RM5534			Maxim	MAX400	
	Motorola	MC1488	(2983, 2989)		Motorola	MC3452	(2990)		Signetics	NE531				OP07	
		MC1489	(2989)		National	DS3652				NE5534	(3145)		Micra	MCO021	
		MC1489A	(2989)		Motorola	MC3453				NE5534A	(3145)		MicroPwr	MPPOP07	
	National	μA1489			Motorola	CS3471	(2979)			SE5534			National	μA714	
		μA1489A			Motorola	MC3471			SSM Audio	SSM2134			PMI	OP77	
		μA212A			Motorola	MC3486	(2990)		TI	NE5534			Raytheon	OP07	(3024)
		μA750			National	DS3486				SE5534A			TI	LT1001	
	DS1488				TI	SN75ALS195	(2990)		NE555	XR555	(2619)		OP12	LinearTech	LT1012
	DS1489				Motorola	MC3487				XR555M	(2619)			MicroPwr	MPPOP12
	DS1489A				National	DS3487			GE/Intersil	NE555				National	LM112
	MC1488				TI	SN75ALS194				SE555				PMI	LM212
	SGS-Thomson	MC1489			PMI	OP421				CA555	(2656)				OP12
		MC1488			Raytheon	RM4137			GE/RCA	GLC555	(2713)				OP97
	Signetics	MC1488			Signetics	MC3503			GoldStar	GL555	(2713)				PM1012
		MC1489			Motorola	MC3523				Hitachi	HA17555		OP227	TI	LT1012
		MC1489A			SiliconG	SG3523				Mitsubishi	M51841			LinearTech	OP227
	SiliconG	SG1489			Exar	XR1458					M51841		OP27	MicroPwr	MPPOP27
		SG1489A				XR4558	(2619)		Motorola	MC1455	(2989)			PMI	OP227
		SG75188				CA1558	(2647)		National	μA555				AD	ADOP27
	TI	MC1488				GL4558	(2714)			LM555					(2429, 2462)
		SN75188				HA17458			NEC	μPC1555					(2470)
		MC1488			Motorola	MC1558	(2955)			μPC617					AD517
		MC1489				MC4558	(2955, 2990)			μPD555					(2462)
		MC1489A							Raytheon	RC555					(2540, 2544)
MC1556	Elantec	EHA2600				SE4558				RM555			Burr-Brown	OPA27	
	Harris	HA2600			National	μA1458			Samsung	NE555	(3039)			Harris	HAOP27
	Hitachi	HA17741				μA4558			Sanyo	LB8555				LinearTech	LT1007
	Motorola	MC1556	(2954)			LM1458			SGS-Thomson	NE555				Maxim	OP27
		ML1556				LM1558								MicroPwr	MPPOP27
			(Continued)				(Continued)				(Continued)				(Continued)

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Texas Instruments (Cont'd)				SMJ27C256	AMD	AM27C256		SMJ4256			(Cont'd)	SMJ5517	Toshiba		(Cont'd)
SG3524	IPS	IP3524	(Cont'd)	Atmel	AT27C256			Vitelc	V51C256			♦ SMJ5517	UMC	TMM2015A	
	LinearTech	IP3524B		Fujitsu	MBM27C256A	(2628)		MicronTech	MT4064			♦ SMJ5517	Vitelc	TMM2018AP	
	National	LM3524		Hitachi	HN27C256			Fujitsu	MB81464			♦ SMJ5517	VLSI Tech	UM6116	
	SGS-Thomson	SG3524		Intel	M27C256			Hitachi	HM50464			♦ SMJ5517		V61C16	
		UC3524A		Krueger	27C256-200			Inmos	IMS2820					V62C16	
	Signetics	SG3524			27C256-250			Krueger	4464-100 (2877)					VT20C18	(3343, 3345, 3349)
	SiliconG	SG3524			27C256-300				4464-120 (2877)			SMJ61CD16	AMD	AM2167	
		SG3524B			27C256	(2913)			4464-150 (2877)				Cypress	CY7C167	(2580)
	Sprague	SG3524		Microchip	RO9256			Mitsubishi	MCM41464				Fujitsu	MB8164A	
	Toshiba	TA76524			M5L27256				MSM4464P				GE/RCA	CDM5167	
	Unitrode	UC3524		National	NMC27C256			NEC	μPD41464				Inmos	IMS1400	
SG3525	Cherry Semi	CS3525A		NEC	μPD27C256A				μPD4464				Intel	51C66	
	Ericsson	RL3525A		OKI	MSM27C256			OKI	MSM41464					51C67	
	Exar	XR3525A		SEEQ	27C256			Samsung	KM41464	(3036)			Matra-Harris	HM65263	
	IPS	IP3525A		SGS-Thomson	TS27C256				KM41464A	(3326)			MicronTech	MT5C1601	
	LinearTech	LT3525		Signetics	27C256			TI	TMS4464	(3326)			Motorola	MCM2167	
		LT3525A		Sony	CXK54256P	(3326)		Toshiba	TMM41464				NEC	μPD4311	
		SG3525		TI	TMS27C256 (3326)			Cypress	CY6116			SGS-Thomson		MK41H66	
	Motorola	SG3525A	(2964)		TMS27PC256	(3326)		♦ SMJ5517	GE/Intersil	IH6116 (2670)			Sharp	LH5167	
	SGS-Thomson	SG3525A						♦ SMJ5517	GE/RCA	CDM6116 (2644, 2653)			STC	STC2167	
		SG3525A		Toshiba	TC54256				CDM6116A	(2644, 2653)			Vitelc	V61C67	
	SiliconG	SG3525		VLSI Tech	TC57256			♦ SMJ5517	GoldStar	GM76C28 (2696, 2700)			VLSI Tech	VT20C68	(3343, 3345, 3350)
		SG3525A		Waferscale	WS27C256 (3390)				Harris	HM6516		SMJ61CD64	Cypress	CY7C187	(2580)
	TI	SG3525A			WS57C256 (3390)				Hitachi	HM65162	(2747)		Fujitsu	MB81C71	
	Unitrode	UC3525			WS57C256F (3390)			♦ SMJ5517	Hitachi	HM6116				MB81C71A	
SG3525A	Cherry Semi	CS3525A		SMJ27C512	Atmel	AT27C512		♦ SMJ5517	Hitachi	HM6716			GoldStar	GM76C64	
	Ericsson	RL3525A			Fujitsu	MBM27C512		♦ SMJ5517	Hyundai	HY61C16A	(2778)		Hitachi	HM6287	
	Exar	XR3525A			Hitachi	HN27C512G		♦ SMJ5517	Inmos	IMS1433			Hyundai	HY62C87	
	IPS	IP3525A		IDT	IDT7M856S			♦ SMJ5517	IDT	IDT6116 (2835)			Inmos	IMS1600	(2792)
	LinearTech	LT3525			IDT71256 (2837)				IDT6116	(2835)				IMS1601	(2793)
		LT3525A		Intel	IDT8M824 (2872)				IDT6116A	(2835)			IDT	IDT7187	(2850)
		SG3525		Krueger	MD27512				IDT6116L	(2835)				IDT7187L	(2850)
	Motorola	SG3525A	(2964)		27C512-200				IDT6116L	(2835)			MicronTech	MT5C6401	
	SGS-Thomson	SG3525A			27C512-250			♦ SMJ5517	IDT6116S	(2835)			Mitsubishi	M5M5187	
		SG3525A		Microchip	27C512 (2914)				IDT6166					M5M5187P	
	SiliconG	SG3525			MSL27512				81C28				Motorola	MCM6287	
		SG3525A			μPD27C512				2128-100 (2877)				National	F1600	
	TI	SG3525			μPD27C512D				2128-120 (2877)					F1602	
	Unitrode	UC3525			TMS27C512				2128-150 (2877)				NEC	μPD4361	
		UC3525A		Ricoh	TMS27C512 (3326)				2128-200 (2877)				OKI	MSM5187	
SG3527	Cherry Semi	CS3527		TI	TMS27PC512 (3326)				2128-200 (2877)				Performance	P4C187	
	Exar	XR3527A							6116-120 (2877)				S-MOS	SRM2261	
	IPS	IP3527		SMJ320C10	Toshiba	TC54512			6116-150 (2877)				Saratoga	SSM7187	
	LinearTech	LT3527			VLSI Tech	VT27C512			6116LP-120 (2877)			SGS-Thomson		MK41H87	
		LT3527A			Waferscale	WS27C512L (3390)			6116LP-150 (2877)				Sharp	LH5261	
		SG3527			Microchip	DSP320C10 (2892, 2895)			6116LP-200 (2877)				Signetics	74HC4515	(3057)
	Motorola	SG3527A	(2964)		TI	TMS320C10 (3288)		♦ SMJ5517	Matra-Harris	HM6166			Toshiba	TC5562	
	SGS-Thomson	SG3527A			Microchip	DSP32010 (2892, 2895)				HM65161				TMM5562	
		SG3527A								HM65162		SMJ64C16	AMD	AM99C168	
	SiliconG	SG3527A			TI	TMS32010 (3288)				HM65163				AM99C68	
	TI	SG3527A			Harris	HA5104				HM65166			Cypress	CY7C168	(2580)
	Unitrode	UC3527A			Inmos	IMS2600				HN65728				MB8168	
	Cherry Semi	CS3527			IDT	IDT7164 (2848)		♦ SMJ5517	MicronTech	MT5C1608			Fujitsu	IMS1420	
		CS3527A			Intel	M2164A			Mitsubishi	MS8725			Inmos	IMS1421	
	Exar	XR3527A			Krueger	4164-120 (2877)				MSM116				IMS1423	
	IPS	IP3527				4164-150 (2877)				M5M5116				IMS1424	
	LinearTech	LT3527				4164-200 (2877)				M5M5117			IDT	IDT6120	
		LT3527A								M5M5118			Matra-Harris	HM65681	
	Motorola	SG3527A	(2964)							M58275				HM65682	
	SGS-Thomson	SG3527								M58275				MT5C1604	
		SG3527A								MCM2016			MicronTech	M5M21C68	
	SiliconG	SG3527A								MCM2016H			Mitsubishi	M5M2168	
		SG3527A								MCM2018P				M5M2168	
	TI	SG3527								MCM6116			Motorola	MCM1423	
	Unitrode	UC3527A								MMC2116				MCM2168	
		CD54HC163	(2640)							MSM2128				MCM6116A	
	Motorola	MC54HC163	(2942)							MSM5126			NEC	μPD4134	
										MSM5129				μPD4314	
SH54HC163	GE/RCA	CD54HC163	(2640)							MSM5129				P4C188	
										P4C116			Performance	SRM2268	
	Motorola	MC54HC163	(2942)							SMC6116			SGS-Thomson		
										SSM6116				MK41H68	
										ET2128				STC2168	
SMJ27C128	National	MM54HC163								MK2817			TI	SMJ64C64	
	Hitachi	HN27C128								MK6116			Toshiba	TMM2068	
	Intel	M27C128								LH5115			VLSI Tech	CT64KS4	
		27C128A								NE5517				VT20C19	(3349)
	Krueger	27C128-200								CXK5814P				VT20C68	(3343, 3345, 3350)
		27C128-250								UDN6116				VT20C69	(3343, 3345, 3350)
	Microchip	27C128	(2912)							STC2018					
	Mitsubishi	M5L27C128								STC6116				VT2068	
	TI	TMS27C128 (3326)								SMJ68CE16			SMJ64C64	Cypress	CY7C164 (2580)
		TMS27PC128	(3326)							TC5517B				National	F100181
			(3326)											Signetics	100181 (3074)
	VLSI Tech	VT27C128													(Continued)
	Waferscale	WS27C128													
			(Continued)												

♦ Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN54ALS74A	Motorola	SN54ALS74		SN54AS640	National	DM54AS640		SN54F32	Motorola	MC54F32 (2937)	
SN54ALS163B	Motorola	SN54ALS163		SN54ALS804A	National	DM54ALS74		SN54AS645	National	DM54AS645		SN54F350	Motorola	MC54F350 (2947)	
SN54ALS175	National	DM54ALS168B		SN54ALS805A	National	DM54ALS804		SN54AS646	National	DM54AS646		SN54F352	Motorola	MC54F352 (2944)	
SN54ALS169B	National	DM54ALS880		SN54ALS832A	National	DM54ALS805		SN54AS651	National	DM54AS651		SN54F352	Motorola	MC54F352 (2944)	
SN54ALS174	National	DM54ALS169		SN54ALS832A	National	DM54ALS832		SN54AS74	National	DM54AS74		SN54F352	Motorola	MC54F352 (2944)	
SN54ALS175	National	DM54ALS174		SN54ALS86	National	DM54ALS86		SN54AS804B	SiliconG	DM54AS804		SN54F352	Motorola	MC54F352 (2944)	
SN54ALS191	National	DM54ALS175		SN54ALS873B	Motorola	SN54ALS873		SN54AS805B	National	DM54AS805		SN54F352	Motorola	MC54F352 (2944)	
SN54ALS193	National	DM54ALS191		SN54ALS873B	Motorola	SN54ALS873		SN54AS808B	National	DM54AS808		SN54F374	Motorola	MC54F374 (2942)	
SN54ALS20A	National	DM54ALS193		SN54ALS874B	Motorola	SN54ALS874		SN54AS873	National	DM54AS873		SN54F381	Motorola	MC54F381 (2947)	
SN54ALS21A	National	DM54ALS20		SN54ALS876A	Motorola	SN54ALS876		SN54AS874	National	DM54AS874		SN54F382	Motorola	MC54F382 (2947)	
SN54ALS22B	National	DM54ALS21		SN54ALS880B	Motorola	SN54ALS880		SN54AS880	National	DM54AS880		SN54F382	Motorola	MC54F382 (2947)	
SN54ALS240A	Motorola	SN54ALS240		SN54ALS880B	Motorola	SN54ALS880		SN54AS880B	National	DM54AS880B		SN54F521	Motorola	MC54F521 (2946)	
SN54ALS241A	Motorola	SN54ALS241		SN54AS00	National	DM54ALS880		SN54F00	Motorola	MC54F00 (2937)		SN54F521	Motorola	MC54F521 (2946)	
SN54ALS242B	Motorola	SN54ALS242		SN54AS02	National	DM54ALS880		SN54F02	Motorola	MC54F02 (2938)		SN54F533	Motorola	MC54F533 (2941)	
SN54ALS243A	Motorola	SN54ALS243		SN54AS08	National	DM54ALS880		SN54F04	Motorola	MC54F04 (2939)		SN54F534	Motorola	MC54F534 (2942)	
SN54ALS244A	Motorola	SN54ALS244		SN54AS10	National	DM54ALS880		SN54F08	Motorola	MC54F08 (2937)		SN54F543	Motorola	MC54F543 (2941)	
SN54ALS245A	Motorola	SN54ALS245		SN54AS100A	National	DM54ALS880		SN54F10	Motorola	MC54F10 (2937)		SN54F544	Motorola	MC54F544 (2941)	
SN54ALS251	National	DM54ALS245		SN54AS100A	National	DM54ALS880		SN54F11	Motorola	MC54F11 (2937)		SN54F573	Motorola	MC54F573 (2942)	
SN54ALS253	National	DM54ALS251		SN54AS100A	National	DM54ALS880		SN54F12	Motorola	MC54F12 (2945)		SN54F621	Motorola	MC54F621 (2941)	
SN54ALS257	National	DM54ALS253		SN54AS100A	National	DM54ALS880		SN54F13	Motorola	MC54F13 (2945)		SN54F623	Motorola	MC54F623 (2941)	
SN54ALS258	National	DM54ALS257		SN54AS100A	National	DM54ALS880		SN54F15	Motorola	MC54F15 (2944)		SN54F74	Motorola	MC54F74 (2941)	
SN54ALS27	National	DM54ALS258		SN54AS100A	National	DM54ALS880		SN54F17	Motorola	MC54F17 (2944)		SN54HCT04	GE/RCA	CD54HCT04 (2639)	
SN54ALS273	Motorola	SN54ALS273		SN54AS100A	National	DM54ALS880		SN54F20	Motorola	MC54F20 (2937)		SN54HCT137	GE/RCA	CD54HCT137 (2640)	
SN54ALS28A	National	DM54ALS273		SN54AS100A	National	DM54ALS880		SN54F24	Motorola	MC54F24 (2939)		SN54HCT138	GE/RCA	CD54HCT138 (2640)	
SN54ALS30A	National	DM54ALS28		SN54AS100A	National	DM54ALS880		SN54F25	Motorola	MC54F25 (2939)		SN54HCT189	TI	SN54HCT189	
SN54ALS32	Motorola	DM54ALS30A		SN54AS100A	National	DM54ALS880		SN54F27	Motorola	MC54F27 (2944)		SN54HCT237	TI	SN54HCT237	
SN54ALS33A	National	DM54ALS32		SN54AS100A	National	DM54ALS880		SN54F28	Motorola	MC54F28 (2944)		SN54HCT238	TI	SN54HCT238	
SN54ALS352	National	DM54ALS33		SN54AS100A	National	DM54ALS880		SN54F29	Motorola	MC54F29 (2944)		SN54HCT240	TI	SN54HCT240	
SN54ALS353	National	DM54ALS352		SN54AS100A	National	DM54ALS880		SN54F30	Motorola	MC54F30 (2947)		SN54HCT241	TI	SN54HCT241	
SN54ALS373	Motorola	DM54ALS353		SN54AS100A	National	DM54ALS880		SN54F32	Motorola	MC54F32 (2937)		SN54HCT242	TI	SN54HCT242	
SN54ALS374	Motorola	DM54ALS373		SN54AS100A	National	DM54ALS880		SN54F35	Motorola	MC54F35 (2947)		SN54HCT243	TI	SN54HCT243	
SN54ALS38A	Motorola	DM54ALS374		SN54AS100A	National	DM54ALS880		SN54F37	Motorola	MC54F37 (2947)		SN54HCT244	TI	SN54HCT244	
SN54ALS466A	National	DM54ALS38		SN54AS100A	National	DM54ALS880		SN54F38	Motorola	MC54F38 (2947)		SN54HCT245	TI	SN54HCT245	
SN54ALS467A	National	DM54ALS466		SN54AS100A	National	DM54ALS880		SN54F40	Motorola	MC54F40 (2947)		SN54HCT246	TI	SN54HCT246	
SN54ALS467A	National	DM54ALS467		SN54AS100A	National	DM54ALS880		SN54F42	Motorola	MC54F42 (2947)		SN54HCT247	TI	SN54HCT247	
SN54ALS520	TI	DM54ALS1032A		SN54AS100A	National	DM54ALS880		SN54F44	Motorola	MC54F44 (2947)		SN54HCT248	TI	SN54HCT248	
SN54ALS563A	National	DM54ALS520		SN54AS100A	National	DM54ALS880		SN54F46	Motorola	MC54F46 (2947)		SN54HCT249	TI	SN54HCT249	
SN54ALS564A	National	DM54ALS563		SN54AS100A	National	DM54ALS880		SN54F48	Motorola	MC54F48 (2947)		SN54HCT250	TI	SN54HCT250	
SN54ALS573B	Motorola	SN54ALS573		SN54AS100A	National	DM54ALS880		SN54F50	Motorola	MC54F50 (2947)		SN54HCT251	TI	SN54HCT251	
SN54ALS574A	Motorola	SN54ALS574		SN54AS100A	National	DM54ALS880		SN54F52	Motorola	MC54F52 (2947)		SN54HCT252	TI	SN54HCT252	
SN54ALS576A	Motorola	SN54ALS576		SN54AS100A	National	DM54ALS880		SN54F54	Motorola	MC54F54 (2947)		SN54HCT253	TI	SN54HCT253	
SN54ALS580A	Motorola	SN54ALS580		SN54AS100A	National	DM54ALS880		SN54F56	Motorola	MC54F56 (2947)		SN54HCT254	TI	SN54HCT254	
SN54ALS620A	Motorola	SN54ALS620		SN54AS100A	National	DM54ALS880		SN54F58	Motorola	MC54F58 (2947)		SN54HCT255	TI	SN54HCT255	
SN54ALS623A	Motorola	SN54ALS623		SN54AS100A	National	DM54ALS880		SN54F60	Motorola	MC54F60 (2947)		SN54HCT256	TI	SN54HCT256	
SN54ALS640A	Motorola	SN54ALS640		SN54AS100A	National	DM54ALS880		SN54F62	Motorola	MC54F62 (2947)		SN54HCT257	TI	SN54HCT257	
SN54ALS645A	Motorola	SN54ALS645		SN54AS100A	National	DM54ALS880		SN54F64	Motorola	MC54F64 (2947)		SN54HCT258	TI	SN54HCT258	
				SN54AS100A	National	DM54ALS880		SN54F66	Motorola	MC54F66 (2947)		SN54HCT259	TI	SN54HCT259	
				SN54AS100A	National	DM54ALS880		SN54F68	Motorola	MC54F68 (2947)		SN54HCT260	TI	SN54HCT260	
				SN54AS100A	National	DM54ALS880		SN54F70	Motorola	MC54F70 (2947)		SN54HCT261	TI	SN54HCT261	
				SN54AS100A	National	DM54ALS880		SN54F72	Motorola	MC54F72 (2947)		SN54HCT262	TI	SN54HCT262	
				SN54AS100A	National	DM54ALS880		SN54F74	Motorola	MC54F74 (2947)		SN54HCT263	TI	SN54HCT263	
				SN54AS100A	National	DM54ALS880		SN54F76	Motorola	MC54F76 (2947)		SN54HCT264	TI	SN54HCT264	
				SN54AS100A	National	DM54ALS880		SN54F78	Motorola	MC54F78 (2947)		SN54HCT265	TI	SN54HCT265	
				SN54AS100A	National	DM54ALS880		SN54F80	Motorola	MC54F80 (2947)		SN54HCT266	TI	SN54HCT266	
				SN54AS100A	National	DM54ALS880		SN54F82	Motorola	MC54F82 (2947)		SN54HCT267	TI	SN54HCT267	
				SN54AS100A	National	DM54ALS880		SN54F84	Motorola	MC54F84 (2947)		SN54HCT268	TI	SN54HCT268	
				SN54AS100A	National	DM54ALS880		SN54F86	Motorola	MC54F86 (2947)		SN54HCT269	TI	SN54HCT269	
				SN54AS100A	National	DM54ALS880		SN54F88	Motorola	MC54F88 (2947)		SN54HCT270	TI	SN54HCT270	
				SN54AS100A	National	DM54ALS880		SN54F90	Motorola	MC54F90 (2947)		SN54HCT271	TI	SN54HCT271	
				SN54AS100A	National	DM54ALS880		SN54F92	Motorola	MC54F92 (2947)		SN54HCT272	TI	SN54HCT272	
				SN54AS100A	National	DM54ALS880		SN54F94	Motorola	MC54F94 (2947)		SN54HCT273	TI	SN54HCT273	
				SN54AS100A	National	DM54ALS880		SN54F96	Motorola	MC54F96 (2947)		SN54HCT274	TI	SN54HCT274	
				SN54AS100A	National	DM54ALS880		SN54F98	Motorola	MC54F98 (2947)		SN54HCT275	TI	SN54HCT275	
				SN54AS100A	National	DM54ALS880		SN54F100	Motorola	MC54F100 (2947)		SN54HCT276	TI	SN54HCT276	
				SN54AS100A	National	DM54ALS880		SN54F102	Motorola	MC54F102 (2947)		SN54HCT277	TI	SN54HCT277	
				SN54AS100A	National	DM54ALS880		SN54F104	Motorola	MC54F104 (2947)		SN54HCT278	TI	SN54HCT278	
				SN54AS100A	National	DM54ALS880		SN54F106	Motorola	MC54F106 (2947)		SN54HCT279	TI	SN54HCT279	
				SN54AS100A	National	DM54ALS880		SN54F108	Motorola	MC54F108 (2947)		SN54HCT280	TI	SN54HCT280	
				SN54AS100A	National	DM54ALS880		SN54F110	Motorola	MC54F110 (2947)		SN54HCT281	TI	SN54HCT281	
				SN54AS100A	National	DM54ALS880		SN54F112	Motorola	MC54F112 (2947)		SN54HCT282	TI	SN54HCT282	
				SN54AS100A	National	DM54ALS880		SN54F114	Motorola	MC54F114 (2947)		SN54HCT283	TI	SN54HCT283	
				SN54AS100A	National	DM54ALS880		SN54F116	Motorola	MC54F116 (2947)		SN54HCT284	TI	SN54HCT284	
				SN54AS100A	National	DM54ALS880		SN54F118	Motorola	MC54F118 (2947)		SN54HCT285	TI	SN54HCT285	
				SN54AS100A	National	DM54ALS880		SN54F120	Motorola	MC54F120 (2947)		SN54HCT286	TI	SN54HCT286	
				SN54AS100A	National	DM54ALS880		SN54F122	Motorola	MC54F122 (2947)		SN54HCT287	TI	SN54HCT287	
				SN54AS100A	National	DM54ALS880		SN54F124	Motorola	MC54F124 (2947)		SN54HCT288	TI	SN54HCT288	
				SN54AS100A	National	DM54ALS880		SN54F126	Motorola	MC54F126 (2947)		SN54HCT289	TI	SN54HCT289	
				SN54AS100A	National	DM54ALS880		SN54F128	Motorola	MC54F128 (2947)		SN54HCT290	TI	SN54HCT290	
				SN54AS100A	National	DM54ALS880		SN54F130	Motorola	MC54F130 (2947)		SN54HCT291	TI	SN54HCT291	
				SN54AS100A	National	DM54ALS880		SN54F132	Motorola	MC54F132 (2947)		SN54HCT292	TI	SN54HCT292	
				SN54AS100A	National	DM54ALS880		SN54F134	Motorola	MC54F134 (2947)		SN54HCT293	TI	SN54HCT293	
				SN54AS100A	National	DM54ALS880		SN54F136	Motorola	MC54F136 (2947)		SN54HCT294	TI	SN54HCT294	
				SN54AS100A	National	DM54ALS880		SN54F138	Motorola	MC54F138 (2947)		SN54HCT295	TI	SN54HCT295	
				SN54AS100A	National	DM54ALS880		SN54F140	Motorola	MC54F140 (2947)		SN54HCT296	TI	SN54HCT296	
				SN54AS100A	National	DM54ALS880		SN54F142	Motorola	MC54F142 (2947)		SN54HCT297	TI	SN54HCT297	
				SN54AS100A	National	DM54ALS880		SN54F144</							

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN54HCT646	GE/RCA	CD54HCT646 (2641)		SN54HC139	GE/RCA	CD54HC139 (2640)		SN54HC189	AMD	AM27LS03 AM27S03 SN74S189 CY27LS03M (2580) CY27S03 CY7C189 (2580) CY74S189 DM74S189 DM7599 DM8599 54F189 SN54HCT189 SN74HCT189 SN74HC189 CD54HC190 (2640)	
SN54HCT241	(Cont'd)			SN54HCT688	GE/RCA	CD54HCT688 (2641, 2649)			Motorola	MC54HC139 (2945)			Cypress		
National	MM54HCT241			SN54HCU04	National	MM54HCT688 CD54HCU04 (2642, 2649)		SN54HC14	National	MM54HC139 54HC139 GE/RCA CD54HC14 (2640)					
OKI	MM54HCT241				Motorola	MC54HCU04 (2939)			Motorola	MM54HC14 54HC14 National Signetics GE/RCA CD54HC147 (2640)			National		
Panasonic	MM54HCT241			SN54HC00	National	MM54HCU04 CD54HC00 (2639, 2653)		SN54HC147	National	MM54HC147 54HC147 Motorola National Signetics GE/RCA CD54HC151 (2640)					
Samsung	MM54HCT241				Motorola	MC54HC00 (2937)			Motorola	MC54HC151 (2944)					
Siemens	MM54HCT241			SN54HC02	National	MM54HC02 54HC02 Signetics GE/RCA CD54HC02 (2639)		SN54HC151	Motorola	MC54HC151 (2640)					
Supertex	MM54HCT241				Motorola	MC54HC02 (2938)			National	MM54HC151 54HC151 GE/RCA CD54HC153 (2640)					
Vitelco	MM54HCT241			SN54HC03	National	MM54HC03 54HC03 Signetics GE/RCA CD54HC03 (2639)		SN54HC153	Motorola	MC54HC153 (2640)					
	MM54HCT241				Motorola	MC54HC03 (2937)			National	MM54HC153 54HC153 GE/RCA CD54HC154 (2640)					
	MM54HCT241			SN54HC04	National	MM54HC04 54HC04 Signetics GE/RCA CD54HC04 (2639)		SN54HC154	Motorola	MC54HC154 (2640)					
	MM54HCT241				Motorola	MC54HC04 (2939)			National	MM54HC154 54HC154 GE/RCA CD54HC157 (2640, 2653)					
	MM54HCT241			SN54HC08	GE/RCA	CD54HC08 (2639)		SN54HC157	Motorola	MC54HC157 (2944)					
	MM54HCT241				Motorola	MC54HC08 (2937)			National	MM54HC157 54HC157 Signetics GE/RCA CD54HC158 (2640)					
	MM54HCT241			SN54HC10	National	MM54HC08 54HC08 Signetics GE/RCA CD54HC10 (2640)		SN54HC158	Motorola	MC54HC158 (2944)					
	MM54HCT241				Motorola	MC54HC10 (2937)			National	MM54HC158 54HC158 Signetics GE/RCA CD54HC160 (2640)					
	MM54HCT241			SN54HC107	GE/RCA	CD54HC107 (2640)		SN54HC160	Motorola	MC54HC160 (2942)					
	MM54HCT241				Motorola	MC54HC107 (2941)			National	MM54HC160 54HC160 Signetics GE/RCA CD54HC161 (2640)					
	MM54HCT241			SN54HC109	National	MM54HC107 CD54HC109 (2640)		SN54HC161	Motorola	MC54HC161 (2942)					
	MM54HCT241				Motorola	MC54HC109 (2941)			National	MM54HC161 54HC161 Signetics GE/RCA CD54HC162 (2640)					
	MM54HCT241			SN54HC11	National	MM54HC109 CD54HC11 (2640)		SN54HC162	Motorola	MC54HC162 (2942)					
	MM54HCT241				Motorola	MC54HC11 (2937)			National	MM54HC162 54HC162 Signetics GE/RCA CD54HC163 (2640)					
	MM54HCT241			SN54HC112	GE/RCA	CD54HC112 (2640)		SN54HC163	Motorola	MC54HC163 (2942)					
	MM54HCT241				Motorola	MC54HC112 (2941)			National	MM54HC163 54HC163 Signetics GE/RCA CD54HC164 (2640)					
	MM54HCT241			SN54HC113	National	MM54HC112 CD54HC113 (2640)		SN54HC164	Motorola	MC54HC164 (2943)					
	MM54HCT241				Motorola	MC54HC113 (2941)			National	MM54HC164 54HC164 Signetics GE/RCA CD54HC165 (2640)					
	MM54HCT241			SN54HC123	GE/RCA	CD54HC123 (2640)		SN54HC165	Motorola	MC54HC165 (2943)					
	MM54HCT241				Motorola	MC54HC123 (2942)			National	MM54HC165 54HC165 Signetics GE/RCA CD54HC166 (2640)					
	MM54HCT241			SN54HC125	National	MM54HC123 CD54HC125 (2640)		SN54HC166	Motorola	MC54HC166 (2943)					
	MM54HCT241				Motorola	MC54HC125 (2939)			National	MM54HC166 54HC166 Signetics GE/RCA CD54HC173 (2640)					
	MM54HCT241			SN54HC126	GE/RCA	CD54HC126 (2640)		SN54HC173	Motorola	MC54HC173 (2942)					
	MM54HCT241				Motorola	MC54HC126 (2939)			National	MM54HC173 54HC173 Signetics GE/RCA CD54HC174 (2640)					
	MM54HCT241			SN54HC132	National	MM54HC126 CD54HC132 (2640)		SN54HC174	Motorola	MC54HC174 (2942)					
	MM54HCT241				Motorola	MC54HC132 (2940)			National	MM54HC174 54HC174 Signetics GE/RCA CD54HC175 (2640)					
	MM54HCT241			SN54HC133	GE/RCA	CD54HC133 (2640)		SN54HC175	Motorola	MC54HC175 (2942)					
	MM54HCT241				Motorola	MC54HC133 (2937)			National	MM54HC175 54HC175 Signetics GE/RCA CD54HC189 (2640)					
	MM54HCT241			SN54HC137	National	MM54HC133 CD54HC137 (2640)			Motorola	MC54HC189 (2943)					
	MM54HCT241				Motorola	MC54HC137 (2945)			National	MM54HC189 54HC189 Signetics GE/RCA CD54HC190 (2640)					
	MM54HCT241			SN54HC138	GE/RCA	CD54HC138 (2640)			Motorola	MC54HC190 (2944)					
	MM54HCT241				Motorola	MC54HC138 (2945)			National	MM54HC190 54HC190 Signetics GE/RCA CD54HC191 (2640)					
	MM54HCT241			SN54HC139	National	MM54HC138 54HC138 Signetics GE/RCA CD54HC139 (2640)			Motorola	MC54HC191 (2944)					
	MM54HCT241				Motorola	MC54HC139 (2945)			National	MM54HC191 54HC191 Signetics GE/RCA CD54HC192 (2640)					
	MM54HCT241			SN54HC147	GE/RCA	CD54HC147 (2640)			Motorola	MC54HC192 (2944)					
	MM54HCT241				Motorola	MC54HC147 (2945)			National	MM54HC192 54HC192 Signetics GE/RCA CD54HC193 (2640)					
	MM54HCT241			SN54HC151	National	MM54HC147 54HC147 Signetics GE/RCA CD54HC151 (2640)			Motorola	MC54HC193 (2944)					
	MM54HCT241				Motorola	MC54HC151 (2944)			National	MM54HC193 54HC193 Signetics GE/RCA CD54HC194 (2640)					
	MM54HCT241			SN54HC153	GE/RCA	CD54HC153 (2640)			Motorola	MC54HC194 (2944)					
	MM54HCT241				Motorola	MC54HC153 (2944)			National	MM54HC194 54HC194 Signetics GE/RCA CD54HC195 (2640)					
	MM54HCT241			SN54HC154	National	MM54HC153 54HC153 Signetics GE/RCA CD54HC154 (2640)			Motorola	MC54HC195 (2944)					
	MM54HCT241				Motorola	MC54HC154 (2945)			National	MM54HC195 54HC195 Signetics GE/RCA CD54HC196 (2640)					
	MM54HCT241			SN54HC157	GE/RCA	CD54HC157 (2640, 2653)			Motorola	MC54HC196 (2944)					
	MM54HCT241				Motorola	MC54HC157 (2944)			National	MM54HC196 54HC196 Signetics GE/RCA CD54HC197 (2640)					
	MM54HCT241			SN54HC158	National	MM54HC157 54HC157 Signetics GE/RCA CD54HC158 (2640)			Motorola	MC54HC197 (2944)					
	MM54HCT241				Motorola	MC54HC158 (2944)			National	MM54HC197 54HC197 Signetics GE/RCA CD54HC198 (2640)					
	MM54HCT241			SN54HC160	GE/RCA	CD54HC160 (2640)			Motorola	MC54HC198 (2944)					
	MM54HCT241				Motorola	MC54HC160 (2942)			National	MM54HC198 54HC198 Signetics GE/RCA CD54HC199 (2640)					
	MM54HCT241			SN54HC161	National	MM54HC160 54HC160 Signetics GE/RCA CD54HC161 (2640)			Motorola	MC54HC199 (2944)					
	MM54HCT241				Motorola	MC54HC161 (2942)			National	MM54HC199 54HC199 Signetics GE/RCA CD54HC200 (2640)					
	MM54HCT241			SN54HC162	GE/RCA	CD54HC162 (2640)			Motorola	MC54HC200 (2944)					
	MM54HCT241				Motorola	MC54HC162 (2942)			National	MM54HC200 54HC200 Signetics GE/RCA CD54HC201 (2640)					
	MM54HCT241			SN54HC163	National	MM54HC162 54HC162 Signetics GE/RCA CD54HC163 (2640)			Motorola	MC54HC201 (2944)					
	MM54HCT241				Motorola	MC54HC163 (2942)			National	MM54HC201 54HC201 Signetics GE/RCA CD54HC202 (2640)					
	MM54HCT241			SN54HC164	GE/RCA	CD54HC164 (2640)			Motorola	MC54HC202 (2944)					
	MM54HCT241				Motorola	MC54HC164 (2943)			National	MM54HC202 54HC202 Signetics GE/RCA CD54HC203 (2640)					
	MM54HCT241			SN54HC165	National	MM54HC164 54HC164 Signetics GE/RCA CD54HC165 (2640)			Motorola	MC54HC203 (2944)					
	MM54HCT241				Motorola	MC54HC165 (2943)			National	MM54HC203 54HC203 Signetics GE/RCA CD54HC204 (2640)					
	MM54HCT241			SN54HC166	GE/RCA	CD54HC166 (2640)			Motorola	MC54HC204 (2944)					
	MM54HCT241				Motorola	MC54HC166 (2943)			National	MM54HC204 54HC204 Signetics GE/RCA CD54HC205 (2640)					
	MM54HCT241			SN54HC167	National	MM54HC166 54HC166 Signetics GE/RCA CD54HC167 (2640)			Motorola	MC54HC205 (2944)					
	MM54HCT241				Motorola	MC54HC167 (2943)			National	MM54HC205 54HC205 Signetics GE/RCA CD54HC206 (2640)					
	MM54HCT241			SN54HC168	GE/RCA	CD54HC168 (2640)			Motorola	MC54HC206 (2944)					
	MM54HCT241				Motorola	MC54HC168 (2943)			National	MM54HC206 54HC206 Signetics GE/RCA CD54HC207 (2640)					
	MM54HCT241			SN54HC169	National	MM54HC168 54HC168 Signetics GE/RCA CD54HC169 (2640)			Motorola	MC54HC207 (2944)					
	MM54HCT241				Motorola	MC54HC169 (2943)			National	MM54HC207 54HC207 Signetics GE/RCA CD54HC208 (2640)					
	MM54HCT241			SN54HC170	GE/RCA	CD54HC170 (2640)			Motorola	MC54HC208 (2944)					
	MM54HCT241				Motorola	MC54HC170 (2943)			National	MM54HC208 54HC208 Signetics GE/RCA CD54HC209 (2640)					
	MM54HCT241			SN54HC171	National	MM54HC170 54HC170 Signetics GE/RCA CD54HC171 (2640)			Motorola	MC54HC209 (2944)					
	MM54HCT241				Motorola	MC54HC171 (2943)			National	MM54HC209 54HC209 Signetics GE/RCA CD54HC210 (2640)					
	MM54HCT241			SN54HC172	GE/RCA	CD54HC172 (2640)			Motorola	MC54HC210 (2944)					
	MM54HCT241				Motorola	MC54HC172 (2943)			National	MM54HC210 54HC210 Signetics GE/RCA CD54HC211 (2640)					
	MM54HCT241			SN54HC173	National	MM54HC172 54HC172 Signetics GE/RCA CD54HC173 (2640)			Motorola	MC54HC211 (2944)					
	MM54HCT241				Motorola	MC54HC173 (2943)			National	MM54HC211 54HC211 Signetics GE/RCA CD54HC212 (2640)					
	MM54HCT241			SN54HC174	GE/RCA	CD54HC174 (2640)			Motorola	MC54HC212 (2944)					
	MM54HCT241				Motorola	MC54HC174 (2943)			National	MM54HC212 54HC212 Signetics GE/RCA CD54HC213 (2640)					
	MM54HCT241			SN54HC175	National	MM54HC174 54HC174 Signetics GE/RCA CD54HC175 (2640)			Motorola	MC54HC213 (2944)					
	MM54HCT241				Motorola	MC54HC175 (2943)			National	MM54HC213 54HC213 Signetics GE/RCA CD54HC214 (2640)					
	MM54HCT241			SN54HC176	GE/RCA	CD54HC176 (2640)			Motorola	MC54HC214 (2944)					
	MM54HCT241														

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN54HC374	GE/RCA	CD54HC374 (2641, 2653)		SN54HC4538	GE/RCA	CD54HC4538 (2641)		SN54HC73	GE/RCA	CD54HC73 (2640)	
SN54HC251	GE/RCA	CD54HC251 (2640)			Motorola	MC54HC374 (2942)			Motorola	MC54HC4538			Motorola	MC54HC73 (2941)	
	Motorola	MC54HC251 (2944)			National	MM54HC374		SN54HC4543	GE/RCA	CD54HC4543 (2641, 2653)		SN54HC74	GE/RCA	CD54HC74 (2640)	
SN54HC253	National	MM54HC253		SN54HC377	Signetics	MM54HC374			Motorola	MC54HC4543 (2946)			Motorola	MC54HC74 (2941)	
	GE/RCA	CD54HC253 (2640)			Supertex	54HC374							National	MM54HC74	
	Motorola	MC54HC253 (2944)			GE/RCA	CD54HC377 (2641)		SN54HC51	Motorola	MC54HC51 (2938)		SN54HC75	GE/RCA	CD54HC75 (2640)	
SN54HC257	National	MM54HC257		SN54HC386	Motorola	MC54HC377			National	MM54HC51			Motorola	MC54HC75 (2941)	
	GE/RCA	CD54HC257 (2640, 2653)		SN54HC390	Motorola	MC54HC386		SN54HC533	GE/RCA	CD54HC533 (2641)		SN54HC76	Motorola	MC54HC76 (2941)	
	Motorola	MC54HC257 (2944)			Motorola	CD54HC390 (2641)			Motorola	MC54HC533 (2941)			National	MM54HC76	
SN54HC258	National	MM54HC257			Motorola	MC54HC390 (2942)		SN54HC534	National	MM54HC533		SN54HC85	GE/RCA	CD54HC85 (2640)	
	Signetics	54HC257		SN54HC393	GE/RCA	CD54HC393 (2641)			GE/RCA	CD54HC534 (2641)			Motorola	MC54HC85 (2946)	
	GE/RCA	CD54HC258 (2640)			Motorola	MC54HC393 (2942)			Motorola	MC54HC534 (2942)		SN54HC85A	GE/RCA	CD54HC85 (2640)	
SN54HC259	Signetics	74HC258 (3057)			Motorola	MC54HC393 (2942)		SN54HC540	National	MM54HC534			Motorola	MC54HC85 (2946)	
	GE/RCA	CD54HC259 (2640)		SN54HC4002	National	MM54HC393			GE/RCA	CD54HC540 (2641)		SN54HC86	GE/RCA	CD54HC86 (2640)	
	Motorola	MC54HC259 (2941)			Signetics	54HC393			Motorola	MC54HC540 (2940)			Motorola	MC54HC86 (2938)	
SN54HC266	National	MM54HC259			GE/RCA	CD54HC4002 (2641)		SN54HC541	National	MM54HC540		SN54H108	National	54HC86	
	Motorola	MC54HC266			Motorola	MC54HC4002 (2938)			GE/RCA	CD54HC541 (2641)		SN54LS00	National	DM54H108	
SN54HC27	GE/RCA	CD54HC27 (2640)		SN54HC4016	National	MM54HC4002			Motorola	MC54HC541 (2940)			Motorola	SN54LS00 (2937)	
	Motorola	MC54HC27 (2938)			Motorola	CD54HC4016 (2945)		SN54HC563	National	MM54HC541			National	54LS00	
SN54HC273	National	MM54HC27			Motorola	MC54HC4016 (2945)			GE/RCA	CD54HC563 (2641)			SGS-Thomson	T54LS00	
	CTI	54HC273		SN54HC4017	National	MM54HC4016			Motorola	MC54HC563 (2641)		SN54LS01	Signetics	54LS00	
	GE/RCA	CD54HC273 (2640)			GE/RCA	CD54HC4017 (2641)		SN54HC564	Motorola	MC54HC564 (2942)			Motorola	SN54LS01	
	Motorola	MC54HC273 (2942)			Motorola	MC54HC4017 (2943)			National	MM54HC564		SN54LS02	National	DM54LS01	
SN54HC280	National	MM54HC273		SN54HC4017	Motorola	MC54HC4017 (2943)		SN54HC564	GE/RCA	CD54HC564 (2641)			Motorola	SN54LS02 (2938)	
	Signetics	54HC273			Motorola	MC54HC4017 (2943)			Motorola	MC54HC564 (2942)			National	DM54LS02	
	GE/RCA	CD54HC280 (2640)		SN54HC4020	National	MM54HC4017		SN54HC573	National	MM54HC564			SGS-Thomson	54LS02	
	Motorola	MC54HC280 (2947)			GE/RCA	CD54HC4020 (2641)			GE/RCA	CD54HC573 (2641)		SN54LS03	Signetics	T54LS02	
SN54HC299	National	MM54HC280		SN54HC4024	National	MM54HC4020		SN54HC574	Motorola	MC54HC573 (2941)			Motorola	SN54LS03 (2937)	
	GE/RCA	CD54HC299 (2640)			Motorola	CD54HC4024 (2943)			National	MM54HC573			National	DM54LS03	
	Motorola	MC54HC299 (2944)		SN54HC404	National	MM54HC4024		SN54HC574	Signetics	54HC573			SGS-Thomson	54LS03	
SN54HC30	National	MM54HC299			GE/RCA	CD54HC404			GE/RCA	CD54HC574 (2641)		SN54LS04	Motorola	T54LS03	
	Motorola	MC54HC30 (2937)		SN54HC404	Motorola	MC54HC404			Motorola	MC54HC574 (2942)			National	SN54LS04 (2939)	
SN54HC32	National	MM54HC30		SN54HC4040	National	MM54HC404		SN54HC590A	National	MM54HC574			Motorola	DM54LS04	
	GE/RCA	CD54HC32 (2640)			TI	SN54HC404			Signetics	54HC574		SN54LS05	Signetics	54LS04	
	Motorola	MC54HC32 (2937)		SN54HC4040	Motorola	MC54HC4040		SN54HC595	Motorola	MC54HC590			Motorola	SN54LS05 (2939)	
SN54HC354	National	MM54HC32			Motorola	MC54HC4040 (2641)			National	MM54HC590			National	DM54LS05	
	Signetics	54HC32		SN54HC4060	National	MM54HC4040		SN54HC595	Motorola	MC54HC595 (2944)			Motorola	SN54LS05	
	GE/RCA	CD54HC354 (2640)			GE/RCA	CD54HC4060 (2641)			National	MM54HC595		SN54LS08	SGS-Thomson	T54LS05	
	Motorola	MC54HC354 (2945)			Motorola	MC54HC4060 (2943)		SN54HC597	GE/RCA	CD54HC597 (2641)			Motorola	SN54LS08 (2937)	
SN54HC356	National	MM54HC354		SN54HC4066	National	MM54HC4060			Motorola	CD74HC7038 (2641)			National	DM54LS08	
	GE/RCA	CD54HC356 (2640)			GE/RCA	CD54HC4066 (2641)			Motorola	MC54HC597 (2944)			SGS-Thomson	54LS08	
	Motorola	MC54HC356 (2945)			Motorola	MC54HC4066 (2945)		SN54HC620	National	MM54HC597		SN54LS09	Signetics	T54LS08	
SN54HC365	National	MM54HC356		SN54HC4075	National	MM54HC4066			Signetics	74HC7038			Motorola	54LS08	
	GE/RCA	CD54HC365 (2641)			GE/RCA	CD54HC4075 (2641)		SN54HC623	Motorola	MC54HC620			Motorola	SN54LS09 (2937)	
	Motorola	MC54HC365 (2939)		SN54HC4078A	Motorola	MC54HC4075 (2937)		SN54HC640	Motorola	MC54HC623 (2641)			National	DM54LS09	
SN54HC366	National	MM54HC365			Motorola	MC54HC4075 (2937)			GE/RCA	CD54HC640 (2641)		SN54LS10	SGS-Thomson	54LS09	
	Signetics	74HC365 (3057)		SN54HC4078	National	MM54HC4075		SN54HC643	National	MM54HC640			Motorola	T54LS09	
	GE/RCA	CD54HC366 (2641)			Motorola	MC54HC4078 (2938)			GE/RCA	CD54HC643 (2641)			National	SN54LS10 (2937)	
	Motorola	MC54HC366 (2939)		SN54HC42	National	MM54HC4078		SN54HC643	Motorola	MC54HC643		SN54LS107	Signetics	T54LS10	
SN54HC367	National	MM54HC366			GE/RCA	CD54HC42 (2640)			National	MM54HC643			Motorola	54LS10	
	GE/RCA	CD54HC367 (2641)		SN54HC423	Motorola	MC54HC42 (2945)		SN54HC645	Motorola	MC54HC643			Motorola	SN54LS107 (2941)	
	Motorola	MC54HC367 (2939)			National	MM54HC423		SN54HC646	National	MM54HC645		SN54LS109	National	DM54LS107	
SN54HC368	National	MM54HC367		SN54HC423	GE/RCA	CD74HC4516 (2641)			GE/RCA	CD54HC646 (2641)			Signetics	54LS107	
	Signetics	54HC367			Motorola	MC54HC423 (2641)			Motorola	MC54HC646 (2940)			Motorola	SN54LS109 (2941)	
	GE/RCA	CD54HC368 (2641)		SN54HC4511	National	MM54HC423A		SN54HC648	National	MM54HC646			National	DM54LS109	
	Motorola	MC54HC368 (2939)			Signetics	74HC4516 (3057)			GE/RCA	CD54HC648 (2641)		SN54LS11	SGS-Thomson	54LS109	
SN54HC373	National	MM54HC368		SN54HC4514	GE/RCA	CD54HC4511 (2641)			Motorola	MC54HC648 (2940)			Motorola	SN54LS11 (2937)	
	GE/RCA	CD54HC373 (2641, 2653)			Motorola	MC54HC4514 (2945)		SN54HC670	National	MM54HC648			National	DM54LS11	
	Motorola	MC54HC373 (2941)		SN54HC4515	National	MM54HC4514			GE/RCA	CD54HC670 (2641)			SGS-Thomson	54LS11	
	National	MM54HC373			Motorola	MC54HC4514 (2945)		SN54HC688	Motorola	MC54HC688 (2946)		SN54LS114A	National	T54LS11	
	Signetics	54HC373			Motorola	MC54HC4514 (2945)			National	MM54HC688			SGS-Thomson	54LS114	
	Supertex	54HC373			Motorola	MC54HC4515 (2641)			Motorola	MC54HC688		SN54LS12	Lansdale	T54LS114	
	(Continued)				(Continued)				(Continued)					SL8270	
														SL8471	
														(Continued)	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
SN54LS12	Motorola	SN54LS12 (2937)		SN54LS157	SGS-Thomson	T54LS157		SN54LS192	Motorola	SN54LS192 (2942)		SN54LS253	National	DM7214	
SN54LS122	National	DM54LS122 (2946)		SN54LS158	Signetics	54LS157		SN54LS192	National	DM54LS192		SN54LS253	SGS-Thomson	54LS253	
SN54LS123	Motorola	SN54LS123 (2946)		SN54LS158	Motorola	SN54LS158 (2944)		SN54LS193	Signetics	T54LS192		SN54LS257B	Signetics	T54LS253	
SN54LS125A	National	DM54LS125 (2939)		SN54LS160A	SGS-Thomson	54LS158		SN54LS193	Motorola	SN54LS193 (2942)		SN54LS257A	Motorola	SN54LS257A (2944)	
SN54LS125A	Motorola	SN54LS125 (2939)		SN54LS160A	Signetics	T54LS158		SN54LS194A	National	DM54LS193		SN54LS257A	National	DM54LS257	
SN54LS125A	National	DM54LS125 (2939)		SN54LS160A	Motorola	SN54LS160A (2942)		SN54LS194A	SGS-Thomson	54LS193		SN54LS258B	SGS-Thomson	54LS257	
SN54LS125A	SGS-Thomson	54LS125A		SN54LS161A	National	54LS160A		SN54LS194A	Motorola	SN54LS194A (2944)		SN54LS258B	Motorola	T54LS257	
SN54LS126A	Signetics	T54LS125		SN54LS161A	SGS-Thomson	T54LS160		SN54LS195A	National	54LS194A		SN54LS259B	National	54LS258A	
SN54LS126A	Motorola	SN54LS126 (2939)		SN54LS161A	Motorola	54LS160A		SN54LS195A	SGS-Thomson	T54LS194		SN54LS259B	Motorola	SN54LS259 (2941)	
SN54LS126A	National	DM54LS126		SN54LS162A	National	SN54LS161A (2942)		SN54LS195A	Signetics	54LS194A		SN54LS26	National	54LS259	
SN54LS126A	SGS-Thomson	54LS126		SN54LS162A	SGS-Thomson	54LS161A		SN54LS195A	Motorola	SN54LS195A (2944)		SN54LS26	Motorola	T54LS259	
SN54LS13	Signetics	T54LS126		SN54LS162A	Signetics	54LS161A		SN54LS196	National	54LS195A		SN54LS26	National	DM54LS26	
SN54LS13	Motorola	SN54LS13 (2940)		SN54LS162A	Motorola	SN54LS162A (2942)		SN54LS196	SGS-Thomson	T54LS195		SN54LS26	SGS-Thomson	54LS26	
SN54LS13	National	DM54LS13		SN54LS163A	National	DM54LS162A		SN54LS196	Signetics	54LS195A		SN54LS266	Motorola	T54LS26	
SN54LS132	SGS-Thomson	54LS13		SN54LS163A	SGS-Thomson	54LS162A		SN54LS196	Motorola	SN54LS196 (2942)		SN54LS266	National	SN54LS266 (2938)	
SN54LS132	Motorola	SN54LS132 (2937, 2940)		SN54LS163A	Signetics	T54LS162		SN54LS197	National	DM54LS196		SN54LS27	SGS-Thomson	54LS266	
SN54LS132	National	DM54LS132		SN54LS163A	Motorola	SN54LS163A (2942)		SN54LS197	SGS-Thomson	T54LS196		SN54LS27	Signetics	T54LS266	
SN54LS136	SGS-Thomson	T54LS132		SN54LS163A	National	DM54LS163		SN54LS20	National	DM54LS197		SN54LS27	Motorola	SN54LS27 (2938)	
SN54LS136	Motorola	SN54LS136 (2938)		SN54LS164	SGS-Thomson	DM54LS163A		SN54LS20	Signetics	54LS197		SN54LS273	National	DM54LS27	
SN54LS136	National	DM54LS136		SN54LS164	Motorola	54LS163A		SN54LS20	Motorola	SN54LS20 (2937)		SN54LS273	SGS-Thomson	54LS27	
SN54LS136	SGS-Thomson	54LS136		SN54LS164	National	SN54LS164 (2943)		SN54LS21	National	DM54LS20		SN54LS273	Motorola	T54LS27	
SN54LS137	Signetics	T54LS136		SN54LS165A	SGS-Thomson	54LS164		SN54LS21	Signetics	54LS20		SN54LS279A	National	54LS273	
SN54LS138	Motorola	SN54LS137		SN54LS165A	Motorola	T54LS164		SN54LS219A	Motorola	SN54LS21 (2937)		SN54LS279A	Signetics	T54LS273	
SN54LS138	Motorola	SN54LS138 (2945)		SN54LS165A	National	54LS164		SN54LS219A	National	DM54LS21		SN54LS279A	Motorola	SN54LS279 (2941)	
SN54LS138	National	DM54LS138		SN54LS166A	SGS-Thomson	SN54LS165 (2943)		SN54LS219A	SGS-Thomson	54LS21		SN54LS279A	National	DM54LS279	
SN54LS138	SGS-Thomson	54LS138		SN54LS166A	Motorola	SN54LS166 (2944)		SN54LS219A	AMD	T54LS21		SN54LS28	SGS-Thomson	54LS279	
SN54LS139A	Signetics	T54LS138		SN54LS168	Motorola	SN54LS168 (2943)		SN54LS219A	Cypress	AM27S07		SN54LS28	Signetics	T54LS279	
SN54LS139A	Motorola	SN54LS139 (2945)		SN54LS168	National	DM54LS168		SN54LS219A	National	CY27S07		SN54LS28	Motorola	SN54LS28 (2938)	
SN54LS139A	National	DM54LS139		SN54LS168	SGS-Thomson	54LS168		SN54LS219A	SGS-Thomson	CY7C190		SN54LS28	National	54LS28	
SN54LS139A	SGS-Thomson	54LS139		SN54LS169B	Motorola	SN54LS169 (2943)		SN54LS219A	TI	DM75S07		SN54LS280	SGS-Thomson	54LS28	
SN54LS14	Signetics	T54LS139		SN54LS169B	National	DM54LS169		SN54LS22	National	54F219		SN54LS280	Signetics	T54LS28	
SN54LS14	Motorola	SN54LS14 (2940)		SN54LS170	SGS-Thomson	54LS169		SN54LS22	SGS-Thomson	74F219		SN54LS280	Motorola	SN54LS280 (2947)	
SN54LS14	National	DM54LS14		SN54LS170	SGS-Thomson	54LS170		SN54LS221	Motorola	SN74HC219		SN54LS283	National	54LS28	
SN54LS145	Signetics	T54LS14		SN54LS173A	Motorola	SN54LS173A (2942)		SN54LS221	National	DM54LS22		SN54LS283	SGS-Thomson	54LS283	
SN54LS147	Motorola	SN54LS145		SN54LS173A	SGS-Thomson	T54LS173		SN54LS221	Signetics	54LS221		SN54LS283	Motorola	SN54LS283 (2947)	
SN54LS148	Motorola	SN54LS148 (2946)		SN54LS173A	National	DM54LS173		SN54LS240	Motorola	SN54LS240 (2939)		SN54LS289	National	DM54LS283	
SN54LS15	Motorola	SN54LS15 (2937)		SN54LS174	Signetics	54LS173		SN54LS240	National	54LS240		SN54LS289	Motorola	SN54LS289 (2942)	
SN54LS15	National	DM54LS15		SN54LS174	Motorola	SN54LS174 (2942)		SN54LS241	Motorola	SN54LS241 (2939)		SN54LS290	National	DM54LS289	
SN54LS15	SGS-Thomson	54LS15		SN54LS174	National	DM54LS174		SN54LS241	SGS-Thomson	54LS241		SN54LS290	SGS-Thomson	DM54LS290	
SN54LS151	Motorola	SN54LS151 (2944)		SN54LS174	SGS-Thomson	54LS174		SN54LS242	Motorola	T54LS241		SN54LS293	Signetics	T54LS290	
SN54LS151	National	DM54LS151		SN54LS175	Signetics	T54LS174		SN54LS242	Motorola	SN54LS242 (2939)		SN54LS293	Motorola	54LS290	
SN54LS151	SGS-Thomson	54LS151		SN54LS175	Motorola	SN54LS175 (2942)		SN54LS243	Motorola	SN54LS243 (2939)		SN54LS293	National	DM54LS293	
SN54LS153	Signetics	T54LS151		SN54LS175	National	DM54LS175		SN54LS244	Motorola	SN54LS244 (2939)		SN54LS295B	SGS-Thomson	54LS293	
SN54LS153	Motorola	SN54LS153		SN54LS181	SGS-Thomson	54LS175		SN54LS245	National	T54LS244		SN54LS295B	Motorola	SN54LS295A	
SN54LS153	National	DM54LS153		SN54LS181	Signetics	T54LS175		SN54LS245	Signetics	SN54LS245 (2939)		SN54LS298	National	54LS295A	
SN54LS153	SGS-Thomson	54LS153		SN54LS181	Motorola	SN54LS181 (2947)		SN54LS247	Motorola	DM54LS245		SN54LS298	Motorola	T54LS295	
SN54LS155A	Signetics	T54LS153		SN54LS181	National	54LS181		SN54LS247	National	SN54LS247 (2945)		SN54LS298	National	DM54LS298	
SN54LS155A	Motorola	SN54LS155 (2945)		SN54LS181	SGS-Thomson	T54LS181		SN54LS248	Motorola	SN54LS248 (2945)		SN54LS298	SGS-Thomson	54LS298	
SN54LS155A	National	DM54LS155		SN54LS183	Signetics	54LS181		SN54LS248	National	DM54LS248		SN54LS299	Signetics	54LS298	
SN54LS155A	SGS-Thomson	54LS155		SN54LS189	Motorola	MC54LS183		SN54LS249	Signetics	54LS248		SN54LS299	Motorola	DM54LS299	
SN54LS156	Motorola	SN54LS156 (2945)		SN54LS190	Motorola	SN54LS189		SN54LS249	Motorola	SN54LS249		SN54LS30	National	54LS299	
SN54LS156	National	DM54LS156		SN54LS190	National	DM54LS190		SN54LS251	National	DM54LS249		SN54LS30	Motorola	SN54LS30 (2937)	
SN54LS156	SGS-Thomson	54LS156		SN54LS191	SGS-Thomson	T54LS190		SN54LS251	Motorola	SN54LS251 (2944)		SN54LS30	National	DM54LS30	
SN54LS157	Motorola	SN54LS157 (2944)		SN54LS191	Signetics	54LS190		SN54LS253	National	54LS251		SN54LS32	SGS-Thomson	54LS30	
SN54LS157	National	DM54LS157		SN54LS191	Motorola	SN54LS191 (2942)		SN54LS253	Signetics	T54LS251		SN54LS32	Motorola	SN54LS32 (2937)	
SN54LS157	SGS-Thomson	54LS157		SN54LS191	National	DM54LS191		SN54LS253	Motorola	SN54LS253 (2944)		SN54LS32	National	DM54LS32	
SN54LS157	Signetics	54LS157		SN54LS191	SGS-Thomson	T54LS191		SN54LS253	National	DM54LS253		SN54LS32	SGS-Thomson	54LS32	

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
SN54LS32	SGS-Thomson	T54LS32		SN54LS38	SGS-Thomson	T54LS38		SN54LS75	Motorola	SN54LS75 (2941)		SN54S158	National	DM54S158	
		54LS32		SN54LS385	Motorola	SN54LS385 (2947)		SN54LS76A	Motorola	SN54LS76A (2941)		SN54S163	National	DM54S163	
SN54LS322A	Signetics	54LS322		SN54LS386	Lansdale	SL8241			Signetics	54LS75		SN54S168	Signetics	54S168	
SN54LS323	National	54LS322			Motorola	SN54LS386 (2938)		SN54LS77	Motorola	SN54LS77 (2941)		SN54S169	Signetics	54S169	
	Motorola	SN74LS323 (2944)		SN54LS390	National	DM54LS386		SN54LS78A	Motorola	SN54LS78A		SN54S174	National	DM54S174	
	National	54LS323			Raytheon	RM8241			Signetics	54LS76		SN54S175	Signetics	54S175	
		74LS323			SGS-Thomson			SN54LS83A	Motorola	SN54LS83A (2947)			National	DM54S175	
SN54LS33	TI	SN74LS323		SN54LS393	Motorola	SN54LS393 (2942)			Motorola	DM54LS78			Signetics	54S175	
	Motorola	SN54LS33 (2938)			SGS-Thomson	T54LS390			National	DM54LS83A		SN54S181	Signetics	54S181	
	SGS-Thomson	54LS33		SN54LS395A	Motorola	SN54LS395 (2944)				54LS83A		SN54S182	National	DM54S182	
		T54LS33			National	54LS395			SGS-Thomson	T54LS83		SN54S194	National	DM54S194	
SN54LS347	National	54LS347			SGS-Thomson	54LS395			Signetics	54LS83		SN54S195	National	DM54S195	
SN54LS348	Motorola	SN54LS348				T54LS395		SN54LS85	Motorola	SN54LS85 (2946)		SN54S20	Signetics	54S195	
SN54LS352	Motorola	SN54LS352		SN54LS398	Signetics	54LS395			National	DM54LS85			National	DM54S20	
	National	DM54LS352		SN54LS399	Motorola	SN54LS398 (2944)				54LS85			Signetics	54S20	
		54LS352			SGS-Thomson	T54LS393		SN54LS86A	Signetics	54LS85		SN54S22	National	DM54S22	
	SGS-Thomson	T54LS352		SN54LS40	Motorola	SN54LS40 (2937)			Motorola	SN54LS86 (2938)		SN54S240	MMI	SN54S240	
SN54LS353	Motorola	SN54LS353			National	DM54LS40			National	DM54LS86		SN54S241	MMI	SN54S241	
	National	DM54LS353			SGS-Thomson	54LS40			SGS-Thomson	T54LS86		SN54S244	Signetics	54S244	
		54LS353		SN54LS42	Motorola	SN54LS42 (2945)		SN54LS90	Signetics	54LS86		SN54S251	National	DM54S251	
	SGS-Thomson	T54LS353			National	DM54LS42			Motorola	SN54LS90 (2942)		SN54S257	Signetics	54S251	
		T54LS354			SGS-Thomson	54LS42			National	DM54LS90			National	DM54S257	
SN54LS365A	Motorola	SN54LS365A (2939)				T54LS42		SN54LS91	Signetics	54LS90		SN54S258	Signetics	DM54S258	
	National	54LS365A		SN54LS47	Signetics	54LS42		SN54LS92	Motorola	SN54LS91			National	54S258	
	SGS-Thomson	T54LS365			Motorola	SN54LS47 (2945)			National	SN54LS92 (2942)		SN54S280	Signetics	DM54S280	
		54LS365		SN54LS48	National	DM54LS47				DM54LS92			National	54S280	
SN54LS366A	Motorola	SN54LS366A (2939)			Motorola	SN54LS48 (2945)		SN54LS93	Signetics	T54LS92		SN54S283	Signetics	DM54S283	
	National	DM54LS366			National	DM54LS48			Motorola	54LS92		SN54S299	National	DM54S299	
		54LS366A		SN54LS49	Motorola	SN54LS49			National	SN54LS93 (2942)		SN54S30	National	DM54S30	
	SGS-Thomson	54LS366A			National	DM54LS49			SGS-Thomson	DM54LS93		SN54S32	National	DM54S32	
		T54LS366		SN54LS490	Motorola	SN54LS490 (2942)		SN54LS95B	Signetics	T54LS93		SN54S37	Signetics	54S37	
SN54LS367A	Motorola	SN54LS367A (2939)			National	54LS49			Motorola	54LS93		SN54S38	Signetics	54S38	
	National	DM54LS367			SGS-Thomson	54LS490			National	SN54LS95B (2944)		SN54S40	National	DM54S40	
		54LS367A		SN54LS51	Motorola	SN54LS51 (2938)				54LS95B			Signetics	54S40	
	SGS-Thomson	T54LS367			National	DM54LS51		SN54LS96	Signetics	T54LS95		SN54S51	National	DM54S51	
		54LS367			SGS-Thomson	54LS51		SN54LS96	Signetics	54LS95B			Signetics	54S51	
		54LS367A		SN54LS54	Signetics	T54LS51		SN54LS164	National	54LS96		SN54S64	National	DM54S64	
SN54LS368A	Motorola	SN54LS368A (2939)			Motorola	SN54LS54 (2938)				DM54L164			Signetics	54S64	
	National	DM54LS368			National	DM54LS54		SN54S00	Signetics	DM76L70		SN54S65	National	DM54S65	
		54LS368A			SGS-Thomson	54LS54		SN54S02	Signetics	54S00			Signetics	54S65	
		T54LS368		SN54LS540	Motorola	SN54LS540 (2940)		SN54S03	National	DM54S03		SN54S74	National	54S65	
	Signetics	54LS368		SN54LS541	Motorola	SN54LS541 (2940)			Signetics	54S03			Signetics	54S74	
SN54LS37	Motorola	SN54LS37 (2937)			National	54LS51		SN54S04	Signetics	54S04			National	54S74	
	National	DM54LS37			Signetics	54LS51		SN54S08	Signetics	54S08		SN54S85	Signetics	54S85	
		54LS37		SN54LS640	Motorola	SN54LS640 (2940)		SN54S10	National	DM54S10		SN54S86	Signetics	54S86	
	SGS-Thomson	T54LS37		SN54LS641	Motorola	SN54LS641 (2940)				54S10		SN5400	Lansdale	ML5400	
		54LS37		SN54LS642	Motorola	SN54LS642 (2940)		SN54S11	Signetics	54S10			National	DM5400	
SN54LS373	Motorola	SN54LS373 (2941)		SN54LS644	Motorola	SN54LS644 (2940)		SN54S112	Signetics	54S11		SN5401	Signetics	5400	
	SGS-Thomson	T54LS373		SN54LS645	Motorola	SN54LS645 (2940)			National	DM54S112			Lansdale	ML5401	
		54LS373		SN54LS668	Motorola	SN54LS668		SN54S113	Signetics	54S112			National	ML5401	
		54LS373		SN54LS669	Motorola	SN54LS669			National	54S113		SN5402	National	ML5401	
SN54LS374	Motorola	SN54LS374 (2942)		SN54LS670	Motorola	SN54LS670 (2943)		SN54S114	Signetics	54S113			Lansdale	ML5402	
	National	DM54LS374			National	DM54LS670		SN54S132	National	54S114			National	SL5402	
		54LS374			SGS-Thomson	54LS670		SN54S133	National	54S132				DM5402	
		T54LS374				T54LS670			Signetics	54S133		SN5403	Lansdale	ML5403	
SN54LS375	Motorola	SN54LS375 (2941)		SN54LS673	Motorola	SN54LS673		SN54S134	National	DM54S134			National	DM5403	
	National	54LS375		SN54LS674	Motorola	SN54LS674			Signetics	54S134		SN5405	National	ML5403	
	Signetics	54LS375		SN54LS682	Motorola	SN54LS682		SN54S135	National	DM54S135			National	DM5405	
SN54LS377	Motorola	SN54LS377 (2942)		SN54LS683	Motorola	SN54LS683			Signetics	54S135		SN5406	Lansdale	ML5406	
	National	54LS377		SN54LS684	Motorola	SN54LS684		SN54S138	National	DM54S138			National	DM5406	
	SGS-Thomson	T54LS377		SN54LS685	Motorola	SN54LS685			Signetics	54S138		SN5407	Supertex	HV5407	
		54LS377		SN54LS688	Motorola	SN54LS688		SN54S139	National	54S138			National	ML5407	
		54LS377		SN54LS689	Motorola	SN54LS689			Signetics	DM54S139		SN5408	National	DM5407	
SN54LS378	Motorola	SN54LS378 (2942)		SN54LS73A	Motorola	SN54LS73A			National	54S139			Supertex	DM5408	
	National	54LS378			National	DM54LS73A		SN54S140	Signetics	54S139		SN5409	National	HV5408	
	SGS-Thomson	T54LS378				DM54LS73A			National	DM54S140			Lansdale	SL5409	
		54LS378		SN54LS74A	Signetics	54LS73		SN54S151	Signetics	54S140			National	DM5409	
SN54LS379	Motorola	SN54LS379 (2942)			Motorola	SN54LS74A (2941)			National	DM54S151		SN5410	Lansdale	ML5410	
	National	54LS379			National	DM54LS74A		SN54S153	Signetics	54S151			National	DM5410	
	SGS-Thomson	T54LS379				54LS74				DM54S153		SN54107	Lansdale	ML54107	
		54LS379		SN54LS74A	Signetics	54LS74		SN54S157	Signetics	54S153			National	DM54107	
SN54LS38	Motorola	SN54LS38 (2937)			SGS-Thomson	T54LS74			National	DM54S157		SN54109	National	DM54109	
	National	DM54LS38				54LS74				54S157			Signetics	54109	
		54LS38			Signetics	54LS74			Signetics	54S157		SN54116	Signetics	54116	

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The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN54163	Lansdale National	ML54163 DM54163 54163		SN54251	Fujitsu National	MB7121 DM54251 DM7121		SN5483A	National Signetics	5483A 5483A	
SN54121	Lansdale National	ML54121 DM54121 54121		SN54164	National	DM54164 DM7570 54164		SN5426	Lansdale National	ML5426 DM5426 5426		SN5485	Lansdale National	ML5485 DM5485 5485	
SN54122	Signetics Lansdale National	ML54122 54122		SN54165	Signetics Lansdale National	54164 ML54165 DM54165		SN5427	Lansdale National	ML5427 DM5427 5427		SN5486	Signetics Lansdale National	ML5486 DM5486 5486	
SN54123	Lansdale Mitsubishi National	ML54123 M54123 DM54123 54123		SN54166	Signetics National	54165 DM54166 54166		SN54279	Signetics National	54279 54283		SGS-Thomson			
SN54125	Signetics National	ML54125 DM7093 54125		SN5417	Signetics Lansdale National	ML5417 DM5417 DM54170		SN54283	National	54283		SN5490A	Signetics National	M5486 DM5490A	
SN54126	Marconi National	MA5413 DM54126 DM7094		SN54170	National	DM54170 DM54173		SN54298	Lansdale National	ML54298 54298		SN5491A	Lansdale Motorola National	ML5491A MC5491 SN5491	
SN5413	Signetics Lansdale National	ML5413 DM5413 TEL5413		SN54173	National	DM7551 54173		SN5430	National	ML5430 DM5430 5430		SN5492A	Signetics National	5491 DM5492 5492	
SN54132	Lansdale National	ML54132 DM54132 54132		SN54174	Raytheon Lansdale National	RM8710 ML54174 DM54174		SN5433	Signetics Marconi	5433 MA5433		SN5493A	National	DM5493A	
SN5414	Signetics Lansdale National	ML5414 DM5414 5414		SN54175	Signetics Lansdale National	54174 ML54175 DM54175		SN54365A	Signetics National	SL8T96 DM7095 SL8T95		SN5495A	National	DM5495 5495	
SN54147	Signetics National	DM54147 54147		SN54176	Signetics Lansdale	ML54176 ML74176 DM54176		SN54366A	Lansdale National	DM7096 DM7097		SN5496	Signetics Lansdale National	ML5496 DM5496 5496	
SN54148	Signetics National	DM54148 DM9318 54148		SN54177	Signetics Lansdale	54175 ML54176 ML74176		SN54367A	Signetics National	DM7098 DM7098		SN5497	Signetics Lansdale National	ML5497 5497	
SN54150	Lansdale National	ML54150 DM54150 54150		SN54178	Signetics Raytheon	DM7281 RM8270 S8270		SN54368A	Signetics National	DM7098 DM7098		SN55107A	Motorola National	MC55107 DS55107 LM55107A	
SN54151A	Lansdale National	ML54151 DM54151 54151A		SN54179	Signetics Raytheon	ML54180 DM54180 DM7281		SN5438	Lansdale National	ML5438 DM5438		SN55107B	TI Motorola National	SN55107B MC55107 DS55107	
SN54153	Signetics Lansdale National	ML54153 DM54153 54153		SN54180	Signetics Lansdale National	S8271 ML54180 DM54180		SN5440	Lansdale National	ML5440 DM5440 5440		SN55108A	TI Motorola National	SN55108A MC55108 DS55108	
SN54154	Signetics IDT National	ML54154 DM7213 DM7213 DM74154 DM8311 9311		SN54181	Signetics National	DM54181 54181		SN5442A	Lansdale National	ML5442 DM5442 5442A		SN55108B	TI Motorola National	SN55108B MC55108 DS55108	
SN54155	Raytheon Signetics Lansdale National	RC9311 74154 ML54155 DM54155	(3057)	SN54182	Signetics National	ML54182 SL54182		SN5445	Signetics National	DM5445 L602 S042	(3155)	SN55113	TI SMC Western	SN55113 COM1863 TR1863	
SN54156	National	DM54156		SN54182	Signetics Lansdale	ML54182 SL54182		SN5446A	SiliconG Unitorde National	SM602 PIC602 DM5446 5446		SN55114	TI National	96114 SN75114	
SN54157	National	DM54157 54157		SN54184	Signetics National	DM54184 DM54185A		SN5447A	National	DM5447A DM5448 5448		SN55115	TI National	96115 SN75115	
SN5416	Signetics Lansdale National	ML5416 DM5416 CXK5416		SN54185A	Signetics Lansdale	ML54190 DM54190		SN5448	National	DM5448 5448		SN55121	Signetics Lansdale National	DS55121 S8T13 SL8T14	
SN54160	Lansdale National	ML54160 DM54160		SN54190	Signetics Lansdale	ML54190 DM54191		SN5450	Lansdale National	ML5450 DM5450		SN55122	Signetics Lansdale National	DS55122 IP123	
SN54161	Signetics Lansdale National	ML54161 DM54161 54161		SN54191	Signetics National	ML54191 DM54191 54191		SN5451	Lansdale National	ML5451 DM5451 MM5451		SN55123	IPS Lambda LinearTech	IP123 LAS1405 LM123 LT123	
SN541616	AMD	AM29C516 AM29516		SN54192	Signetics National	DM54192 DM7560		SN5453	Lansdale	ML5453 SL5453		SN55123	Motorola	LM123 MC78T05	(2960) (2959)
SN541616	AD Cypress	ADSP1016 CY7C516	(2436) (2590)	SN54193	Lansdale National	DM54193 DM54193		SN5470	National	DM5470 ML5472		SN55123	National	μA123 μA138 LM123 SH123	
SN541616	Harris IDT LogicDev	HMU16 IDT7216 LMU16		SN54194	Lansdale National	ML54194 DM54194		SN5472	Signetics Lansdale	ML5472 SL5472		SN55123	SiliconG	SG123 SG123A	
SN541616	LSI Logic	LMU216 L64015 L64016A		SN54195	Signetics Lansdale National	DM54195 ML54195 9300		SN5474	STC Lansdale National	TEL5453 ML5454 DM5454 ML5470		SN55157	National	55157	
SN541616	Matra-Harris TI	MS2516 SN741616		SN54196	Lansdale National	ML54196 DM54196 54196		SN5476	Lansdale National	ML5476 DM5476 5476		SN55182	AD	AD7820	(2414, 2416, 2462)
SN541616	TRWLSI	MPY016H MPY016K TMC216		SN54197	Signetics National	DM54197 54197		SN5477	National	DM5477 ML5477		SN55183	Crystal Maxim	CS7820 AD7820 MAX150	
SN541616	Weitek	WTL1016 WTL1516 WTL2516		SN54198	Lansdale National	SL54198 DM54198 DM54199		SN5479	Signetics Lansdale	ML5479 DM5479 5479		SN55189	National	DS7820 LM7820 PM0820	
SN54162	Lansdale National	ML54162 DM54162		SN54199	Lansdale National	DM54199 ML5420 LL5420		SN5480	Signetics Lansdale	ML5480 DM5480 5480		SN55189	Samsung SGS-Thomson	KAD0820 L7820 SG7820 SG7820A	
			(Continued)	SN5420	LSI Logic National	DM5420 ML5420 5420		SN5481	Signetics Lansdale	ML5481 DM5481 5481		SN55189	Siliconix TI	7820 μA7820 TL0820	(3325)
				SN5422	Signetics GE/RCA	CA5422 5422		SN5482	Signetics Lansdale	ML5482 DM5482 5482		SN55189	National	DS7830 LA7830	
				SN5423	Signetics Lansdale	DM5423 ML5423 5423		SN5483	Signetics National	DM5483 5483		SN55189	Sanyo	SC55189	
				SN5425	Lansdale National	ML5425 DM5425 5425		SN5484	Signetics National	DM5484 5484		SN55189	TI	SNJ55189	
								SN5485	Signetics	5485		SN5522	Motorola	MC5522 MC5523	

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN55473	SiliconG	SG55473 SNJ55473		SN74ALS114A	National	DM74ALS114		SN74ALS236	National	DM77S401 74F413	(Cont'd)
• SN5522	National	LM5522		SN55474	SiliconG	SG55474 SNJ55474		SN74ALS12A	National	DM74ALS12		SN74ALS240A	Mitsubishi	M74ALS240 M74ALS240A-1	
SN55234	Plessey	ZN440			TI	SNJ55474		SN74ALS1242	National	DM74ALS1242			Motorola	DM74ALS240	
	SiliconG	SG55234		SN55554	Siliconix	SI55554	(2647)	SN74ALS1243	National	DM74ALS1243			National	74ALS240	
	SiliconSys	SSJ6040		SN72748P	GE/RCA	CA748	(2952)	SN74ALS1244A	National	DM74ALS1244			Signetics	74ALS240A-1	
• SN55236	TI	SNJ55234			Motorola	LM201	(2989)	SN74ALS1245A	National	DM74ALS1245			TI	SN74ALS240A-1	
	SiliconG	SG55236			National	MC1748		SN74ALS131	National	DM74ALS131		SN74ALS240A-1	Mitsubishi	M74ALS240 M74ALS240A-1	
• SN55236	SiliconSys	SSJ982			PMI	LM748		SN74ALS133	National	DM74ALS133			Motorola	SN74ALS240	
	Teltone	M982				OP06		SN74ALS137	National	DM74ALS137			Motorola	SN74ALS240	
• SN5524	TI	SNJ55236				OP77		SN74ALS138	National	DM74ALS138			Signetics	74ALS240	
	Motorola	MC5524			SGS-Thomson	PM1008		SN74ALS139	Signetics	74ALS138			TI	SN74ALS240A	
	National	LM5524				LM201		SN74ALS139	Signetics	74ALS139			Motorola	SN74ALS240	
• SN5524	Raytheon	RM5524				LS148		SN74ALS15A	National	DM74ALS15			Signetics	74ALS240	
	TI	SNJ5524				SG201		SN74ALS151	Mitsubishi	M74ALS151			TI	SN74ALS240A	
• SN5525	Motorola	MC5525			SiliconG	μA748			National	DM74ALS151		SN74ALS241A	Mitsubishi	M74ALS241	
	National	LM5525			TI	LM201		SN74ALS153	Signetics	74ALS153			Motorola	SN74ALS241	
• SN5528	Motorola	MC5528		SN74ALS00	Motorola	SN74ALS00		SN74ALS157	Mitsubishi	DM74ALS157			National	DM74ALS241	
	National	LM5528			Signetics	DM74ALS00			National	DM74ALS157			TI	74ALS241A-1	
		MC5528			TI	SN74ALS00A		SN74ALS160B	Motorola	SN74ALS160		SN74ALS241A-1	Mitsubishi	M74ALS241	
SN55325	Motorola	MC55325			Signetics	74ALS00			National	DM74ALS160			Motorola	M74ALS241A-1	
	National	DS55325		SN74ALS00A	Motorola	SN74ALS00		SN74ALS161B	Motorola	SN74ALS161			National	SN74ALS241	
	SiliconG	JAN55325			Signetics	DM74ALS00			National	DM74ALS161			Signetics	74ALS241	
	TI	JANB55325			TI	SN74ALS00		SN74ALS162A	Motorola	SN74ALS162		SN74ALS242B	TI	SN74ALS241A	
		SNJ55325				DM74ALS01			National	DM74ALS162			Motorola	SN74ALS242	
SN55326	SiliconG	SG55326		SN74ALS01	National	DM74ALS01		SN74ALS1621	National	DM74ALS1621		SN74ALS243A	Motorola	SN74ALS243	
	TI	SNJ55326		SN74ALS02	Motorola	SN74ALS02			Mitsubishi	M74ALS163			National	DM74ALS243	
SN55327	Motorola	MC75325			National	DM74ALS02		SN74ALS163	Motorola	SN74ALS163		SN74ALS244A	Mitsubishi	M74ALS244	
	National	DS75325			Signetics	74ALS02			National	DM74ALS163			Motorola	M74ALS244A-1	
	SiliconG	SG55327		SN74ALS03A	National	DM74ALS03			Signetics	74ALS163			TI	SN74ALS244A-1	
		SG75325		SN74ALS04	Motorola	SN74ALS04		SN74ALS163B	Mitsubishi	M74ALS163		SN74ALS244A-1	Mitsubishi	M74ALS244	
• SN5535	Motorola	MC5535			National	DM74ALS04			Motorola	SN74ALS163			Motorola	DM74ALS244	
	National	LM5535			Signetics	74ALS04			National	DM74ALS163			Signetics	74ALS244A-1	
SN55365	National	DS55365		SN74ALS04B	Motorola	SN74ALS04B			TI	SN74ALS163A			TI	SN74ALS244A-1	
SN55450	National	μA55450			National	DM74ALS04			Signetics	SN74ALS163A					
	Signetics	55450			Signetics	74ALS04		SN74ALS163A	Mitsubishi	M74ALS163					
	SiliconG	SG55450				SN74ALS04			Motorola	SN74ALS163					
	TI	SNJ55450		SN74ALS05A	National	DM74ALS05			National	DM74ALS163					
SN55451	National	DS55451		SN74ALS08	Motorola	SN74ALS08			Signetics	DM74ALS163					
	Signetics	55451			National	DM74ALS08			TI	SN74ALS163					
	SiliconG	SG55451			Signetics	74ALS08			Motorola	DM74ALS163					
		SNJ55451B		SN74ALS09A	Motorola	SN74ALS09			National	DM74ALS163					
	TI	SNJ55451			National	DM74ALS09			Signetics	SN74ALS163					
SN55452	National	μA55452		SN74ALS10	National	DM74ALS10			TI	SN74ALS163					
		DS55452			Signetics	74ALS10				SN74ALS163B					
	Signetics	55452			TI	SN74ALS10A			Mitsubishi	M74ALS163					
	SiliconG	SG55452		SN74ALS10A	National	DM74ALS10			Motorola	SN74ALS163					
	TI	SNJ55452			Signetics	74ALS10			National	DM74ALS163					
SN55453	National	DS55453			TI	SN74ALS10			Signetics	74ALS163					
		LM55453		SN74ALS1000A	National	DM74ALS1000			TI	SN74ALS163A					
	Signetics	55453			National	DM74ALS1000				SN74ALS164					
	SiliconG	SG55453		SN74ALS1002A	National	DM74ALS1002			National	DM74ALS164					
	TI	SNJ55453				DM74ALS1003			Signetics	74ALS164					
SN55454	National	DS55454		SN74ALS1003A	National	DM74ALS1003				DM74ALS1640					
	Signetics	55454				DM74ALS1004				SN74ALS168B					
	SiliconG	SG55454		SN74ALS1004	National	DM74ALS1004			National	DM74ALS168					
		SNJ55454B				DM74ALS1005				SN74ALS169B					
• SN55460	TI	SNJ55454		SN74ALS1005	National	DM74ALS1005			National	DM74ALS169					
	National	DS55460			National	DM74ALS1008			Mitsubishi	M74ALS174					
	SiliconG	SG55460		SN74ALS1008A	National	DM74ALS1008			National	DM74ALS174					
	TI	SNJ55460				DM74ALS1010			Signetics	74ALS174					
SN55461	National	DS55461		SN74ALS1010A	National	DM74ALS1010			Mitsubishi	M74ALS175					
	SiliconG	SG55461				DM74ALS1011			National	DM74ALS175					
	TI	SNJ55461		SN74ALS1011A	National	DM74ALS1011			Signetics	74ALS175					
SN55462	National	μA55462			National	DM74ALS1020			National	DM74ALS190					
		DS55462		SN74ALS1020A	National	DM74ALS1020			Mitsubishi	M74ALS191					
	SiliconG	SG55462			National	DM74ALS1032			National	DM74ALS191					
	TI	SNJ55462		SN74ALS1032A	National	DM74ALS1032			Signetics	74ALS191					
SN55463	National	DS55463				DM74ALS1034			Motorola	SN74ALS192					
	SiliconG	SG55463		SN74ALS1034	National	DM74ALS1034			National	DM74ALS192					
	TI	SNJ55463				DM74ALS1035			Mitsubishi	M74ALS193					
SN55464	National	DS55464		SN74ALS1035	National	DM74ALS1035			Motorola	SN74ALS193					
	SiliconG	SG55464				DM74ALS109			National	DM74ALS193					
	TI	SNJ55464		SN74ALS109A	National	DM74ALS109			Signetics	74ALS193					
		SNJ55464				DM74ALS11			National	DM74ALS20					
SN55470	Toshiba	TC55464		SN74ALS11	National	DM74ALS11			Signetics	74ALS20					
	GE/RCA	CD22221			Signetics	74ALS11			National	DM74ALS21					
	National	DS55470		SN74ALS11A	National	DM74ALS11A			National	DM74ALS22					
	SiliconG	SG55470				74ALS11			Cypress	CY7C401	(2587)				
	SiliconSys	SSI2221			TI	SN74ALS11			IDT	IDT72401					
	TI	SNJ55470		SN74ALS112A	National	DM74ALS112			MMI	C57L401					
SN55471	National	DS55471				74ALS112				C57401					
	SiliconG	SG55471			Signetics	74ALS112				C67401					
	TI	SNJ55471		SN74ALS113A	National	DM74ALS113				57401					
SN55472	SiliconG	SG55472				DM74ALS113				67C401					
	TI	SNJ55472				(Continued)				(Continued)					

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN74ALS643A	Motorola National	SN74ALS643 DM74ALS643		SN74AS280	National	DM74AS280		SN74BCT29818	AMD	AM29C818 AM29818A	
SN74ALS32	Motorola National Signetics	SN74ALS32 DM74ALS32 74ALS32		SN74ALS644A	Motorola National	SN74ALS644 DM74ALS644		SN74AS282	National	DM74AS282		SN74BCT29821	AMD	AM29C821 AM29821	
SN74ALS33A	National	DM74ALS33		SN74ALS645A	National Signetics	DM74ALS645 74ALS645A		SN74AS30	National	DM74AS30		SN74BCT29822	TI	SN74AS821	
SN74ALS352	National	DM74ALS352		SN74ALS645A-1	National Signetics	DM74ALS645A-1 74ALS645A-1		SN74AS32	National	DM74AS32		SN74BCT29823	AMD TI	AM29822 SN74AS822	
SN74ALS353	National	DM74ALS353		SN74ALS646	Signetics	74ALS646		SN74AS33	National	DM74AS33		SN74BCT29824	AMD TI	AM29824 SN74AS824	
SN74ALS37A	National	DM74ALS37		SN74ALS646-1	Signetics	74ALS646-1		SN74AS34	National	DM74AS34		SN74BCT29825	AMD TI	AM29825 SN74AS825	
SN74ALS373	Mitsubishi Motorola National Signetics	DM74ALS373 SN74ALS373 74ALS373		SN74ALS689	National	DM74ALS689		SN74AS352	National	DM74AS352		SN74BCT29826	AMD TI	AM29826 SN74AS826	
SN74ALS374	Motorola National Signetics	SN74ALS374 DM74ALS374 74ALS374		SN74ALS74A	Motorola National	SN74ALS74		SN74AS353	National	DM74AS353		SN74BCT29833	AMD	AM29C833 AM29833	
SN74ALS38A	National Signetics	DM74ALS38 74ALS38		SN74ALS804A	National	DM74ALS804		SN74AS362	National	DM74AS362		SN74BCT29834	AMD	AM29C841 AM29834	
SN74ALS40A	National	DM74ALS40		SN74ALS805A	National	DM74ALS805		SN74AS374	National	DM74AS374		SN74BCT29841	TI	SN74AS841 SN74BCT29841	
SN74ALS465A	National	DM74ALS465		SN74ALS808A	National	DM74ALS808		SN74AS533	National	DM74AS533		SN74BCT29842	AMD	AM29C842 AM29842	
SN74ALS466A	National	DM74ALS466		SN74ALS810	National	DM74ALS810		SN74AS534	National	DM74AS534		SN74BCT29843	AMD	AM29C843 AM29843	
SN74ALS467A	National	DM74ALS467		SN74ALS811	National	DM74ALS811		SN74AS573	National	DM74AS573		SN74BCT29844	AMD	AM29C844 AM29844	
SN74ALS468A	National	DM74ALS468		SN74ALS832A	National	DM74ALS832		SN74AS577	National	DM74AS577		SN74BCT29845	AMD	AM29C845 AM29845	
SN74ALS518	National	DM74ALS518		SN74ALS86	Signetics	74ALS86		SN74AS580	National	DM74AS580		SN74BCT29846	AMD	AM29C846 AM29846	
SN74ALS519	National	DM74ALS519		SN74ALS873B	Motorola National	SN74ALS873 DM74ALS873		SN74AS620	National	DM74AS620		SN74BCT29853	AMD	AM29C853 AM29853	
SN74ALS521	National	DM74ALS521		SN74ALS878B	Motorola National	SN74ALS874		SN74AS621	National	DM74AS621		SN74BCT29854	AMD	AM29C854 AM29854	
SN74ALS522	National	DM74ALS522		SN74ALS876A	Motorola National	SN74ALS876		SN74AS622	National	DM74AS622		SN74BCT29855	AMD	AM29C855 AM29855	
SN74ALS533	National	DM74ALS533		SN74ALS880A	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880B		SN74AS623	National	DM74AS623		SN74BCT29856	AMD	AM29C856 AM29856	
SN74ALS534	National	DM74ALS534		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS638	National	DM74AS638		SN74BCT29857	AMD	AM29C857 AM29857	
SN74ALS563	National Signetics	DM74ALS563 74ALS563		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS639	National	DM74AS639		SN74BCT29858	AMD	AM29C858 AM29858	
SN74ALS564	National Signetics	DM74ALS564 74ALS564		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS640	National	DM74AS640		SN74BCT29859	AMD	AM29C859 AM29859	
SN74ALS573	Motorola National Signetics	SN74ALS573 DM74ALS573 74ALS573		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS641	National	DM74AS641		SN74BCT29860	AMD	AM29C860 AM29860	
SN74ALS574	Motorola National Signetics	SN74ALS574 DM74ALS574 74ALS574		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS642	National	DM74AS642		SN74BCT29861	AMD	AM29C861 AM29861	
SN74ALS576	Motorola National	SN74ALS576 DM74ALS576		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS643	National	DM74AS643		SN74BCT29862	AMD	AM29C862 AM29862	
SN74ALS580A	Motorola National	SN74ALS580 DM74ALS580		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS644	National	DM74AS644		SN74BCT29863	AMD	AM29C863 AM29863	
SN74ALS620A	Mitsubishi	M74ALS620 M74ALS620A-1		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS645	National	DM74AS645		SN74BCT29864	AMD	AM29C864 AM29864	
SN74ALS620A-1	Motorola National Signetics	DM74ALS620 74ALS620 74ALS620A-1		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS646	National	DM74AS646		SN74BCT29865	AMD	AM29C865 AM29865	
SN74ALS620A-1	TI	SN74ALS620A-1		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS647	National	DM74AS647		SN74BCT29866	AMD	AM29C866 AM29866	
SN74ALS620A-1	Mitsubishi	M74ALS620 M74ALS620A-1		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS648	National	DM74AS648		SN74BCT29867	AMD	AM29C867 AM29867	
SN74ALS620A-1	Motorola National Signetics	DM74ALS620 74ALS620 74ALS620A-1		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS651	National	DM74AS651		SN74BCT29868	AMD	AM29C868 AM29868	
SN74ALS621A	TI	SN74ALS620A		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS652	National	DM74AS652		SN74BCT29869	AMD	AM29C869 AM29869	
SN74ALS623A	Motorola National	SN74ALS621 DM74ALS621		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS653	National	DM74AS653		SN74BCT29870	AMD	AM29C870 AM29870	
SN74ALS623A-1	Mitsubishi	M74ALS623 M74ALS623A-1		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS654	National	DM74AS654		SN74BCT29871	AMD	AM29C871 AM29871	
SN74ALS623A-1	Motorola National Signetics	DM74ALS623 74ALS623 74ALS623A-1		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS655	National	DM74AS655		SN74BCT29872	AMD	AM29C872 AM29872	
SN74ALS623A-1	TI	SN74ALS623A-1		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS656	National	DM74AS656		SN74BCT29873	AMD	AM29C873 AM29873	
SN74ALS640A	Motorola National	SN74ALS623A-1 SN74ALS623A		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS657	National	DM74AS657		SN74BCT29874	AMD	AM29C874 AM29874	
SN74ALS641A	Motorola National	SN74ALS641 DM74ALS641		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS658	National	DM74AS658		SN74BCT29875	AMD	AM29C875 AM29875	
SN74ALS642A	Motorola National	SN74ALS642 DM74ALS642		SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS659	National	DM74AS659		SN74BCT29876	AMD	AM29C876 AM29876	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS660	National	DM74AS660		SN74BCT29877	AMD	AM29C877 AM29877	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS661	National	DM74AS661		SN74BCT29878	AMD	AM29C878 AM29878	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS662	National	DM74AS662		SN74BCT29879	AMD	AM29C879 AM29879	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS663	National	DM74AS663		SN74BCT29880	AMD	AM29C880 AM29880	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS664	National	DM74AS664		SN74BCT29881	AMD	AM29C881 AM29881	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS665	National	DM74AS665		SN74BCT29882	AMD	AM29C882 AM29882	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS666	National	DM74AS666		SN74BCT29883	AMD	AM29C883 AM29883	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS667	National	DM74AS667		SN74BCT29884	AMD	AM29C884 AM29884	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS668	National	DM74AS668		SN74BCT29885	AMD	AM29C885 AM29885	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS669	National	DM74AS669		SN74BCT29886	AMD	AM29C886 AM29886	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS670	National	DM74AS670		SN74BCT29887	AMD	AM29C887 AM29887	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS671	National	DM74AS671		SN74BCT29888	AMD	AM29C888 AM29888	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS672	National	DM74AS672		SN74BCT29889	AMD	AM29C889 AM29889	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS673	National	DM74AS673		SN74BCT29890	AMD	AM29C890 AM29890	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS674	National	DM74AS674		SN74BCT29891	AMD	AM29C891 AM29891	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS675	National	DM74AS675		SN74BCT29892	AMD	AM29C892 AM29892	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS676	National	DM74AS676		SN74BCT29893	AMD	AM29C893 AM29893	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS677	National	DM74AS677		SN74BCT29894	AMD	AM29C894 AM29894	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS678	National	DM74AS678		SN74BCT29895	AMD	AM29C895 AM29895	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS679	National	DM74AS679		SN74BCT29896	AMD	AM29C896 AM29896	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS680	National	DM74AS680		SN74BCT29897	AMD	AM29C897 AM29897	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS681	National	DM74AS681		SN74BCT29898	AMD	AM29C898 AM29898	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS682	National	DM74AS682		SN74BCT29899	AMD	AM29C899 AM29899	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS683	National	DM74AS683		SN74BCT29900	AMD	AM29C900 AM29900	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS684	National	DM74AS684		SN74BCT29901	AMD	AM29C901 AM29901	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS685	National	DM74AS685		SN74BCT29902	AMD	AM29C902 AM29902	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS686	National	DM74AS686		SN74BCT29903	AMD	AM29C903 AM29903	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS687	National	DM74AS687		SN74BCT29904	AMD	AM29C904 AM29904	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS688	National	DM74AS688		SN74BCT29905	AMD	AM29C905 AM29905	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS689	National	DM74AS689		SN74BCT29906	AMD	AM29C906 AM29906	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS690	National	DM74AS690		SN74BCT29907	AMD	AM29C907 AM29907	
				SN74ALS880B	Motorola National TI	SN74ALS880 DM74ALS880 SN74ALS880A		SN74AS691	National	DM74AS691					

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN74F244	Signetics TI	74F244 SN74BCT244	(Cont'd) (3077) (3317)	SN74F543	National Signetics TI	74F543 74F543 SN74BCT543	(3078) (3317)	SN74HCT240	CTI GE/RCA	74HCT240 CD74HCT240	(2640)
SN74BCT623	Motorola National Signetics TI	MC74F623 74F623 SN74F623	(3078)	SN74F245	Motorola National Signetics TI	MC74F245 74F245 74F245 SN74BCT245	(2939) (3077) (3317)	SN74F544	National Signetics TI	74F544 74F544 SN74BCT544	(3078) (3317)	SN74HCT241	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT240 MIC74HCT240 MC74HCT240 MM74HCT240 MV74HCT240 74HCT240 M74HCT240	
SN74BCT646	National Signetics	74F651 74F651		SN74F251	Motorola National Signetics	MC74F251 74F251	(2944) (3077)	SN74F568	National Signetics	74F568 74F568	(3078) (3078)	SN74HCT242	Signetics Supertex	74HCT240 74HCT240	(3057)
SN74BCT651	National Signetics	74F652 74F652		SN74F253	Motorola National Signetics	MC74F253 74F253	(2944) (3077)	SN74F569	National Signetics	74F569 74F569	(3078) (3078)	SN74HCT243	GE/RCA	74HCT241 74HCT241	(2640)
SN74F00	Motorola National Signetics	MC74F00 74F00	(2937)	SN74F257	Motorola National Signetics	MC74F257 74F257	(2944) (3077)	SN74F573	National Signetics	74F573 74F573	(3078) (3078)	SN74HCT244	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT241 MIC74HCT241 MC74HCT241 MM74HCT241 MV74HCT241 74HCT241 M74HCT241	
SN74F02	Motorola National Signetics	MC74F02 74F02	(2938)	SN74F258	Motorola National Signetics	MC74F258 74F258	(2944) (3077)	SN74F620	Motorola National Signetics TI	MC74F620 74F620 SN74BCT620	(3078) (3078) (3317)	SN74HCT245	Signetics Supertex Toshiba	74HCT241 74HCT241 TC74HCT240A	
SN74F04	Motorola National Signetics	MC74F04 74F04	(2939)	SN74F27	Motorola National Signetics	MC74F27 74F27	(2947) (3077)	SN74F621	National Signetics	74F621 74F621	(3078) (3078)	SN74HCT246	GE/RCA	74HCT241 74HCT241	(2640)
SN74F109	Motorola National Signetics	MC74F109 74F109	(2941)	SN74F273	Motorola National Signetics	MC74F273 74F273	(2947) (3077)	SN74F622	National Signetics	74F622 74F622	(3078) (3078)	SN74HCT247	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT242 MIC74HCT242 MC74HCT242 MM74HCT242 MV74HCT242 74HCT242 M74HCT242	
SN74F11	Motorola National Signetics	MC74F11 74F11	(2937)	SN74F280	Motorola National Signetics	MC74F280 74F280	(2947) (3077)	SN74F623	Motorola National Signetics TI	MC74F623 74F623 SN74BCT623	(2941) (3078) (3317)	SN74HCT248	Signetics Supertex Toshiba	74HCT241 74HCT241 TC74HCT241A	
SN74F112	Motorola National Signetics	MC74F112 74F112	(3077)	SN74F283	Motorola National Signetics	MC74F283 74F283	(2947) (3077)	SN74F624	National Signetics	74F624 74F64	(3078) (3078)	SN74HCT249	GE/RCA	74HCT241 74HCT241	(2640)
SN74F113	Motorola National Signetics	MC74F113 74F113		SN74F299	Motorola National Signetics	MC74F299 74F299	(2947) (3077)	SN74F653	Motorola National	MC74F653 74F653		SN74HCT250	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT242 MIC74HCT242 MC74HCT242 MM74HCT242 MV74HCT242 74HCT242 M74HCT242	
SN74F114	Motorola National Signetics	MC74F114 74F114		SN74F30	Motorola National Signetics	MC74F30 74F30	(2947) (3077)	SN74F74	Motorola National Signetics	MC74F74 74F74	(2941) (2941)	SN74HCT251	GE/RCA	74HCT241 74HCT241	(2640)
SN74F138	Motorola National Signetics	MC74F138 74F138	(2945)	SN74F323	Motorola National Signetics	MC74F323 74F323	(2944) (3077)	SN74HCT04	GE/RCA Motorola National SGS-Thomson	CD74HCT04 MC74HCT04 MM72HCT04	(2639) (3077) (3077)	SN74HCT252	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT244 MIC74HCT244 MC74HCT244 MM74HCT244 MV74HCT244 74HCT244 M74HCT244	
SN74F151	Motorola National Signetics	MC74F151 74F151	(2944)	SN74F350	Motorola National Signetics	MC74F350 74F350	(2947) (3077)	SN74HCT125	Signetics Toshiba GE/RCA	74HCT125 TC74HCT04A CD74HCT125	(3057) (2640) (2640)	SN74HCT253	Signetics Supertex Toshiba CTI CMD Micro GE/RCA	74HCT244 74HCT244 TC74HCT244A 74HCT245 G74SC245 CD74HCT245	
SN74F153	Motorola National Signetics	MC74F153 74F153	(2944)	SN74F352	Motorola National Signetics	MC74F352 74F352	(2944) (3077)	SN74HCT126	Signetics GE/RCA	74HCT126 CD74HCT126	(3057) (2640)	SN74HCT254	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT244 MIC74HCT244 MC74HCT244 MM74HCT244 MV74HCT244 74HCT244 M74HCT244	
SN74F157	Motorola National Signetics	MC74F157 74F157	(2944)	SN74F353	Motorola National Signetics	MC74F353 74F353	(2944) (3077)	SN74HCT137	CTI GE/RCA	74HCT137 CD74HCT137	(2640) (2640)	SN74HCT255	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT244 MIC74HCT244 MC74HCT244 MM74HCT244 MV74HCT244 74HCT244 M74HCT244	
SN74F158	Motorola National Signetics	MC74F158 74F158	(2944)	SN74F373	Motorola National Signetics TI	MC74F373 74F373 SN74BCT373	(2944) (3077) (3317)	SN74HCT138	National Plessey SGS-Thomson	MM74HCT138 MV74HCT138 M74HCT137 74HCT137 TC74HCT137	(2640) (2640) (3057) (3057)	SN74HCT256	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F160	Motorola National Signetics	MC74F160 74F160	(2942)	SN74F374	Motorola National Signetics TI	MC74F374 74F374 SN74BCT374	(2942) (3077) (3317)	SN74HCT189	AMD	AM27LS03 AM27S03 SN74S189		SN74HCT257	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F161	Motorola National Signetics	MC74F161 74F161	(2942)	SN74F377	National Signetics	74F377 74F377	(3077) (3077)	SN74HCT237	Cypress	CY27LS03M CY27S03 CY7C189	(2580) (2580) (2580)	SN74HCT238	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F162	Motorola National Signetics	MC74F162 74F162	(2942)	SN74F378	Motorola National Signetics	MC74F378 74F378	(2942) (3077)	SN74HCT238	National Plessey SGS-Thomson	DM74S189 DM7599 DM8599 54F189		SN74HCT239	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F163	Motorola National Signetics	MC74F163 74F163	(2942)	SN74F379	Motorola National Signetics	MC74F379 74F379	(2942) (3077)	SN74HCT240	TI	SN54HCT189 SN54HC189 SN74HC189		SN74HCT241	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F168	Motorola National Signetics	MC74F168 74F168	(2943)	SN74F381	Motorola National Signetics	MC74F381 74F381	(2947) (3078)	SN74HCT242	GE/RCA	CD74HCT237	(2640)	SN74HCT243	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F169	Motorola National Signetics	MC74F169 74F169	(2943)	SN74F382	Motorola National Signetics	MC74F382 74F382	(2947) (3078)	SN74HCT243	GE/RCA	CD74HCT237	(2640)	SN74HCT244	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F174	Motorola National Signetics	MC74F174 74F174	(2942)	SN74F521	Motorola National Signetics	MC74F521 74F521	(2946) (3078)	SN74HCT244	GE/RCA	CD74HCT237	(2640)	SN74HCT245	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F175	Motorola National Signetics	MC74F175 74F175	(2942)	SN74F533	Motorola National Signetics TI	MC74F533 74F533 SN74BCT533	(2941) (3078) (3317)	SN74HCT245	GE/RCA	CD74HCT237	(2640)	SN74HCT246	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F20	Motorola National Signetics	MC74F20 74F20	(2937)	SN74F534	Motorola National Signetics TI	MC74F534 74F534 SN74BCT534	(2946) (3078) (3317)	SN74HCT246	GE/RCA	CD74HCT237	(2640)	SN74HCT247	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F21	Motorola National Signetics	MC74F21 74F21	(2937)	SN74F537	National Signetics	74F537 74F537	(3078) (3078)	SN74HCT247	GE/RCA	CD74HCT237	(2640)	SN74HCT248	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F240	Motorola National Signetics TI	MC74F240 74F240 SN74BCT240	(2939) (3077) (3317)	SN74F538	National Signetics	74F538 74F538	(3078) (3078)	SN74HCT249	GE/RCA	CD74HCT237	(2640)	SN74HCT249	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F241	Motorola National Signetics TI	MC74F241 74F241 SN74BCT241	(2939) (3077) (3317)	SN74F539	National Signetics	74F539 74F539	(3078) (3078)	SN74HCT250	GE/RCA	CD74HCT237	(2640)	SN74HCT250	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245	
SN74F242	Motorola National Signetics	MC74F242 74F242	(2939) (3077)												
SN74F243	Motorola National Signetics	MC74F243 74F243	(2939) (3077)												
SN74F244	Motorola National	MC74F244 74F244	(2939)												

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN74HCT620	Motorola SGS-Thomson	MC74HCT620 M74HCT620 MC74HCT623 CD74HCT640	(2641)	SN74HC03	GE/RCA Motorola National SGS-Thomson	CD74HC03 (2639) MC74HC03 (2937) MM74HC03 M74HC03		SN74HC125	GE/RCA Hitachi Motorola National SGS-Thomson	CD74HC125 (2640) HD74HC125 MC74HC125 (2939) MM74HC125 M74HC125	
SN74HCT374	SGS-Thomson	M74HCT374		SN74HCT623	Motorola	HD74HCT640		SN74HC04	Signetics Toshiba GE/RCA	74HC03 (3057) TC74HC03A (3340) CD74HC04 (2639)		SN74HC132	GE/RCA Hitachi Motorola National SGS-Thomson	CD74HC132 (2640) HD74HC132 MC74HC132 (2937, 2940) MM74HC132 M74HC132	
SN74HCT533	Signetics Supertex Toshiba CTI GE/RCA	74HCT374 (3057) 74HCT374 TC74HCT374A 74HCT533 CD74HCT533	(2641)	SN74HCT640	Hitachi Motorola National SGS-Thomson	MC74HCT640 MM74HCT640 M74HCT640		SN74HC05	Motorola	74HC04 (3057) TC40HC04 (3340)		SN74HC133	GE/RCA Hitachi Motorola National SGS-Thomson	CD74HC133 (2937) HD74HC133 MC74HC133 (2937) MM74HC133 M74HC133	
SN74HCT534	Hitachi Micrel Motorola Plessey Signetics CTI GE/RCA	HD74HCT533 MIC74HCT533 MC74HCT533 MM74HCT533 MV74HCT533 74HCT534 CD74HCT534	(2641)	SN74HCT643	Motorola SGS-Thomson	MC74HCT643 M74HCT643 (3057) 74HCT643 (3057)		SN74HC08	Motorola Hitachi Motorola National SGS-Thomson	CD74HC08 (2639) HD74HC08 MC74HC08 (2937) MM74HC08		SN74HC137	GE/RCA Hitachi Motorola National SGS-Thomson	CD74HC137 (2640) HD74HC137 MC74HC137 (2945) MM74HC137 M74HC137	
SN74HCT540	Hitachi Micrel Motorola National Plessey Signetics CTI GE/RCA	HD74HCT534 MIC74HCT534 MC74HCT534 MM74HCT534 MV74HCT534 74HCT540 CD74HCT540	(2641)	SN74HCT645	Motorola	MC74HCT645		SN74HC09	Signetics Toshiba	74HC08 (3057) TC74HC08A (3340)		SN74HC138	GE/RCA Hitachi Motorola National SGS-Thomson	CD74HC138 (2640) HD74HC138 MC74HC138 (2945) MM74HC138 M74HC138	
SN74HCT541	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT540 MIC74HCT540 MC74HCT540 MM74HCT540 MV74HCT540 M74HCT540		SN74HCT646	SGS-Thomson	M74HCT646		SN74HC10	Signetics Toshiba GE/RCA	74HC10 (3057) TC74HC10A (3340) CD74HC107 (2640)		SN74HC139	GE/RCA Hitachi Motorola National SGS-Thomson	CD74HC139 (2640) HD74HC139 MC74HC139 (2945) MM74HC139 M74HC139	
SN74HCT563	Signetics Toshiba CTI GE/RCA	74HCT540 (3057) TC74HCT540 74HCT541 CD74HCT541	(2641)	SN74HCT648	Hitachi SGS-Thomson	MC74HCT648 74HCT648 (3057) TC74HCT648A CD74HCT651		SN74HC107	Signetics Toshiba GE/RCA	74HC107 (3057) TC74HC107A (3340) CD74HC107 (2640)		SN74HC14	GE/RCA Hitachi Motorola National SGS-Thomson	CD74HC14 (2640) HD74HC14 MC74HC14 (2940) MM74HC14 M74HC14	
SN74HCT564	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT541 MIC74HCT541 MC74HCT541 MM74HCT541 MV74HCT541 M74HCT541		SN74HCT651	SGS-Thomson	M74HCT651		SN74HC11	Signetics Toshiba GE/RCA	74HC107 (3057) TC74HC107A (3340) CD74HC109 (2640)		SN74HC147	Hitachi Motorola National SGS-Thomson	HD74HC147 MC74HC147 (3340) MM74HC147 M74HC147	
SN74HCT565	Signetics Supertex Toshiba CTI GE/RCA	74HCT541 (3057) 74HCT541 TC74HCT541 74HCT563 CD74HCT563	(2641)	SN74HCT652	Hitachi SGS-Thomson	MC74HCT652 TC74HCT652A CD74HCT652		SN74HC112	Signetics Toshiba GE/RCA	74HC109 (3057) TC74HC109A (3340) CD74HC111 (2640)		SN74HC148	Hitachi Motorola National SGS-Thomson	HD74HC148 MC74HC148 (3340) MM74HC148 M74HC148	
SN74HCT566	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT563 MIC74HCT563 MC74HCT563 MM74HCT563 MV74HCT563 M74HCT563		SN74HCT658	Hitachi SGS-Thomson	MC74HCT658 74HCT658 (3057) TC74HCT658A CD74HCT651		SN74HC113	Signetics Toshiba GE/RCA	74HC111 (3057) TC74HC111A (3340) CD74HC112 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT573	Signetics Toshiba CTI GE/RCA	74HCT563 (3057) TC74HCT563 74HCT564 CD74HCT564	(2641)	SN74HCT688	Hitachi SGS-Thomson	MC74HCT688 74HCT688 (3057) TC74HCT688A CD74HCT651		SN74HC114	Signetics Toshiba GE/RCA	74HC112 (3057) TC74HC112A (3340) CD74HC113 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT574	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT564 MIC74HCT564 MC74HCT564 MM74HCT564 MV74HCT564 M74HCT564		SN74HCT9510	AMD	AM29L510 AM29510 ADSP1010 (2436) ADSP1010A (2436, 2462) CY7C510 (2590)		SN74HC123	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT575	Signetics Toshiba CTI GE/RCA	74HCT564 (3057) TC74HCT564 74HCT573 CD74HCT573	(2641)	SN74HCT9510	AD	ADSP1010 (2436) ADSP1010A (2436, 2462) CY7C510 (2590)		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT576	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT573 MIC74HCT573 MC74HCT573 MM74HCT573 MV74HCT573 M74HCT573		SN74HCT9510	Cypress Intel LogicDev	IM29C510 LMA1010 LMA2010 L64010 (2888) L64012 MS2010 TDC1010 TMC2210 VL2010 WS59510 WS59610 WTL1010 WTL2010 WTL2044 WTL2245		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT577	Signetics Toshiba CTI GE/RCA	74HCT573 (3057) TC74HCT573 74HCT574 CD74HCT574	(2641)	SN74HCT9510	LSI Logic	L64010 (2888) L64012 MS2010 TDC1010 TMC2210 VL2010 WS59510 WS59610 WTL1010 WTL2010 WTL2044 WTL2245		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT578	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT574 MIC74HCT574 MC74HCT574 MM74HCT574 MV74HCT574 M74HCT574		SN74HCT9510	Matra-Harris TRWLSI	MS2010 TDC1010 TMC2210 VL2010 WS59510 WS59610 WTL1010 WTL2010 WTL2044 WTL2245		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT579	Signetics Toshiba CTI GE/RCA	74HCT574 (3057) TC74HCT574 74HCT575 CD74HCT575	(2641)	SN74HCT9510	VLSI Tech	VL2010 WS59510 WS59610 WTL1010 WTL2010 WTL2044 WTL2245		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT580	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT575 MIC74HCT575 MC74HCT575 MM74HCT575 MV74HCT575 M74HCT575		SN74HCT9510	Waferscale	WS59510 WS59610 WTL1010 WTL2010 WTL2044 WTL2245		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT581	Signetics Toshiba CTI GE/RCA	74HCT575 (3057) TC74HCT575 74HCT576 CD74HCT576	(2641)	SN74HCT9510	Weitek	WTL1010 WTL2010 WTL2044 WTL2245		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT582	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT576 MIC74HCT576 MC74HCT576 MM74HCT576 MV74HCT576 M74HCT576		SN74HCT9510	Motorola	MC74HCT576 74HCT576 (3057) TC74HCT576A CD74HCT576		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT583	Signetics Toshiba CTI GE/RCA	74HCT576 (3057) TC74HCT576 74HCT577 CD74HCT577	(2641)	SN74HCT9510	National	MM74HCT576 M74HCT576		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT584	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT577 MIC74HCT577 MC74HCT577 MM74HCT577 MV74HCT577 M74HCT577		SN74HCT9510	SGS-Thomson	M74HCT577 74HCT577 (3057) TC74HCT577A CD74HCT577		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT585	Signetics Toshiba CTI GE/RCA	74HCT577 (3057) TC74HCT577 74HCT578 CD74HCT578	(2641)	SN74HCT9510	Hitachi	HD74HCT577 MC74HCT577 (2937) MM74HCT577		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT586	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT578 MIC74HCT578 MC74HCT578 MM74HCT578 MV74HCT578 M74HCT578		SN74HCT9510	Motorola	MC74HCT578 74HCT578 (3057) TC74HCT578A CD74HCT578		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT587	Signetics Toshiba CTI GE/RCA	74HCT578 (3057) TC74HCT578 74HCT579 CD74HCT579	(2641)	SN74HCT9510	National	MM74HCT578 M74HCT578		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT588	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT579 MIC74HCT579 MC74HCT579 MM74HCT579 MV74HCT579 M74HCT579		SN74HCT9510	SGS-Thomson	M74HCT579 74HCT579 (3057) TC74HCT579A CD74HCT579		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT589	Signetics Toshiba CTI GE/RCA	74HCT579 (3057) TC74HCT579 74HCT580 CD74HCT580	(2641)	SN74HCT9510	Hitachi	HD74HCT579 MC74HCT579 (2937) MM74HCT579		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT590	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT580 MIC74HCT580 MC74HCT580 MM74HCT580 MV74HCT580 M74HCT580		SN74HCT9510	Motorola	MC74HCT580 74HCT580 (3057) TC74HCT580A CD74HCT580		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT591	Signetics Toshiba CTI GE/RCA	74HCT580 (3057) TC74HCT580 74HCT581 CD74HCT581	(2641)	SN74HCT9510	National	MM74HCT580 M74HCT580		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT592	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT581 MIC74HCT581 MC74HCT581 MM74HCT581 MV74HCT581 M74HCT581		SN74HCT9510	SGS-Thomson	M74HCT581 74HCT581 (3057) TC74HCT581A CD74HCT581		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT593	Signetics Toshiba CTI GE/RCA	74HCT581 (3057) TC74HCT581 74HCT582 CD74HCT582	(2641)	SN74HCT9510	Hitachi	HD74HCT581 MC74HCT581 (2937) MM74HCT581		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT594	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT582 MIC74HCT582 MC74HCT582 MM74HCT582 MV74HCT582 M74HCT582		SN74HCT9510	Motorola	MC74HCT582 74HCT582 (3057) TC74HCT582A CD74HCT582		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT595	Signetics Toshiba CTI GE/RCA	74HCT582 (3057) TC74HCT582 74HCT583 CD74HCT583	(2641)	SN74HCT9510	National	MM74HCT582 M74HCT582		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT596	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT583 MIC74HCT583 MC74HCT583 MM74HCT583 MV74HCT583 M74HCT583		SN74HCT9510	SGS-Thomson	M74HCT583 74HCT583 (3057) TC74HCT583A CD74HCT583		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT597	Signetics Toshiba CTI GE/RCA	74HCT583 (3057) TC74HCT583 74HCT584 CD74HCT584	(2641)	SN74HCT9510	Hitachi	HD74HCT583 MC74HCT583 (2937) MM74HCT583		SN74HC125	Signetics Toshiba GE/RCA	74HC113 (3057) TC74HC113A (3340) CD74HC123 (2640)		SN74HC151	Hitachi Motorola National SGS-Thomson	HD74HC151 MC74HC151 (2944) MM74HC151 M74HC151	
SN74HCT598	Hitachi Micrel Motorola National Plessey SGS-Thomson	HD74HCT584 MIC74HCT584 MC74HCT584 MM74HCT584 MV74HCT584 M74HCT584		SN74HCT9510	Motorola	MC74HCT584 74HCT584 (3057) TC74HCT584A CD74HCT584	</								

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN74HC163	National SGS-Thomson	MM74HC163 (Cont'd)		SN74HC189	National TI	DM8599 54F189 SN54HC189 SN54HC189 SN74HC189	(Cont'd)	SN74HC221	SGS-Thomson	M74HC221 (3057)	
SN74HC151	Toshiba	TC74HC151A (3340)		SN74HC164	GE/RCA	CD74HC164 (2640)		SN74HC190	GE/RCA	CD74HC190 (2640)		SN74HC237	Signetics Toshiba GE/RCA	74HC221 TC74HC221 CD74HC237 (2640)	
SN74HC152	Universal	US74HC151			Hitachi	HD74HC164			Hitachi	HD74HC190			Motorola	MC74HC237 (2945)	
SN74HC153	Hitachi	HD74HC152			Motorola	MC74HC164			Motorola	MC74HC190			National	MM74HC237	
	Motorola	MC74HC153			National	MM74HC164			National	MM74HC190			SGS-Thomson	M74HC237	
	SGS-Thomson	M74HC153			SGS-Thomson	M74HC164			SGS-Thomson	M74HC190			Signetics	74HC237	
	Signetics	74HC153 (3057)			Signetics	74HC164 (3057)			Signetics	74HC190 (3057)			Toshiba	TC74HC237A (3340)	
	Toshiba	TC74HC153 (3340)			Toshiba	TC74HC164A (3340)			Toshiba	TC74HC190 (3340)			GE/RCA	CD74HC238 (2640)	
SN74HC154	GE/RCA	CD74HC154 (2640)		SN74HC165	GE/RCA	CD74HC165 (2640)		SN74HC191	GE/RCA	CD74HC191 (2640)		SN74HC238	Motorola National SGS-Thomson	MC74HC238 MM74HC238 M74HC238	
	Hitachi	HD74HC154			Hitachi	HD74HC165			Hitachi	HD74HC191			Signetics	74HC238 (3057)	
	Motorola	MC74HC154			Motorola	MC74HC165			Motorola	MC74HC191			Toshiba	TC74HC238A (3340)	
	National	MM74HC154			National	MM74HC165			National	MM74HC191			GE/RCA	CD74HC240 (2640)	
	SGS-Thomson	M74HC154			SGS-Thomson	M74HC165			SGS-Thomson	M74HC191			Hitachi	HD74HC240	
	Signetics	74HC154 (3057)			Signetics	74HC165 (3057)			Signetics	74HC191 (3057)			Motorola	MC74HC240 (2939)	
	Toshiba	TC74HC154A (3340)			Toshiba	TC74HC165A (3340)			Toshiba	TC74HC191 (3340)			National	MM74HC240	
SN74HC155	Motorola	MC74HC155		SN74HC166	GE/RCA	CD74HC166 (2640)		SN74HC192	GE/RCA	CD74HC192 (2640)		SN74HC240	Hitachi	HD74HC240	
	National	MM74HC155			Motorola	MC74HC166			Hitachi	HD74HC192			Motorola	MC74HC240 (2939)	
	SGS-Thomson	M74HC155			National	MM74HC166			Motorola	MC74HC192			National	MM74HC240	
	Toshiba	TC74HC155 (3340)			SGS-Thomson	M74HC166			SGS-Thomson	M74HC192			SGS-Thomson	M74HC240	
	GE/RCA	CD74HC157 (2640, 2653)			Signetics	74HC166 (3057)			Signetics	74HC192 (3057)			Signetics	74HC240 (3057)	
	Hitachi	HD74HC157			Toshiba	TC74HC166A (3340)			Toshiba	TC74HC192A (3340)			Supertex	74HC240	
	Motorola	MC74HC157			Hitachi	HD74HC173			GE/RCA	CD74HC193 (2640)			Toshiba	TC74HC240A (3340)	
	National	MM74HC157			Motorola	MC74HC173			Hitachi	HD74HC193			GE/RCA	CD74HC241 (2640)	
	SGS-Thomson	M74HC157			National	MM74HC173			Motorola	MC74HC193			Hitachi	HD74HC241	
	Signetics	74HC157 (3057)			SGS-Thomson	M74HC173			National	MM74HC193			Motorola	MC74HC241 (2939)	
	Toshiba	TC74HC157A (3340)			Signetics	74HC173 (3057)			Signetics	74HC193 (3057)			National	MM74HC241	
SN74HC158	GE/RCA	CD74HC158 (2640)		SN74HC174	GE/RCA	CD74HC174 (2640)		SN74HC194	GE/RCA	CD74HC194 (2640)		SN74HC241	Signetics	74HC241 (3057)	
	Hitachi	HD74HC158			Hitachi	HD74HC174			Hitachi	HD74HC194			Supertex	74HC241	
	Motorola	MC74HC158			Motorola	MC74HC174			Motorola	MC74HC194			Toshiba	TC74HC241A (3340)	
	National	MM74HC158			National	MM74HC174			National	MM74HC194			GE/RCA	CD74HC242 (2640)	
	SGS-Thomson	M74HC158			SGS-Thomson	M74HC174			SGS-Thomson	M74HC194			Hitachi	HD74HC242	
	Signetics	74HC158 (3057)			Signetics	74HC174 (3057)			Signetics	74HC194 (3057)			Motorola	MC74HC242 (2939)	
	Toshiba	TC74HC158A (3340)			Toshiba	TC74HC174A (3340)			Toshiba	TC74HC194 (3340)			National	MM74HC242	
SN74HC160	GE/RCA	CD74HC160 (2640)		SN74HC175	GE/RCA	CD74HC175 (2640)		SN74HC195	GE/RCA	CD74HC195 (2640)		SN74HC242	Signetics	74HC242 (3057)	
	Motorola	MC74HC160			Hitachi	HD74HC175			Hitachi	HD74HC195			Toshiba	TC74HC242 (3340)	
	National	MM74HC160			Motorola	MC74HC175			Motorola	MC74HC195			GE/RCA	CD74HC243 (2640)	
	SGS-Thomson	M74HC160			National	MM74HC175			National	MM74HC195			Hitachi	HD74HC243	
	Signetics	74HC160 (3057)			SGS-Thomson	M74HC175			SGS-Thomson	M74HC195			Motorola	MC74HC243 (2939)	
	Toshiba	TC74HC160A (3340)			Signetics	74HC175 (3057)			Signetics	74HC195 (3057)			National	MM74HC243	
SN74HC161	GE/RCA	CD74HC161 (2640)		SN74HC181	GE/RCA	CD74HC181 (2640)		SN74HC20	GE/RCA	CD74HC20 (2640)		SN74HC243	Signetics	74HC243 (3057)	
	Hitachi	HD74HC161			Motorola	MC74HC181			Hitachi	HD74HC20			Toshiba	TC74HC243 (3340)	
	Motorola	MC74HC161			National	MM74HC181			Motorola	MC74HC20			GE/RCA	CD74HC244 (2640, 2653)	
	National	MM74HC161			SGS-Thomson	M74HC181			National	MM74HC20			Hitachi	HD74HC244	
	SGS-Thomson	M74HC161			Signetics	74HC181 (3057)			SGS-Thomson	M74HC20			Motorola	MC74HC244 (2939)	
	Signetics	74HC161 (3057)			Toshiba	TC74HC181 (3340)			Signetics	74HC195 (3057)			National	MM74HC244	
	Toshiba	TC74HC161A (3340)			GE/RCA	CD74HC182 (2640)			Toshiba	TC74HC20A (3340)			Signetics	74HC244 (3057)	
SN74HC162	GE/RCA	CD74HC162 (2640)		SN74HC182	GE/RCA	CD74HC182 (2640)		SN74HC21	GE/RCA	CD74HC21 (2640)		SN74HC244	Supertex	74HC244	
	Hitachi	HD74HC162			Motorola	MC74HC182			Hitachi	HD74HC21			Toshiba	TC74HC244A (3340)	
	Motorola	MC74HC162			National	MM74HC182			Motorola	MC74HC21			GE/RCA	CD74HC245 (2640, 2653)	
	National	MM74HC162			SGS-Thomson	M74HC182			National	MM74HC21			Hitachi	HD74HC245	
	SGS-Thomson	M74HC162			Signetics	74HC182 (3057)			Cypress	CY27S07			Motorola	MC74HC245 (2939)	
	Signetics	74HC162 (3057)			Toshiba	TC74HC182 (3340)			Hitachi	CY7C190 (2580)			National	MM74HC245	
	Toshiba	TC74HC162A (3340)			AMD	AM27LS03			National	DM75S07			SGS-Thomson	M74HC245	
SN74HC163	GE/RCA	CD74HC163 (2640)		SN74HC189	Cypress	CY27LS03M (2580)		SN74HC219	TI	DM75S07 54F219 74F219 SN54LS219A		SN74HC245	Signetics	74HC245 (3057)	
	Hitachi	HD74HC163			National	DM7599			GE/RCA	CD74HC221 (2640)			Toshiba	TC74HC245A (3340)	
	Motorola	MC74HC163							Hitachi	HD74HC221			GE/RCA	CD74HC251 (2640)	
									Motorola	MC74HC221A			Hitachi	HD74HC251 (Continued)	
									National	MM74HC221A					
										MM74HC221A					

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Texas Instruments (Cont'd)				SN74HC283 (Cont'd)				SN74HC367 (Cont'd)				SN74HC4017 (Cont'd)					
SN74HC251			(Cont'd)		SGS-Thomson	M74HC283			SGS-Thomson	M74HC367			SGS-Thomson	M74HC4017			
	Motorola	MC74HC251			Signetics	74HC283 (3057)			Signetics	74HC367 (3057)			Signetics	74HC4017 (3057)			
	National	MM74HC251			Toshiba	TC74HC283A	(3340)		Toshiba	TC74HC367A	(3340)		Toshiba	TC74HC4017	(3340)		
	SGS-Thomson	M74HC251		SN74HC298	Hitachi	HD74HC298		SN74HC368	GE/RCA	CD74HC368	(2641)	SN74HC4020	GE/RCA	CD74HC4020	(2641)		
	Signetics	74HC251 (3057)			Motorola	MC74HC298			Hitachi	HD74HC368			Hitachi	HD74HC4020			
	Toshiba	TC74HC251A	(3340)		National	MM74HC298			Motorola	MC74HC368	(2939)		Motorola	MC74HC4020	(2943)		
SN74HC253	GE/RCA	CD74HC253	(2640)		SGS-Thomson	M74HC298			National	MM74HC368			National	MM74HC4020			
	Hitachi	HD74HC253			Signetics	TC74HC298A			SGS-Thomson	M74HC368			SGS-Thomson	M74HC4020			
	Motorola	MC74HC253	(2944)		Toshiba	TC74HC298 (3340)				Signetics	74HC368 (3057)			Signetics	74HC4020 (3057)		
	National	MM74HC253		SN74HC299	GE/RCA	CD74HC299	(2640)			Toshiba	TC74HC368A	(3340)		Toshiba	TC74HC4020	(3340)	
	SGS-Thomson	M74HC253			Hitachi	HD74HC299		SN74HC373	GE/RCA	CD74HC373	(2641, 2653)	SN74HC4024	GE/RCA	CD74HC4024	(2641)		
	Signetics	74HC253 (3057)			Motorola	MC74HC299	(2944)			Hitachi	HD74HC373			Hitachi	HD74HC4024		
	Toshiba	TC74HC253A	(3340)		National	MM74HC299				Motorola	MC74HC373	(2941)		Motorola	MC74HC4024	(2943)	
SN74HC257	GE/RCA	CD74HC257	(2640, 2653)		SGS-Thomson	M74HC299				National	MM74HC373			National	MM74HC4024		
	Hitachi	HD74HC257		SN74HC30	GE/RCA	CD74HC30	(2640)			SGS-Thomson	M74HC373			SGS-Thomson	M74HC4024		
	Motorola	MC74HC257	(2944)		Hitachi	HD74HC30				Signetics	74HC373 (3057)			Signetics	74HC4024 (3057)		
	National	MM74HC257			Motorola	MC74HC30	(2937)			Supertex	74HC373			Toshiba	TC74HC4024	(3340)	
	SGS-Thomson	M74HC257			National	MM74HC30		SN74HC374	GE/RCA	CD74HC374	(2641, 2653)						
	Signetics	74HC257 (3057)			SGS-Thomson	M74HC30				Hitachi	HD74HC374						
	Toshiba	TC74HC257A	(3340)		Signetics	74HC30 (3057)				Motorola	MC74HC374	(2942)					
SN74HC258	GE/RCA	CD74HC258	(2640)		Toshiba	TC74HC299A	(3340)			National	MM74HC374						
	Hitachi	HD74HC258			GE/RCA	CD74HC32	(2640)			SGS-Thomson	M74HC374						
	SGS-Thomson	M74HC258		SN74HC32	Hitachi	HD74HC32				Signetics	74HC374 (3057)		SN74HC4040	GE/RCA	CD74HC4040	(2641)	
	Signetics	74HC258 (3057)			Motorola	MC74HC32	(2937)			Toshiba	TC74HC374A	(3340)		Hitachi	HD74HC4040		
	Toshiba	TC74HC258A	(3340)		National	MM74HC32								Motorola	MC74HC4040	(2943)	
SN74HC259	GE/RCA	CD74HC259	(2640)		SGS-Thomson	M74HC32				National	MM74HC374			National	MM74HC4040		
	Hitachi	HD74HC259			Signetics	74HC32 (3057)				SGS-Thomson	M74HC374			SGS-Thomson	M74HC4040		
	Motorola	MC74HC259	(2941)		Toshiba	TC74HC32A	(3340)			Signetics	74HC374 (3057)		SN74HC4049	GE/RCA	CD74HC4049	(2641)	
	National	MM74HC259		SN74HC323	Motorola	MC74HC323				Toshiba	TC74HC374A	(3340)		Motorola	MC74HC4049	(2939)	
	Signetics	74HC259 (3057)			National	MM74HC323				Hitachi	HD74HC375			National	MM74HC4049		
	Toshiba	TC74HC258A	(3340)		SGS-Thomson	M74HC323		SN74HC377	GE/RCA	CD74HC377	(2641)		SGS-Thomson	M74HC4049			
SN74HC266	GE/RCA	CD74HC266			Toshiba	TC74HC323A	(3340)			Hitachi	HD74HC377			Signetics	74HC4049 (3057)		
	Hitachi	HD74HC266			GE/RCA	CD74HC354	(2640)			Motorola	MC74HC377			Toshiba	TC74HC4049	(3340)	
	Motorola	MC74HC266			Hitachi	HD74HC354				SGS-Thomson	M74HC377						
	National	MM74HC266			Motorola	MC74HC354	(2945)			Signetics	74HC377 (3057)			Motorola	MC74HC4051	(2945)	
	SGS-Thomson	M74HC266			National	MM74HC354				Toshiba	TC74HC377	(3340)	SN74HC4051	GE/RCA	CD74HC4051	(2641, 2655)	
	Signetics	74HC266 (3057)			SGS-Thomson	M74HC354				Motorola	MC74HC386			National	MM74HC4051		
	Toshiba	TC74HC266A	(3340)		Signetics	74HC354 (3057)		SN74HC386	GE/RCA	CD74HC386	(2641)		SGS-Thomson	M74HC4051			
SN74HC27	GE/RCA	CD74HC27	(2640)		Toshiba	TC74HC354A	(3340)			Toshiba	TC74HC386A	(3340)		Signetics	74HC4051 (3057)		
	Hitachi	HD74HC27			GE/RCA	CD74HC356	(2640)							Toshiba	TC74HC4051A	(3340)	
	Motorola	MC74HC27	(2938)		Hitachi	HD74HC356				Hitachi	HD74HC390		SN74HC4052	GE/RCA	CD74HC4052	(2641, 2655)	
	National	MM74HC27			Motorola	MC74HC356	(2945)			Motorola	MC74HC390			Motorola	MC74HC4052	(2945)	
	SGS-Thomson	M74HC27			National	MM74HC356				National	MM74HC390			National	MM74HC4052		
	Signetics	74HC27 (3057)			SGS-Thomson	M74HC356				SGS-Thomson	M74HC390			SGS-Thomson	M74HC4052		
	Toshiba	TC74HC27A	(3340)		Signetics	74HC356 (3057)				Signetics	74HC390 (3057)			Signetics	74HC4052 (3057)		
SN74HC273	GE/RCA	CD74HC273	(2640)		Toshiba	TC74HC356A	(3340)			Toshiba	TC74HC390A	(3340)		Toshiba	TC74HC4052A	(3340)	
	Hitachi	HD74HC273			SN74HC365	GE/RCA	CD74HC365	(2641)					SN74HC4053	GE/RCA	CD74HC4053	(2641, 2655)	
	Motorola	MC74HC273	(2942)			Hitachi	HD74HC365							Motorola	MC74HC4053	(2945)	
	National	MM74HC273				Motorola	MC74HC365	(2939)			Hitachi	HD74HC393		National	MM74HC4053		
	SGS-Thomson	M74HC273				National	MM74HC365				Motorola	MC74HC393		SGS-Thomson	MM74HC4053		
	Signetics	74HC273 (3057)				SGS-Thomson	M74HC365				National	MM74HC393					
	Toshiba	TC74HC273A	(3340)			Signetics	74HC365 (3057)				Signetics	74HC393 (3057)			Signetics	74HC4053 (3057)	
SN74HC280	GE/RCA	CD74HC280	(2640)			Toshiba	TC74HC366	(2641)			Toshiba	TC74HC393A	(3340)		Toshiba	TC74HC4053A	(3340)
	Hitachi	HD74HC280				GE/RCA	CD74HC366	(2641)									
	Motorola	MC74HC280	(2947)			Hitachi	HD74HC366				GE/RCA	CD74HC4002	(2641)	SN74HC4060	GE/RCA	CD74HC4060	(2641)
	National	MM74HC280				Motorola	MC74HC366	(2939)			Motorola	MC74HC4002	(2938)		Motorola	MC74HC4060	(2943)
	SGS-Thomson	M74HC280				National	MM74HC366				National	MM74HC4002			National	MM74HC4060	
	Signetics	74HC280 (3057)				SGS-Thomson	M74HC366				SGS-Thomson	M74HC4002			SGS-Thomson	M74HC4060	
	Toshiba	TC74HC280A	(3340)			Signetics	74HC366 (3057)				Signetics	74HC4002 (3057)			Signetics	74HC4060 (3057)	
SN74HC283	GE/RCA	CD74HC283	(2640)			Toshiba	TC74HC366A	(3340)			Toshiba	TC74HC4002A	(3340)	SN74HC4066	GE/RCA	CD74HC4066	(2641)
	Hitachi	HD74HC283				GE/RCA	CD74HC367	(2641)							Motorola	MC74HC4066	(2945)
	Motorola	MC74HC283				Hitachi	HD74HC367	(2939)							National	MM74HC4066	
	National	MM74HC283				Motorola	MC74HC367				Motorola	MC74HC4017	(2943)		SGS-Thomson	MM74HC4066	
	(Continued)					National	MM74HC367				National	MM74HC4017	(Continued)				

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN74HC533		(Cont'd)		SN74HC590		(Cont'd)		SN74HC648		(Cont'd)	
SN74HC4066			(Cont'd)	Motorola	MC74HC533		(2941)	SGS-Thomson	M74HC590			Toshiba	TC74HC648		(3340)
	Signetics	74HC4066	(3057)	National	MM74HC533			Hitachi	HD74HC592			GE/RCA	CD74HC651		
	Toshiba	TC74HC4066A	(3340)	SGS-Thomson	M74HC533			Motorola	MM74HC592			Hitachi	HD74HC651		
SN74HC4075	Cypress	CY7C167	(2580)	Signetics	74HC533		(3057)	National	MM74HC592			Motorola	MC74HC651		
	GE/RCA	CDM5167		Toshiba	TC74HC533A		(3340)	Toshiba	TC74HC592		(3340)	SGS-Thomson	M74HC651		
		CD74HC4075	(2641)	SN74HC534	GE/RCA	CD74HC534	(2641)	Hitachi	HD74HC593			Toshiba	TC74HC651A		(3340)
	Inmos	IMS1400		Hitachi	HD74HC534			Motorola	MM74HC593			SN74HC652	GE/RCA	CD74HC652	
	Matra-Harris	HM65263		Motorola	MC74HC534		(2942)	National	TC74HC593		(3340)	Hitachi	HD74HC652		
	Motorola	MC74HC4075	(2937)	National	MM74HC534			Cypress	CY7C164		(2580)	Motorola	MC74HC652		
	National	MM74HC4075		SGS-Thomson	M74HC534			Hitachi	HD74HC595			SGS-Thomson	M74HC652		
	Panasonic	MM74HC4075		Signetics	74HC534		(3057)	Inmos	IMS1620		(2794)	Toshiba	TC74HC652A		(3340)
	SGS-Thomson	MM74HC4075		Toshiba	TC74HC534A		(3340)	MicronTech	MT5C6404			SN74HC670	GE/RCA	CD74HC670	(2641)
		M74HC4075		SN74HC540	GE/RCA	CD74HC540	(2641)	Motorola	MC74HC595		(2944)		SGS-Thomson	M74HC670	
	Sharp	LH5167		Hitachi	HD74HC540			National	MM74HC595				Signetics	74HC670	(3057)
	Signetics	74HC4075		Motorola	MC74HC540		(2940)	Performance	P4C188				Toshiba	TC74HC670	(3340)
	STC	STC2167		National	MM74HC540			SGS-Thomson	M74HC595			SN74HC688	GE/RCA	CD74HC688	(2641, 2649)
	TI	SMJ61CD16		SN74HC541	GE/RCA	CD74HC541	(2641)	Ti	SMJ64C64				Motorola	MC74HC688	(2946)
	Toshiba	TC74HC4075A	(3340)	Hitachi	HD74HC541			Toshiba	TC74HC95A		(3340)		National	MM74HC688	
	VLSI Tech	VT20C68	(3343, 3345, 3350)	Motorola	MC74HC541		(2940)	Vitelc	V61C62				SGS-Thomson	M74HC688	
SN74HC4078A	Motorola	MC74HC4078	(2938)	National	MM74HC541			VLSI Tech	CT64KS4				Signetics	74HC688	(3057)
	National	MM74HC4078		SGS-Thomson	M74HC541			GE/RCA	CD74HC597		(2641)		Toshiba	TC74HC688A	(3340)
	SGS-Thomson	M74HC4078		SN74HC541	GE/RCA	CD74HC541	(2641)	Hitachi	HD74HC597				Motorola	MC74HC688	(2946)
	Toshiba	TC74HC4078	(3340)	Hitachi	HD74HC541			Motorola	MC74HC597		(2944)		SGS-Thomson	M74HC690	
SN74HC42	GE/RCA	CD74HC42	(2640)	Motorola	MC74HC541		(2940)	National	MM74HC597			SN74HC691	SGS-Thomson	TC74HC690	(3340)
	Hitachi	HD74HC42		National	MM74HC541			Signetics	74HC597		(3057)		Toshiba	TC74HC690	(3340)
	Motorola	MC74HC42	(2945)	SGS-Thomson	M74HC541			Toshiba	TC74HC597A		(3340)	SN74HC692	SGS-Thomson	TC74HC691	(3340)
	National	MM74HC42		SN74HC563	GE/RCA	CD74HC563	(2641)	Hitachi	HD74HC620				Toshiba	TC74HC691	(3340)
	SGS-Thomson	M74HC42		Hitachi	HD74HC563			Motorola	MC74HC620			SN74HC692	SGS-Thomson	TC74HC692	(3340)
	Signetics	74HC42	(3057)	Motorola	MC74HC563			National	MM74HC620				Toshiba	TC74HC692	(3340)
	Toshiba	TC74HC42A	(3340)	SGS-Thomson	M74HC563			SGS-Thomson	M74HC620			SN74HC693	SGS-Thomson	TC74HC692	(3340)
SN74HC423	Hitachi	HD74HC423		SN74HC563	GE/RCA	CD74HC563	(2641)	Toshiba	TC74HC620		(3340)		Toshiba	TC74HC693	(3340)
	National	MM74HC423A		Hitachi	HD74HC563			Hitachi	HD74HC623			SN74HC696	SGS-Thomson	TC74HC693	(3340)
	Toshiba	TC74HC423		Motorola	MC74HC563			Motorola	MC74HC623				Toshiba	TC74HC693	(3340)
SN74HC4511	GE/RCA	CD74HC4511	(2641)	National	MM74HC563			National	MM74HC623			SN74HC696	SGS-Thomson	TC74HC696	(3340)
	Motorola	MC74HC4511	(2946)	SGS-Thomson	M74HC563			SGS-Thomson	M74HC623				Toshiba	TC74HC696	(3340)
	National	MM74HC4511		SN74HC564	GE/RCA	CD74HC564	(2641)	Toshiba	TC74HC623		(3340)	SN74HC697	SGS-Thomson	TC74HC697	(3340)
	SGS-Thomson	M74HC4511		Hitachi	HD74HC564			GE/RCA	CD74HC640		(2641)		Toshiba	TC74HC697	(3340)
	Signetics	74HC4511	(3057)	Motorola	MC74HC564			Hitachi	HD74HC640			SN74HC698	SGS-Thomson	TC74HC698	(3340)
	Toshiba	TC74HC4511	(3340)	National	MM74HC564			Motorola	MC74HC640				Toshiba	TC74HC698	(3340)
SN74HC4514	GE/RCA	CD74HC4514	(2641)	SGS-Thomson	M74HC564			National	MM74HC640			SN74HC699	SGS-Thomson	TC74HC698	(3340)
	Hitachi	HD74HC4514		SN74HC564	GE/RCA	CD74HC564	(2641)	Signetics	74HC640		(3057)		Toshiba	TC74HC699	(3340)
	Motorola	MC74HC4514	(2945)	Hitachi	HD74HC564			Toshiba	TC74HC640		(3340)	SN74HC7266	GE/RCA	CD74HC7266	(2642)
	National	MM74HC4514		Motorola	MC74HC564			SGS-Thomson	M74HC640				Motorola	MC74HC7266	(2938)
	SGS-Thomson	M74HC4514		National	MM74HC564			Hitachi	HD74HC640				National	MM74HC7266	
	Signetics	74HC4514	(3057)	SGS-Thomson	M74HC564			Motorola	MM74HC640				SGS-Thomson	M74HC7266	(3340)
	Toshiba	TC74HC4514A	(3340)	SN74HC573	GE/RCA	CD74HC573	(2641)	Signetics	74HC640		(3057)		Toshiba	TC74HC7266A	(3340)
	SN74HC4515	GE/RCA	CD74HC4515	Hitachi	HD74HC573			Toshiba	TC74HC640A		(3340)	SN74HC73	GE/RCA	CD74HC73	(2640)
	Motorola	MC74HC4515	(2641)	Motorola	MC74HC573		(2941)	SN74HC643	GE/RCA	CD74HC643	(2641)		Hitachi	HD74HC73	
	National	MM74HC4515		National	MM74HC573			Hitachi	HD74HC643				Motorola	MC74HC73	(2941)
	Signetics	74HC4515	(3057)	SGS-Thomson	M74HC573			Motorola	MM74HC643				National	MM74HC73	
	Toshiba	TC74HC4515A	(3340)	SN74HC574	GE/RCA	CD74HC574	(2641)	Signetics	74HC643		(3057)		SGS-Thomson	M74HC73	
	SN74HC4538	GE/RCA	CD74HC4538	Hitachi	HD74HC574			Toshiba	TC74HC643A		(3340)	SN74HC74	GE/RCA	CD74HC74	(2640)
	Motorola	MC74HC4538	(2641)	Motorola	MC74HC574		(2941)	SN74HC645	GE/RCA	CD74HC645			Hitachi	HD74HC74	
	National	MM74HC4538		National	MM74HC574			SN74HC646	GE/RCA	CD74HC646	(2641)		Motorola	MC74HC74	(2941)
	SGS-Thomson	M74HC4538		SGS-Thomson	M74HC574			Hitachi	HD74HC646				National	MM74HC74	
	Signetics	74HC4538	(3057)	SN74HC574	GE/RCA	CD74HC574	(2641)	Motorola	MC74HC646		(2940)		SGS-Thomson	M74HC74	
	Toshiba	TC74HC4538A	(3340)	Hitachi	HD74HC574			National	MM74HC646				Signetics	74HC74	(3057)
				Motorola	MC74HC574			SGS-Thomson	M74HC646			SN74HC75	GE/RCA	CD74HC74A	(3340)
SN74HC490	Hitachi	HD74HC490		National	MM74HC574			Signetics	74HC646		(3057)		Hitachi	HD74HC75	(2640)
SN74HC51	GE/RCA	CD74HC51		SN74HC58	Motorola	MC74HC58	(2938)	Toshiba	TC74HC646A		(3340)		Motorola	MC74HC75	(2941)
	Hitachi	HD74HC51		National	MM74HC58			SN74HC648	GE/RCA	CD74HC648	(2641)		National	MM74HC75	
	Motorola	MC74HC51	(2938)	SGS-Thomson	M74HC58			Hitachi	HD74HC648				SGS-Thomson	M74HC75	
	National	MM74HC51		SN74HC589	Motorola	MC74HC589	(2944)	Motorola	MC74HC648		(2940)		Signetics	74HC75	(3057)
	SGS-Thomson	MM74HC51		National	MM74HC589			National	MM74HC648			SN74HC76	GE/RCA	CD74HC76	(3340)
	Signetics	MC74HC51		SN74HC590	Hitachi	HD74HC590		SGS-Thomson	M74HC648				Hitachi	HD74HC76	(2941)
	Toshiba	TC74HC51A	(3340)	Motorola	MC74HC590			Signetics	74HC648		(3057)		Motorola	MC74HC76	(2941)
	GE/RCA	CD74HC533	(2641)	National	MM74HC590			(Continued)					National	MM74HC76	(Continued)
	Hitachi	HD74HC533													

* Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				SN74LS10	Hitachi	HD74LS10	(2937)	SN74LS125A	Panasonic	DN74LS125A	(Cont'd)	SN74LS152	Hitachi	HD74LS152	
SN74HC76	SGS-Thomson	M74HC76		Motorola	SN74LS10	(2937)		SGS-Thomson	DN74LS125A			SGS-Thomson	T74LS152		
SN74HC77	Toshiba	TC74HC77A (3340)		National	DM74LS10			Signetics	T74LS125			SN74LS153	Signetics	T74LS152	
	Hitachi	HD74HC77			74LS10			Motorola	74LS125A (3057)			Hitachi	HD74LS153	74LS152	
	SGS-Thomson	MM74HC77			DM74LS10			National	DM74LS126			Motorola	SN74LS153 (2944)	HD74LS153	
SN74HC78	Toshiba	TC74HC77A (3340)		SN74LS109A	Hitachi	HD74LS109		SN74LS126	SGS-Thomson	T74LS126		Panasonic	DN74LS153	74LS153	
SN74HC85	GE/RCA	CD74HC85 (2640)		Motorola	SN74LS109 (2941)			SGS-Thomson	TI	SN74LS126A		SGS-Thomson	T74LS153	74LS153 (3057)	
	Motorola	MC74HC85 (2946)		National	DM74LS109			Signetics	74LS126A (3057)			Hitachi	HD74LS155	74LS153	
	National	MM74HC85			74LS109			Motorola	SN74LS126A (2939)			Motorola	SN74LS155 (2945)	HD74LS155	
	SGS-Thomson				DM74LS109			National	DM74LS126			National	DM74LS155	74LS155	
SN74HC86	Signetics	74HC85 (3057)		SN74LS11	Hitachi	HD74LS11		SN74LS13	SGS-Thomson	T74LS126		Panasonic	DN74LS155	74LS155	
	Toshiba	TC74HC85A (3340)		Motorola	SN74LS11 (2937)			Hitachi	TI	74LS126A (3057)		SGS-Thomson	T74LS155	74LS155 (3057)	
	GE/RCA	CD74HC86 (2640)		National	DM74LS11			Motorola	SN74LS13 (2940)			Signetics	74LS155 (3057)	74LS155	
	Hitachi	HD74HC86			74LS11			National	DM74LS126			Hitachi	HD74LS156	74LS155	
	Motorola	MC74HC86 (2938)			DM74LS11			SGS-Thomson	74LS126			Motorola	SN74LS156 (2945)	74LS155	
	National	MM74HC86			74LS11			SGS-Thomson	74LS126			National	DM74LS156	74LS156	
	SGS-Thomson			SN74LS112	Hitachi	HD74LS112		SN74LS132	Panasonic	DN74LS13		Panasonic	DN74LS156	74LS156	
	Signetics	74HC86 (3057)		Motorola	SN74LS112A (2941)			Hitachi	SGS-Thomson	T74LS13		SGS-Thomson	T74LS156	74LS156 (3057)	
SN74H01	Toshiba	TC74HC86 (3340)		National	DM74LS112			Signetics	74LS13 (3057)			Hitachi	HD74LS157	74LS156	
SN74H10	National	DM74H01			74LS112			Motorola	SN74LS132 (2937, 2940)			Motorola	SN74LS157 (2944)	74LS157	
SN74LS00	Hitachi	HD74LS00		SN74LS112	Panasonic	DN74LS112		National	DM74LS132			National	DM74LS157	74LS157	
	Motorola	SN74LS00 (2937)			SGS-Thomson	74LS112		Panasonic	74LS132			Panasonic	DN74LS157	74LS157	
	National	DM74LS00			TI	SN74LS112A		SGS-Thomson	DN74LS132			SGS-Thomson	T74LS157	74LS157 (3057)	
	Panasonic	DN74LS00		SN74LS112A	Hitachi	HD74LS112		Signetics	T74LS132			Hitachi	HD74LS158	74LS157	
	SGS-Thomson			Motorola	SN74LS112A (2941)			Motorola	74LS132 (3057)			Motorola	SN74LS158 (2944)	74LS158	
SN74LS01	Signetics	74LS00 (3057)		National	DM74LS112			Hitachi	HD74LS136			National	DM74LS158	74LS158	
	Hitachi	HD74LS01			74LS112			Motorola	SN74LS136 (2938)			Panasonic	DN74LS158	74LS158	
	Motorola	SN74LS01			DM74LS112			National	DM74LS136			SGS-Thomson	T74LS158	74LS158 (3057)	
	National	DM74LS01		SN74LS113	Panasonic	DN74LS112		SN74LS136	SGS-Thomson	DN74LS136		Hitachi	HD74LS158	74LS158	
	74LS01				74LS112			Panasonic	74LS136 (3057)			Motorola	SN74LS158 (2944)	74LS158	
	SGS-Thomson			Hitachi	HD74LS113			SGS-Thomson	74LS136 (3057)			National	DM74LS158	74LS158	
SN74LS02	Signetics	74LS01 (3057)		Motorola	SN74LS113A (2941)			Hitachi	74LS136			SGS-Thomson	T74LS158	74LS158	
	Hitachi	HD74LS02		National	DM74LS113			Motorola	SN74LS137 (2945)			Hitachi	HD74LS160A	74LS158	
	Motorola	SN74LS02 (2938)			74LS113			National	DM74LS138			Motorola	SN74LS160A (2942)	74LS158	
	National	DM74LS02		SN74LS113A	Panasonic	DN74LS113		Hitachi	HD74LS138			National	DM74LS160	74LS158	
	74LS02				74LS113			Motorola	SN74LS138 (2945)			Panasonic	DN74LS160A	74LS158	
	Panasonic	DN74LS02			74LS113			National	DM74LS138			SGS-Thomson	T74LS160	74LS158	
	SGS-Thomson			Hitachi	HD74LS113A			SGS-Thomson	74LS138			Signetics	74LS160 (3057)	74LS158	
SN74LS03	Signetics	74LS02 (3057)		Motorola	SN74LS113A (2941)			Hitachi	74LS138			Hitachi	HD74LS160A	74LS160	
	Hitachi	HD74LS03		National	DM74LS113			Motorola	SN74LS139 (2945)			Motorola	SN74LS161A	74LS160	
	Motorola	SN74LS03 (2937)			74LS113			National	DM74LS139			National	DM74LS161	74LS160	
	National	DM74LS03		SN74LS114A	Panasonic	DN74LS114		Hitachi	HD74LS139			Panasonic	DN74LS161A	74LS160	
	74LS03				74LS114			Motorola	SN74LS139			SGS-Thomson	T74LS161	74LS160	
	Panasonic	DN74LS03		Hitachi	HD74LS114			Hitachi	74LS139			Hitachi	HD74LS161A	74LS160	
	SGS-Thomson			Motorola	SN74LS114A (2942)			Motorola	74LS139 (3057)			Motorola	SN74LS162A	74LS160	
SN74LS04	Hitachi	HD74LS04		National	DM74LS114			Hitachi	HD74LS14			Hitachi	HD74LS162A	74LS161	
	Motorola	SN74LS04 (2939)			74LS114			National	DM74LS14			Motorola	SN74LS162A (2942)	74LS161	
	National	DM74LS04		SN74LS12	Panasonic	DN74LS114		Hitachi	74LS14			National	DM74LS162	74LS161	
	74LS04				74LS114			Motorola	SN74LS14			Panasonic	DN74LS162A	74LS162	
	Panasonic	DN74LS04		Hitachi	HD74LS114			National	DM74LS14			SGS-Thomson	T74LS162	74LS162	
	SGS-Thomson			Motorola	SN74LS114A (2942)			SGS-Thomson	74LS14			Hitachi	HD74LS162A	74LS162	
SN74LS05	Signetics	74LS04 (3057)		National	DM74LS114			Hitachi	74LS14			Motorola	SN74LS162A (2942)	74LS162	
	Hitachi	HD74LS05			74LS114			Motorola	SN74LS14			National	DM74LS162	74LS162	
	Motorola	SN74LS05 (2939)		SN74LS122	Panasonic	DN74LS12		Hitachi	74LS14			Panasonic	DN74LS162A	74LS162	
	National	DM74LS05			74LS12			Motorola	SN74LS14			SGS-Thomson	T74LS162	74LS162	
	74LS05			Hitachi	HD74LS12			Hitachi	74LS14			Hitachi	HD74LS162A	74LS162	
	Panasonic	DN74LS05		Motorola	SN74LS122 (2946)			Motorola	SN74LS14			Motorola	SN74LS162A (2942)	74LS162	
	SGS-Thomson			National	DM74LS122			SGS-Thomson	SN74LS148 (2946)			National	DM74LS162	74LS162	
SN74LS08	Signetics	74LS05 (3057)		Hitachi	HD74LS123			Hitachi	74LS148			Panasonic	DN74LS162A	74LS162	
	Hitachi	HD74LS08		Motorola	SN74LS123 (2946)			Motorola	SN74LS15 (2937)			SGS-Thomson	T74LS162	74LS162	
	Motorola	SN74LS08 (2937)		National	DM74LS123			National	DM74LS15			Hitachi	HD74LS163	74LS162	
	National	DM74LS08			74LS123			Panasonic	DN74LS15			Motorola	SN74LS163A	74LS162	
	74LS08			SN74LS125	Motorola	SN74LS125A (2939)		SGS-Thomson	74LS15			National	DM74LS163	74LS162	
	Panasonic	DN74LS08		National	DM74LS125			Hitachi	74LS15			SGS-Thomson	T74LS163	74LS162	
	SGS-Thomson				74LS125A			Motorola	SN74LS151 (2944)			Hitachi	HD74LS163A	74LS163	
SN74LS09	Signetics	74LS08 (3057)		SN74LS125	Panasonic	DN74LS125A		Hitachi	HD74LS151			Motorola	SN74LS163A (2942)	74LS163	
	Hitachi	HD74LS09			74LS125A			Motorola	SN74LS151			National	DM74LS163	74LS163	
	Motorola	SN74LS09 (2937)		Hitachi	HD74LS125A			National	DM74LS151			Panasonic	DN74LS163A	74LS163	
	National	DM74LS09		Motorola	SN74LS125A (2939)			SGS-Thomson	74LS151			SGS-Thomson	T74LS163	74LS163	
	74LS09				74LS125A			Hitachi	74LS151			Hitachi	HD74LS163A	74LS163	
	Panasonic	DN74LS09		SN74LS125A	Motorola	SN74LS125A (2939)		Motorola	SN74LS151			Motorola	SN74LS163A (2942)	74LS163	
	SGS-Thomson			National	DM74LS125			National	DM74LS151			National	DM74LS163	74LS163	
	T74LS09				74LS125A			Signetics	74LS151 (3057)			Signetics	74LS163A (3057)	74LS163A	
	(Continued)				(Continued)				(Continued)			TI	SN74LS163A	(Continued)	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
SN74LS299	AMD	SN74LS299		SN74LS373	SGS-Thomson	T74LS373		SN74LS49	Motorola	SN74LS49		SN74LS74	National	DM74LS74	
Motorola	SN74LS299 (2944)			SN74LS374	Signetics	74LS373 (3057)		SN74LS490	National	DM74LS49		SN74LS74	Panasonic	DM74LS74A	
National	74LS299			Motorola	SN74LS374 (2942)			Motorola	SN74LS490 (2942)			SN74LS74	SGS-Thomson	T74LS74	
SGS-Thomson				National	DM74LS374			National	74LS490			SN74LS74A	Signetics	SN74LS74A	
					74LS374			SGS-Thomson	DM74LS490			TI	Hitachi	HD74LS74A	
SN74LS30	Hitachi	T74LS299		SN74LS375	Signetics	74LS374 (3057)		SN74LS51	Signetics	74LS490 (3057)		SN74LS74A	Motorola	SN74LS74A (2941)	
Motorola	SN74LS30 (2937)			Motorola	SN74LS375 (2941)			Hitachi	HD74LS51			National	DM74LS74		
National	DM74LS30			National	74LS375			Motorola	SN74LS51 (2938)			Panasonic	DM74LS74A		
				SN74LS377	Signetics	74LS375 (3057)		National	DM74LS51			SGS-Thomson	T74LS74		
Panasonic	DN74LS30			Motorola	SN74LS377 (2942)			Panasonic	74LS51			Hitachi	HD74LS75		
SGS-Thomson				National	74LS377			SGS-Thomson	DN74LS51			Motorola	SN74LS75 (2941)		
SN74LS32	Signetics	74LS30 (3057)		SN74LS378	SGS-Thomson	T74LS377		SN74LS54	Signetics	74LS51 (3057)		SN74LS75	Hitachi	DM74LS75	
Motorola	SN74LS32 (2937)			AMD	SN74LS378			Hitachi	HD74LS54			National	DM74LS75		
National	DM74LS32			Motorola	SN74LS378 (2942)			Motorola	SN74LS54 (2938)			Panasonic	DM74LS75		
SGS-Thomson				National	74LS378			National	DM74LS54			SGS-Thomson	T74LS75		
SN74LS322	Signetics	74LS32 (3057)		SN74LS379	Signetics	74LS378 (3057)		SN74LS540	Signetics	74LS54 (3057)		SN74LS76A	Signetics	74LS75 (3057)	
Motorola	SN74LS322			SGS-Thomson	Motorola	SN74LS379 (2942)		National	SN74LS540 (2940)			Hitachi	HD74LS76		
National	74LS322			SN74LS38	Hitachi	HD74LS38		SGS-Thomson	74LS540			Motorola	SN74LS76A (2941)		
TI	SN74LS322A			Motorola	SN74LS38 (2937)			Motorola	SN74LS540 (2940)			National	DM74LS76		
SN74LS322A	Motorola	SN74LS322		National	74LS379			SN74LS541	Signetics	74LS540 (3057)		SN74LS78A	Motorola	SN74LS78A	
National	DM74LS30			SGS-Thomson	DM74LS38			Hitachi	HD74LS540			National	DM74LS78		
SN74LS323	Motorola	SN74LS323 (2944)		SN74LS38	Motorola	SN74LS38 (2937)		Motorola	SN74LS541 (2940)			Panasonic	DM74LS78		
National	54LS323			Hitachi	HD74LS38			SGS-Thomson	74LS541			Hitachi	HD74LS83A		
TI	SN54LS323			Panasonic	DN74LS38			Signetics	74LS541 (3057)			Motorola	SN74LS83A (2947)		
SN74LS33	Motorola	SN74LS33 (2938)		SGS-Thomson	74LS38			Hitachi	HD74LS55			National	DM74LS83A		
National	74LS33			SN74LS386A	Hitachi	HD74LS386		SN74LS55	Motorola	SN74LS55 (2938)		SN74LS83A	Panasonic	DM74LS83A	
Panasonic	DN74LS33			Motorola	SN74LS386 (2938)			National	DM74LS55			SGS-Thomson	T74LS83		
SGS-Thomson				National	DM74LS386			Panasonic	DN74LS55			SN74LS85	Signetics	74LS83A (3057)	
SN74LS352	Signetics	74LS33 (3057)		SN74LS390	Motorola	SN74LS390 (2942)		SN74LS590	GoldStar	GD74LS590 (2708)		Hitachi	HD74LS85		
Motorola	SN74LS352 (2944)			National	74LS390			Samsung	KS74AHCT590			Motorola	SN74LS85 (2946)		
National	DM74LS352			SGS-Thomson	DM74LS390			TeledyneS	TSC500			National	DM74LS85		
SGS-Thomson				SN74LS393	Motorola	SN74LS393 (2942)		TI	TL500			Panasonic	DM74LS85		
SN74LS353	Motorola	SN74LS353 (2944)		National	74LS393			Unicorn	UC74HCT590			Signetics	74LS85 (3057)		
National	DM74LS353			Panasonic	DN74LS393			UMC	UM74HCT590			Hitachi	HD74LS86		
SGS-Thomson				SGS-Thomson	74LS393			Motorola	SN74LS607			Motorola	SN74LS86 (2938)		
SN74LS365A	Motorola	SN74LS365A		SN74LS395A	Signetics	74LS393 (3057)		AD	AD6221 (2424, 2462)			National	DM74LS86		
National	DM74LS365			National	DM74LS395			GoldStar	GD74LS612 (2708)			Panasonic	DM74LS86		
Panasonic	DN74LS365A			SGS-Thomson	74LS395			Siliconix	DG221			Signetics	74LS86 (3057)		
SGS-Thomson				SN74LS398	Motorola	SN74LS398 (2944)		TeledyneS	TSC441 (3273)			Motorola	SN74LS90 (2942)		
SN74LS366A	Signetics	74LS365A (3057)		SN74LS399	Motorola	SN74LS399 (2944)		Unicorn	UC74HCT612			National	DM74LS90		
Motorola	SN74LS366A			SGS-Thomson	74LS399			Motorola	SN74LS640 (2940)			Panasonic	DM74LS90		
National	DM74LS366			SN74LS40	Hitachi	HD74LS40		Signetics	N87125 (3076)			SGS-Thomson	T74LS90		
Panasonic	DN74LS366A			Hitachi	HD74LS40			Motorola	SN74LS641 (2940)			SN74LS91	Signetics	74LS90 (3057)	
SGS-Thomson				National	DM74LS40			SN74LS642	Motorola	SN74LS642 (2940)		Hitachi	HD74LS91		
SN74LS367A	Signetics	74LS366A (3057)		SN74LS42	Hitachi	HD74LS42		Motorola	SN74LS645 (2940)			Motorola	SN74LS92 (2942)		
Hitachi	HD74LS367A			Motorola	SN74LS42 (2945)			Signetics	74LS645-1			National	DM74LS92		
Motorola	SN74LS367A			SGS-Thomson	74LS42			TI	SN74LS645-1			Panasonic	DM74LS93		
National	DM74LS367			SN74LS47	Hitachi	HD74LS47		Motorola	SN74LS645 (2940)			SGS-Thomson	T74LS93		
Panasonic	DN74LS367A			Motorola	SN74LS47 (2945)			Signetics	SN74LS645-1			SN74LS95B	Signetics	74LS93 (3057)	
SGS-Thomson				National	74LS40			TI	SN74LS645-1			Hitachi	HD74LS93		
SN74LS368A	Signetics	74LS367A (3057)		SN74LS48	Motorola	SN74LS48 (2945)		Motorola	SN74LS645 (2940)			Motorola	SN74LS93 (2942)		
Hitachi	HD74LS368A			SGS-Thomson	74LS48			Signetics	SN74LS645-1			National	DM74LS93		
Motorola	SN74LS368A			SN74LS49	Hitachi	HD74LS49		TI	SN74LS645			Panasonic	DM74LS93		
National	DM74LS368			Motorola	SN74LS49 (2945)			Motorola	SN74LS645 (2943)			SGS-Thomson	T74LS93		
Panasonic	DN74LS368A			SGS-Thomson	74LS49			National	DM74LS670			SN74LS95B	Hitachi	HD74LS95B	
SGS-Thomson				SN74LS47	Hitachi	HD74LS47		SGS-Thomson	74LS670			Motorola	SN74LS95B (2944)		
SN74LS37	Signetics	74LS368A (3057)		SN74LS48	Motorola	SN74LS48 (2945)		Signetics	SN74LS670 (3057)			National	DM74LS95B		
Hitachi	HD74LS37			SGS-Thomson	74LS48			Motorola	SN74LS674 (2944)			Panasonic	DM74LS95B		
Motorola	SN74LS37 (2937)			SN74LS48	Motorola	SN74LS48 (2945)		AMD	AM25LS2521			SGS-Thomson	T74LS95		
National	DM74LS37			SGS-Thomson	74LS48			Hitachi	HD74LS73			TI	SN74LS95		
Panasonic	DN74LS37			SN74LS48	Motorola	SN74LS48 (2945)		Motorola	SN74LS73A (2941)			SN74LS96	Signetics	74LS95B (3057)	
SGS-Thomson				National	74LS48			National	DM74LS73			National	DM74LS96		
SN74LS373	Signetics	74LS37 (2941)		SN74LS48	SGS-Thomson	74LS48		Panasonic	DN74LS73			SN74L164	Signetics	74LS96 (3057)	
Motorola	SN74LS373 (2941)			SN74LS48	Motorola	SN74LS48 (2945)		Hitachi	HD74LS74A			SN74L192	Signetics	74LS96 (3057)	
National	74LS373			SGS-Thomson	74LS48			Motorola	SN74LS74A (2941)			National	DM74L192		
Panasonic	DN74LS373			Signetics	74LS48			(Continued)				SN74L193	National	DM74L193	
(Continued)				(Continued)								(Continued)			

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Texas Instruments (Cont'd)				SN75ALS125	Motorola	MC75125		SN751176B	National	μA96177	(Cont'd)	SN75173	National	DS3695	(Cont'd)
SN7427	National	DM7427			National	DS75125				μA96178				DS8T28	
	Signetics	7427	(3057)	SN75ALS127	Motorola	MC75127				DS3695			TI	SN751176B	
SN74279	National	74279			National	DS75127			TI	DS8T28				SN75145	
	Signetics	74279	(3057)	SN75ALS191	National	SN75127				SN75145				SN75172	
SN7428	Signetics	7428	(3057)		TI	μA9638				SN75172				SN75174	
SN74283	National	74283				μA9679				SN75173				SN75175	
SN74284	National	DM8875A		SN75ALS194	Motorola	MC3487	(2990)			SN75174				SN75177B	
		DM8875B			National	DS3487				SN75175		SN75174	Motorola	SN75172	
SN74298	Signetics	74298	(3057)		TI	MC3487		SN75121	National	DS75121				SN75173	
SN7430	National	DM7430		SN75ALS195	Motorola	MC3486	(2990)			N8T13				SN75174	
		7430			National	DS3486			Signetics	DS75121	(3076)			SN75175	
	Signetics	7430	(3057)		TI	MC3486		SN75123	National	DS75122				SN75176	
SN7432	National	DM7432		SN75C188	National	DS14C88				DS75123			National	μA8T28	
		7432		SN75C189A	National	DS14C89			Signetics	N8T23	(3076)			μA96172	
	Signetics	7432	(3057)	SN75064	IPS	IP2064		SN75124		DS75124				μA96173	
SN7433	Signetics	7433	(3057)		Mitsubishi	M54532			Signetics	N8T24	(3076)			μA96174	
SN74365	Signetics	74365A	(3057)		Motorola	ULN2064		SN75125	Motorola	MC75125				μA96175	
	TI	SN74365A			SGS-Thomson	ULN2064			National	DS75125				μA96176	
		SN74366A				ULN2064	(3258)	SN75127	Motorola	SN75ALS125				μA96177	
SN74365A	Signetics	74365A	(3057)		Sprague	ULN2064			TI	MC75127				μA96178	
	TI	SN74365			TI	ULN2064			National	DS75127				DS3695	
		SN74366A		SN75065	Toshiba	TA75064		SN75128	Motorola	SN75ALS127			TI	DS8T28	
SN74366A	Signetics	74365A	(3057)		IPS	IP2065			National	MC75128				SN751176B	
	TI	SN74365			Motorola	ULN2065		SN75129	Motorola	DS75128				SN75145	
		SN74366A			SGS-Thomson	ULN2065			National	MC75129				SN75172	
SN74367A	Signetics	74367A	(3057)			ULN2065				DS75129				SN75173	
SN74368A	Signetics	74368A	(3057)		SiliconG	SG2065		SN75130	Motorola	MC3485				SN75175	
SN7437	National	DM7437			Sprague	ULN2065	(3258)	SN75145	Motorola	SN75172				SN75177B	
		7437		SN75066	TI	ULN2065				SN75173		SN75175	Motorola	SN75172	
	Signetics	7437	(3057)		IPS	IP2066				SN75174				SN75173	
SN7438	National	DM7438			Motorola	ULN2066				SN75175				SN75174	
		7438			SGS-Thomson	ULN2066				SN75176				SN75175	
	Signetics	7438	(3057)			ULN2066			National	SN75177				SN75176	
SN7440	National	DM7440			SiliconG	SG2066				μA8T28				SN75177	
		7440		SN75067	TI	ULN2066				μA96172			National	μA8T28	
	Signetics	7440	(3057)		IPS	IP2067				μA96173				μA96172	
SN7442A	National	DM7442			Motorola	ULN2067				μA96174				μA96173	
		DM8842			SGS-Thomson	ULN2067				μA96175				μA96174	
		7442				ULN2067				μA96176				μA96175	
	Signetics	7442	(3057)		SiliconG	SG2067				μA96177				μA96176	
• SN74425	National	DM74125		SN75068	TI	ULN2067				μA96178				μA96177	
		DM8093			IPS	IP2068			TI	DS3695				μA96178	
		74125			Motorola	ULN2068	(2984)			DS8T28				DS3695	
	Signetics	74125	(3057)		SGS-Thomson	ULN2068				SN751176B			TI	DS8T28	
• SN74426	TI	SN74125				ULN2068				SN75172				SN751176B	
• SN74426	National	DM74126			SiliconG	SG2068				SN75173				SN75145	
		DM8094			Sprague	ULN2068	(3258)			SN75174				SN75172	
• SN74426	Signetics	74126	(3057)	SN75069	TI	ULN2068				SN75175				SN75173	
	TI	SN74126			IPS	IP2069				SN75177B				SN75174	
SN7445	GoldStar	GL7445	(2713)		Motorola	ULN2069		SN75150	National	DS75150				SN75177B	
	National	7445			SGS-Thomson	ULN2069		SN75154	National	DS75154				SN75172	
	Signetics	7445	(3057)			ULN2069		SN75161B	National	DS75161A				SN75173	
SN7450	National	DM7450			SiliconG	SG2069		SN75162B	National	DS75162A				SN75174	
		7450			Sprague	ULN2069	(3258)	SN75172	Motorola	SN75172				SN75175	
	Signetics	7450	(3057)		TI	ULN2069				SN75173				SN75176	
SN7451	National	DM7451		SN75070	IPS	IP2070				SN75174				SN75177	
		7451			Toshiba	TA75070				SN75175			National	μA8T28	
	Signetics	7451	(3057)		VLSI Tech	VT20C68	(3343, 3345, 3350)			SN75176				μA96172	
SN7454	National	DM7454								SN75177				μA96173	
SN7470	National	DM7470		SN75076	IPS	IP2076			National	μA8T28				μA96174	
SN7473	National	DM7473		SN75077	IPS	IP2007				μA96172				μA96175	
		7473		SN75107B	Motorola	MC75107				μA96173				μA96176	
	Signetics	7473	(3057)		National	DS75107				μA96174				μA96177	
SN7474	National	DM7474				LM75107A				μA96175				μA96178	
		7474		SN75108B	Motorola	MC75108				μA96176				DS3695	
	Signetics	7474	(3057)		National	DS75108				μA96177			TI	DS8T28	
SN7475	National	DM7475				LM75108A				DS3695				SN751176B	
		7475				75108				DS8T28				SN75145	
	Signetics	7475	(3057)	SN75110A	Motorola	MC75S110			TI	SN751176B				SN75172	
SN7476	National	DM7476			National	LM75110				SN75145				SN75173	
		7476				75110				SN75173				SN75174	
	Signetics	7476	(3057)			DS75113				SN75174				SN75175	
SN7485	National	DM7485		SN75113	National	96114				SN75175				SN75178	
		7485		SN75114	National	SN55114				SN75177B				DS8820	
	Signetics	7485	(3057)		TI	96115		SN75173	Motorola	SN75172				DS8830	
SN7486	National	DM7486		SN75115	National	SN55115				SN75173				XRI488A	(2619)
		7486			TI	SN75172				SN75174				GD75188	(2708)
	Signetics	7486	(3057)	SN751176B	Motorola	SN75173				SN75175				MC1488	(2983, 2989)
SN7489	National	DM74S289				SN75174				SN75176				MC1489	(2989)
		DM7489				SN75175				SN75177				MC1489A	(2989)
		DM8589				SN75176			National	μA8T28				μA1489	
		MM74S289			National	SN75177				μA96172				μA1489A	
		7489				μA8T28				μA96173				μA212A	
	Signetics	74S289	(3057)			μA96172				μA96174				μA750	
SN7496	National	DM7496				μA96173				μA96175				DS1488	
	Signetics	7496	(3057)			μA96174				μA96176				DS1489	
SN7497	National	7497				μA96175				μA96177				DS1489A	
SN75ALS056	National	DS3896				μA96176				μA96178					
SN75ALS057	National	DS3897													

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				• SN75433	Samsung	KM2864AH		SN75468	Sprague	ULN2023 (Cont'd)		SN76149	Raytheon	RC4739	(Cont'd)
SN75188	National	(Cont'd)		• SN75434	SEEQ	DQ52B33H							SGS-Thomson	TBA231	
		MC1488			SiliconG	SG75433								SN76131	
	SGS-Thomson	MC1489		SN75435	SiliconG	SG75434		SN75469	SiliconG	ULS2023			TI	LM377	
		MC1488		SN75437	SiliconSys	SSI80C60			Sprague	SG2024		SN76177	National	TD1327	
	Signetics	MC1488			National	DS3668	(2651)	SN75471	National	ULN2024 (3258)		SN76227	Motorola	CA3070	(2658)
		MC1489			Hitachi	HAI3007						SN76242	GE/RCA	CA3071 (2658)	
		MC1489			IPS	IP3658						SN76266	National	LM3066	
	SiliconG	MC1489A			National	DS3658			SiliconG	SG75471		SN76489	Microchip	AY38913	
		SG1489			SGS-Thomson	L6222		SN75472	Sprague	UDN3611			NCR	NCR8489	
		SG1489A		SN75440	GE/RCA	CA3252 (2651, 2653)			National	DS3612		SN76600	Motorola	MC1350 (2951)	
		SG75188			IPS	IP3669				DS3632			SGS-Thomson	ESM1350	
		SG75788			National	DS3669			SiliconG	SG75472		SN76635	National	LM1820	
	TI	MC1488			SGS-Thomson	L9222		SN75473	Sprague	UDN3612		SN76642	GE/RCA	CA2111A (2657)	
SN75189	Exar	KR1468 (2619)		SN754410	IPS	IP293		• SN75474	SiliconG	SG75473			National	LM2111	
		XR4195			Polycore	PL293			National	DS3614				LM2113	
	GoldStar	GD75189 (2708)			SGS-Thomson	L293		• SN75474	SiliconG	SG75474			Signetics	N5111	
	Motorola	MC1468				L293 (3322)		SN75476	Sprague	UDN3614			Sprague	ULN2111	
	National	μA212A		SN754411	TI	A102			TI	UDN5711		SN76643	GE/RCA	CA2111A (2657)	
		μA750		SN75450	Adv Analog	μA75450			Toshiba	TD62476			National	LM2111	
	Raytheon	RC4195 (3025)			National	DS75450		SN75477	Sprague	UDN5722				LM2113	
	SiliconG	SG1468				75450		SN75478	Sprague	UDN5713			Signetics	N5111	
		SG2501A			SiliconG	SG75450			TI	UDN5713			Sprague	ULN2111	
		SG3501A		SN75451	National	DS75451			Toshiba	TD62478		SN76666	GE/RCA	CA3065 (2658)	
		SG75189				75451		SN75479	Motorola	MC1374 (2950)			GoldStar	GL3201 (2711)	
SN75189A	Exar	KR1468 (2619)			SiliconG	SG75451			Sprague	UDN5714			Hitachi	HA1125	
		XR4195				SG75451A			TI	UDN5714			Motorola	LSC1008	
	GoldStar	GD75189 (2708)				SG75451B		SN75494	National	DS75494			National	LM3064	
	Motorola	MC1468		SN75451B	TI	DS75451		SN75518	Gould/AMI	S4535		SN76675	National	μPC1382	
	National	μA212A				SG75451B			Sprague	UCN5818			VLSI Tech	V71750 (3346, 3361)	
		μA750			SiliconG	SG75451		SN75551	Siliconix	SI9551				LM3075	
	Raytheon	RC4195 (3025)				SG75451A		SN75552	Supertex	HV5122		TACT2152	Saratoga	SSL2152	
	SiliconG	SG1468			TI	SG75451B			Siliconix	SI9552		TACT2154	Saratoga	SSL2154	
		SG2501A		SN75452	National	SG75451		SN75553	Sprague	UCN5852		TBPSA030	MMI	63S080	
		SG3501A				DS75452			Supertex	HV5222			Signetics	N82S123	
		SG75189			SiliconG	SG75452			Siliconix	SI9553				S82S23	
• SN7520	AD	AD7520 (2462, 2470)				SG75452		SN75554	Supertex	HV5306		• TBP18SA30	AMD	AM27S18	
		AD7520 (2666)				SG75452A			Siliconix	SI9554			Fujitsu	MB7111	
	GE/Intersil	AD7520				SG75452B			Sprague	UCN5854		• TBP18S030	National	DM74S188	
	Maxim	AD7520			TI	SG75452B			Supertex	HV5308			AMD	AM27LS19	
	MicroPwr	MP7520				DS75452		SN75555	Siliconix	SI9555		• TBP18S030	Fujitsu	MB7112	
	Motorola	MC7520				SG75452		SN75556	Siliconix	SI9556			MMI	53S081	
	National	AD7520				SG75452		SN75557	TI	SN75564		• TBP18S030	Motorola	MCM27S19	
		DAC1020				SG75452			Siliconix	SI9560			National	DM74S288	
		DAC1021				SG75452		SN75564	TI	SN75563		• TBP18S030	Signetics	N82S123	
		DAC1022				SG75452			Sprague	UCN2950				N82S123	
		7520				SG75452		SN76001	MCE	MCE820				S82S123	
• SN7520	Sanyo	LA7520				SG75452						• TBP18S030M	National	DM54S288	
	Unitrode	PIC7520				SG75452B		SN76111	GoldStar	GL3130 (2711)		• TBP24SA10	Fujitsu	DM7578	
SN75207B	National	DS75207				SG75452B			National	μA705			National	DM74S387	
• SN7521	AD	AD7521 (2462, 2470)				SG75453			Sanyo	LA705		• TBP24SA10M	AMD	AM27S20	
		AD7521 (2666)				DS75453			Signetics	μA758			National	63S140	
	GE/Intersil	AD7521				SG75453A			Sprague	ULN3809			National	DM54S387	
	HybridSys	DAC331-12				SG75453B			TI	ULN3812		• TBP24SA41M	AMD	N82S126	
	Maxim	AD7521				DS75454			Exar	XR1310			National	S82S126	
	MicroPwr	MP7521				SG75454		SN76115	National	XR1310		• TBP24S10	AMD	AM27S32	
	Motorola	MC7521				SG75454B			GoldStar	GL3130 (2711)			AMD	DM54S572	
	National	AD7521				SG75454B		SN76116	National	μA705		• TBP24S10	Fujitsu	27S21	
		DAC1220				SG75454			Sanyo	LA705			MMI	MB7114	
		DAC1221				SG75454			Signetics	LA758		• TBP24S10	National	63S141	
		DAC1222				SG75454			Sprague	μA758			National	63S141A	
		7521				SG75454			TI	ULN3809		• TBP24S10	Signetics	DM74S287	
• SN7521	PMI	AD7521				SG75454			TI	ULN3812				N82S129A	
• SN7524	AD	AD7524 (2411, 2460, 2462)				SG75454			Exar	XR4739	(2619)	• TBP24S41	AMD	S82S129	
						SG75454			National	μA739			AMD	AM27S33	
						SG75454				μA749			Fujitsu	MB7122	
						SG75454				LM1303			National	63S441	
						SG75454			Raytheon	RC4739		• TBP24S41M	MMI	DM74S573	
						SG75454			SGS-Thomson	TBA231			Motorola	MCM7643M	
						SG75454				SN76149			National	DM54S573A	
						SG75454			TI	SN76149		• TBP24S81	AMD	AM27S185	
						SG75454			Exar	XR4739 (2619)				27S185	
						SG75454			National	μA739		• TBP24S81	Fujitsu	MB7128	
						SG75454				LM1303			Hitachi	HN25085	
						SG75454									

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				TIBPAL16L8A-2 (Cont'd)				TIBPAL16R6 (Cont'd)				TIBPAL16R8-20 (Cont'd)			
TIBPAL16L8	AMD	AMPAL16H8		Samsung	CPL16L8-35	(3031)	(3031)	TI	TIBPAL16R6-20	TIBPAL16R6-30	(4259)	ICT	PEEL18CV8	(4257)	(4259)
	Cypress	AMPAL16L8													
	Harris	CYPAL16L8		ICT	PEEL18CV8	(4257)	(4259)	Lattice	GAL16V8A-10	(4259)	(4259)	MMI	PAL16R8	PAL16R8	(3031)
		PALC16L8	(4216)												
		HPL16LC8	(2745)	National	F16P8B	PAL16P8	(4259)	Lattice	GAL16V8A-12L	(4259)	(4259)	National	CPL16R8-35	CPL16R8-35	(3031)
		HPL16LC8-5	(2745)												
			(2745)	AMD	AMPAL16R6A	GAL16V8-25L	(4259)	Lattice	GAL16V8-15L	(4259)	(4259)	TI	SN74PAL16R8A	TIBPAL16R8-30	(3031)
	ICT	PEEL18CV8	(4257)												
	Lattice	GAL16V8	(4259)	MMI	PAL16R6A	PAL16R6A	(4259)	Lattice	GAL16V8-15L	(4259)	(4259)	Cypress	CYPALC16R8-25	GAL16V8-25L	(4259)
		GAL16V8-25L	(4259)												
	MMI	PAL16L8		National	16RP6A	16RP6B2	16R6A	Harris	AMPAL16R6	CYPAL16R6	HPL16RC6	(2745)	Samsung	CPL16R8-25	(3031)
		GAL16V8													
		PAL16L8		Samsung	CPL16R6-25	(3031)	(3031)	Lattice	HPL16R6	PEEL18CV8	(4257)	GAL16V8	(4259)	GAL16V8-25L	(4259)
		16L8A													
		16P8A		TI	TIBPAL16R6A	GAL16V8A-10	(4259)	Lattice	GAL16V8A-12L	(4259)	(4259)	MMI	PAL16R8	PAL16R8	(3031)
		16P8B													
	Samsung	CPL16L8-25	(3031)	Lattice	GAL16V8A-10	(4259)	(4259)	Lattice	GAL16V8-15L	(4259)	(4259)	Cypress	CYPALC16R8-25	GAL16V8-25L	(4259)
		CPL16L8-35	(3031)												
		CPL16L8L-35	(3031)	Signetics	PLHS18P8	(3209, 3227)	(3227)	Lattice	GAL16V8-15L	(4259)	(4259)	Samsung	CPL16R8-25	CPL16R8-25	(3031)
		PLHS18P8	(3209, 3227)												
	Sprague	SPL16LC8		TI	TIBPAL16H8	TIBPAL16L8-20	(4259)	Lattice	GAL16V8A-10	(4259)	(4259)	ICT	PEEL18CV8	(4257)	(4259)
		TIBPAL16H8													
		TIBPAL16L8-20		Harris	HPL16RC4	(2745)	(2745)	Lattice	GAL16V8A-12L	(4259)	(4259)	MMI	PAL16R8	PAL16R8	(3031)
TIBPAL16L8-10	Lattice	GAL16V8A-10	(4259)	ICT	PEEL18CV8	(4257)	(4259)	Lattice	GAL16V8A-12L	(4259)	(4259)	Samsung	CPL16R8-35	CPL16R8-35	(3031)
		GAL16V8A-12L	(4259)												
TIBPAL16L8-12	Lattice	GAL16V8A-12L	(4259)	Samsung	CPL16R4-35	(3031)	(3031)	Lattice	GAL16V8-15L	(4259)	(4259)	TI	SN74PAL16R8A	TIBPAL16R8-20	(4259)
		GAL16V8-15L	(4259)												
TIBPAL16L8-15	Lattice	GAL16V8-15L	(4259)	TI	TIBPAL16R4-30	(3031)	(3031)	Lattice	GAL16V8-25L	(4259)	(4259)	AMD	AMPAL16R8	CYPALC16R8	(3031)
		GAL16V8-25L	(4259)												
TIBPAL16L8-20	AMD	AMPAL16H8		Cypress	CYPALC16R4-25	(4259)	(4259)	Lattice	GAL16V8-25L	(4259)	(4259)	Harris	HPL16RC4-5	(2745)	(2745)
		AMPAL16L8													
	Cypress	CYPAL16L8		Harris	HPL16RC6-5	(2745)	(2745)	Lattice	GAL16V8-25L	(4259)	(4259)	Samsung	CPL16R8-25	CPL16R8-25	(3031)
		PALC16L8	(4216)												
		HPL16LC8	(2745)	Samsung	CPL16R4-25	(3031)	(3031)	Lattice	GAL16V8-25L	(4259)	(4259)	MMI	PAL16R8A	PAL16R8A	(3031)
		HPL16LC8-5	(2745)												
	ICT	PEEL18CV8	(4257)	Lattice	GAL16V8	(4259)	(4259)	Lattice	GAL16V8-25L	(4259)	(4259)	Samsung	CPL16R8-25	CPL16R8-25	(3031)
		GAL16V8	(4259)												
		GAL16V8-25L	(4259)	MMI	PAL16R6	PAL16R6	(4259)	Lattice	GAL16V8-25L	(4259)	(4259)	Samsung	CPL16R8-25	CPL16R8-25	(3031)
	National	PAL16L8		Samsung	CPL16L8-25	(3031)	(3031)	Lattice	GAL16V8-25L	(4259)	(4259)	Samsung	CPL16R8-25	CPL16R8-25	(3031)
		GAL16V8													
		PAL16L8		Signetics	PLHS18P8	(3209, 3227)	(3227)	Lattice	GAL16V8-25L	(4259)	(4259)	Samsung	CPL16R8-25	CPL16R8-25	(3031)
		16L8A													
		16P8A		Samsung	CPL16L8-25	(3031)	(3031)	Lattice	GAL16V8-25L	(4259)	(4259)	Samsung	CPL16R8-25	CPL16R8-25	(3031)
		16P8B													
	Samsung	CPL16L8-25	(3031)	TI	TIBPAL16R4-25	(3031)	(3031)	Lattice	GAL16V8-25L	(4259)	(4259)	AMD	AMPAL22V10	AMPAL22V10A	(4257)
		CPL16L8-35	(3031)												
		CPL16L8L-35	(3031)	TI	TIBPAL16R4-25	(3031)	(3031)	Lattice	GAL16V8-25L	(4259)	(4259)	Cypress	CYPALC22V10	CYPALC22V10-25	(4260)
		CPL16L8L-35	(3031)												
	Signetics	PLHS18P8	(3209, 3227)	AMD	AMPAL16R4A	GAL16V8-25L	(4259)	Lattice	GAL16V8-25L	(4259)	(4259)	Gould/AMI	PEEL20CG10	PEEL20CG10	(4257)
		PLHS18P8	(3209, 3227)												
	Sprague	SPL16LC8		National	PAL16R4A	PAL16R4A	(4259)	Lattice	GAL16V8-25L	(4259)	(4259)	ICT	PEEL20CG10	PEEL20CG10	(4257)
		TIBPAL16H8													
		TIBPAL16L8		Samsung	CPL16R4-25	(3031)	(3031)	Lattice	GAL16V8-25L	(4259)	(4259)	Lattice	GAL20V8-25L	GAL20V8-25L	(4260)
TIBPAL16L8-25	Cypress	CYPALC16L8-25		Samsung	CPL16R4-25	(3031)	(3031)	Lattice	GAL16V8-25L	(4259)	(4259)	MMI	PALC22V10	PALC22V10H-25	(4257)
		GAL16V8-25L	(4259)												
	Lattice	GAL16V8-25L	(4259)	TI	TIBPAL16R4-2	PEEL18CV8	(4257)	Lattice	GAL16V8-25L	(4259)	(4259)	MMI	PALC22V10H-25	PALC22V10H-35	(4259)
		GAL16V8-25L	(4259)												
TIBPAL16L8-30	AMD	AMPAL16L8A		ICT	PEEL18CV8	(4257)	(4259)	Lattice	GAL16V8-25L	(4259)	(4259)	National	PAL18L4	PAL18L4	(3031)
		GAL16V8-25L	(4259)												
	Lattice	GAL16V8-25L	(4259)	MMI	PAL16R4A-2	CPL16R4-35	(3031)	Lattice	GAL16V8A-10	(4259)	(4259)	Samsung	CPL20L8-35	CPL20L8-35	(3031)
		GAL16V8-25L	(4259)												
	MMI	PAL16L8A		TI	TIBPAL16R6A	CYPAL16R6	(4259)	Lattice	GAL16V8A-10	(4259)	(4259)	Cypress	CYPALC22V10-25	CYPALC22V10L-35	(3031)
		PAL16L8A													
		16P8B2		Harris	HPL16RC6	(2745)	(2745)	Lattice	GAL16V8A-12L	(4259)	(4259)	TI	CPL22V10L-25	CPL22V10L-35	(3031)
		16P8B2													
	TI	TIBPAL16L8A		Samsung	CPL16R6-35	(3031)	(3031)	Lattice	GAL16V8A-10	(4259)	(4259)	TI	CPL22V10L-25	CPL22V10L-35	(3031)
		AMPAL16L8A													
TIBPAL16L8A	AMD	AMPAL16L8A		Harris	HPL16RC6-5	(2745)	(2745)	Lattice	GAL16V8A-12L	(4259)	(4259)	TI	CPL22V10L-25	CPL22V10L-35	(3031)
		GAL16V8-25L	(4259)												
	Lattice	GAL16V8-25L	(4259)	MMI	PAL16R6	PAL16R6	(4259)	Lattice	GAL16V8-15L	(4259)	(4259)	TI	CPL22V10L-25	CPL22V10L-35	(3031)
		GAL16V8-25L	(4259)												
	MMI	PAL16L8A		National	16RP6A	16RP6B2	16R6A	Harris	AMPAL16R8	CYPALC16R8	CYPAL16R8	HPL16RC8	(2745)	HPL16RC8-5	(2745)
		16L8A													
		16P8B2		Samsung	CPL16R6-35	(3031)	(3031)	Lattice	GAL16V8-15L	(4259)	(4259)	TI	CPL22V10L-25	CPL22V10L-35	(3031)
		16P8B2													
	TI	TIBPAL16L8-30		National	PAL16R6	PAL16R6	(4259)	Lattice	GAL16V8-15L	(4259)	(4259)	TI	CPL22V10L-25	CPL22V10L-35	(3031)
		TIBPAL16L8-30													
TIBPAL16L8A-2	ICT	PEEL18CV8	(4257)	Samsung	CPL16R6-35	(3031)	(3031)	Lattice	GAL16V8-15L	(4259)	(4259)	TI	CPL22V10L-25	CPL22V10L-35	(3031)
		GAL16V8-25L	(4259)												
	Lattice	GAL16V8-25L	(4259)	MMI	PAL16L8A-2	(Continued)	(Continued)	Lattice	GAL16V8-15L	(4259)	(4259)	TI	CPL22V10L-25	CPL22V10L-35	(3031)
		GAL16V8-25L	(4259)												
	MMI	PAL16L8A-2	(Continued)	National	PAL16R6	PAL16R6	(4259)	Lattice	GAL16V8-15L	(4259)	(4259)	TI	CPL22V10L-25	CPL22V10L-35	(3031)
		PAL16L8A-2	(Continued)												

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				TICPAL16R6 (Cont'd)				TLC271 (Cont'd)				TLC556M (Cont'd)			
TIBPAL22V10A	MMI	PALC22V10 PALC22V10H-25 PALC22V10H-35 PAL14L8 PAL14L8	(Cont'd)	Samsung CPL16R6-35 (3031) CPL16R6L-35 (3031)				Solitron TI UC4250 TLC251 TL061 CA290				GE/Intersil ICM7556 (2685) Maxim ICM7556 NEC μPD556 TI TLC552C TLC552M TLC556C			
National Samsung		CPL20L8-35 (3031) CPL22V10-25 CPL22V10-35 CPL22V10L-25 CPL22V10L-35		TICPAL16R6	TI	TIBPAL16R6 TIBPAL16R6-20 TIBPAL16R6-30		TLC272	GE/RCA Motorola PMI	MC3358 (2955) OP220 OP221 NE532 TLC252 TLC254 ALD2301 MC14444 ADC0830 TLC531 MC14444 ADC0830 TLC530		TLC7524	AD	AD7524 (2411, 2460, 2462)	
Signetics		PLS173 (3209, 3226)		TIM8228	AMD Intel National	8228 8228 DP8228 INS8228 μPB8228 SN74S428		TLC274 TLC372 TLC530	Signetics TI AdvLinear Motorola	NE532 TLC254 ALD2301 MC14444 ADC0830 TLC531 MC14444 ADC0830 TLC530		TLC7528	AD	AD7528 (2413, 2461)	
TI		TIBPAL22V10 (3304)		Ti32016 Ti32032 Ti32081 Ti32082	National National National National	NS32016 NS32032 NS32081 MS32082 NS32082 NS32201 NS32202 OP61 PM082		TLC531	Motorola National TI	MC14444 ADC0830 TLC530			Maxim MicroPwr Motorola Plessey PMI	AD7528 MP7528 MC7528 ZN7528 PM7528 (3019)	
TICPAL1010	AMD	AM29L510 AM29510		Ti32201 Ti32202 TLC082	National National PMI	NS32201 NS32202 OP61 PM082		TLC532	Motorola	MC14442 (2970, 2991)			Maxim MicroPwr Motorola	AD7528 MP7528 MC7528	
TICPAL1010	AD	ADSP1010 (2436) ADSP1010A (2436, 2462)		TLC0820	AD	AD7820 (2414, 2416, 2462)		TLC533	Motorola	MC14442 (2970, 2991)			PMI Raytheon Unitorde	PM7528 RC7528 PIC7528	(3019)
TICPAL1010	Cypress Intel LogicDev	CY7C510 IM29C510 LMA1010 LMA2010 L64010 (2888)			Crystal Maxim	CS7820 AD7820 MAX150			National TI	ADC0829 TLC532		TLP298	SGS-Thomson	L298	
TICPAL1010	LSI Logic	L64012			National	μA7820 DS7820 LM7820 PM0820 KAD0820		TLC540	Motorola	MC145040 (2932, 2970, 2992)			TI	L298	(3322)
TICPAL1010	Matra-Harris TI TRWLSI	MS2010 SN74HCT9510 TDC1010 TMC2210			PMI	PM0820		TLC541	Motorola	MC145040 (2932, 2970, 2992)			Unitrode Toshiba Toshiba	UC495A TA75060 TA75061	
TICPAL1010	VLSI Tech Waferscale	VL2010 WS59510 WS59610			Samsung SGS-Thomson	KAD0820		TLC552C	National TI AdvLinear	ADC0811 TLC540 ALD2502 ALD2504	(3325)		TI	TL071M LF442	
TICPAL1010	Weitek	WTL1010 WTL2010 WTL2044 WTL2245			SiliconG	L7820 SG7820 SG7820A SI7820			GE/Intersil	ICM7556 (2685) ICM7556M (2685)			SGS-Thomson	TL062 TA75062 TL072M	
TICPAL16L8	AMD	AMPAL16H8 AMPAL16L8 CYPAL16L8			Siliconix TI	SI7820 μA7820 SN55182			Maxim NEC TI	ICM7556 μPD556 TLC552M TLC556C TLC556M		TL062M TL064	Toshiba TI	TA75062 TL072M	
TICPAL16L8	Cypress	PALC16L8 (4216) HPL16L8C (2745) HPL16L8C-5 (2745)		TLC251	GE/Intersil	ICL7611 (2673, 2675) ICL8021 LM4250 HA2720 HA2725 ICL7611 MC1776 (2953, 2989) MC3476 (2953)		TLC552M	AdvLinear	ALD2502 ALD2504 ICM7556 (2685) ICM7556M (2685)			SGS-Thomson	TL064 TL074M MA333 MC34001 (2953, 2990)	
TICPAL16L8	Harris	PEEL18CV8 (4257) GAL16V8 (4259) GAL16V8-25L (4259)			Harris	LM4250 HA2720 HA2725 ICL7611 MC1776 (2953, 2989) MC3476 (2953)			GE/Intersil	ICM7556 (2685) ICM7556M (2685)			National NEC PMI	μA771 μPC4071 OP15 TL081C TA75071 TL061M MA336 CA3240 OP215 MC34002 (2955, 2990)	
TICPAL16L8	ICT Lattice				Maxim Motorola	MC1776 (2953, 2989) MC3476 (2953)			Maxim NEC TI	ICM7556 (2685) ICM7556M (2685) μPD556 TLC552C TLC556C TLC556M		TL071M TL072	TI	TL074M MA333 MC34001 (2953, 2990)	
TICPAL16L8	MMI National	PAL16L8 GAL16V8 PAL16L8 16L8A 16P8A 16P8B			National	μA776 LF441 LM4250 μPC4250 μPC812 OP20 OP22 OP43		TLC555	Exar	XR555 (2619) XR555M (2619)			AnalogSys GE/RCA	MA336 CA3240 OP215 MC34002 (2955, 2990)	(2647)
TICPAL16L8	Samsung	CPL16L8-25 (3031) CPL16L8-35 (3031) CPL16L8L-35 (3031)			PMI	OP20 OP22 OP43			GE/Intersil	NE555 SE555 CA555 (2656) GLC555 (2713) GL555 (2713)			LinearTech Motorola	OP215 μA772 OP215 SGS-Thomson TL072 TL082C TA75072 TA75074 TL062M MA374 MC33074 (2957) MC34004 (2956, 2990) MC34004A (2956, 2990) MC34074 (2956, 2991)	
TICPAL16L8	Signetics	PLHS18P8 (3209, 3227)			SGS-Thomson	μA776 MC1776 UC4250 TLC271 TL061 CA290			Hitachi Mitsubishi	HA17555 M5E555 M51841 M51848 MC1455 (2989) μA555 LM555 μPC1555 μPC617 μPD555 RC555 RM555		TL072M TL074	TI	TL072 TL082C TA75072 TA75074 TL062M MA374 MC33074 (2957) MC34004 (2956, 2990) MC34004A (2956, 2990) MC34074 (2956, 2991)	
TICPAL16R4	Sprague TI	SPL16LC8 TIBPAL16H8 TIBPAL16L8 TIBPAL16L8-20		TLC252	GE/RCA Motorola PMI	OP220 OP221 NE532 TLC272 TLC274	(2955)		National	NE555 SE555 CA555 (2656) GLC555 (2713) GL555 (2713)			AnalogSys Motorola	MA374 MC33074 (2957) MC34004 (2956, 2990) MC34004A (2956, 2990) MC34074 (2956, 2991)	
TICPAL16R4	AMD	AMPAL16R4 CYPALC16R4 CYPAL16R4 GM231024 HPL16R4			Signetics TI	OP221 NE532 TLC272 TLC274			NEC	μA555 LM555 μPC1555 μPC617 μPD555 RC555 RM555			TI	NE555 SE555 CA555 (2656) GLC555 (2713) GL555 (2713)	
TICPAL16R4	Cypress	CYPAL16R4 GM231024 HPL16R4		TLC254 TLC271	GE/Intersil	ICL7611 (2673, 2675) ICL8021 LM4250 HA2720 HA2725 ICL7611 MC1776 (2953, 2989) MC3476 (2953)			Samsung Sanyo SGS-Thomson	NE555 LB8555 NE555 SE555 CA555 (2656) GLC555 (2713) GL555 (2713)	(3039)		TI	NE555 SE555 CA555 (2656) GLC555 (2713) GL555 (2713)	
TICPAL16R4	GoldStar Harris ICT MMI	PEEL18CV8 (4257) PALC16R4Q-25 PAL16R4 PAL16R4D-4 PAL16R4			Harris	LM4250 HA2720 HA2725 ICL7611 MC1776 (2953, 2989) MC3476 (2953)			Signetics	NE555 SE555 CA555 (2656) GLC555 (2713) GL555 (2713)		TL074M TL080 TL081	TI	μA774 μPC4084 TL084BC TL064M HA17080 AD544 (2427, 2462) Burr-Brown OPA156A (2540, 2542)	
TICPAL16R4	National Samsung	CPL16R4L-25 (3031)			Maxim Motorola	ICL7611 (2673, 2675) LM4250 HA2720 HA2725 ICL7611 MC1776 (2953, 2989) MC3476 (2953)			TI	NE555 SE555 CA555 (2656) GLC555 (2713) GL555 (2713)			LinearTech	LF156 LF156A MP156 LF156 LF156A OPA101 OP16 OP43 PM156 PM156A	
TICPAL16R6	Toshiba AMD Cypress Harris	TC53100 AMPAL16R6 CYPAL16R6 HPL16RC6 (2745) HPL16RC6-5 (2745)			National	μA776 LF441 LM4250 μPC4250 μPC812 OP20 OP22 OP43			Toshiba AdvLinear	TA7555 ALD2502 ALD2504 ICM7556 (2685) ICM7556M (2685)			MicroPwr	LF156 LF156A MP156 LF156 LF156A OPA101 OP16 OP43 PM156 PM156A	
TICPAL16R6	ICT Lattice	HPL16R6 PEEL18CV8 (4257) GAL16V8 (4259) GAL16V8-25L (4259)			NEC	μPC4250 μPC812 OP20 OP22 OP43			Maxim NEC TI	ICM7556 (2685) ICM7556M (2685) μPD556 TLC552C TLC552M TLC556M			PMI	OP16 OP43 PM156 PM156A	
TICPAL16R6	MMI National	PAL16R6 PAL16R6	(Continued)		SGS-Thomson	μA776 MC1776	(Continued)		AdvLinear	ALD2502 ALD2504	(Continued)		SGS-Thomson	LF156 (Continued)	(Continued)

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
TL081AC	Motorola	MC34001B	(2953, 2990)	TL1525	Motorola	SG1525A	(2964)	TL4558	PMI	OP14	(3024)	TL594M	Exar	XR6118	(2619)
TL081C	AnalogSys	MA333			SiliconG	SG1525			Raytheon	OP270			Motorola	MC3490	
	Motorola	MC34001	(2953, 2990)		Unitrode	SG1525A				RC1458			National	DM8887	
	National	μA771		TL1527	Cherry Semi	UC1525				RC4558	(3024)		OKI	MSL912	
	NEC	μPC4071			IPS	UC1525A			Samsung	RM1558	(3024)		Sanyo	LB1290	
	PMI	OP15			LinearTech	IP1527A			SGS-Thomson	RM4558	(3039)		Signetics	NE594	
	TI	TL071				LT1527				MC4558				SA594	
TL081M	Toshiba	TA75071			Motorola	SG1527A	(2964)			LS4558			Sprague	UDN6118	(3258)
TL082	Motorola	MC35001B	(2954)		SGS-Thomson	SG1527A			Signetics	MC4558				UDN6118A	(3258)
	Exar	XR082	(2619)			SG1527A				MC1458				UDN6118A-1	(3258)
	Fujitsu	MB47082			Unitrode	UC1527				MC1558					
	GE/RCA	CA082	(2647)			UC1527A				NE4558				UDQ6118	
	SGS-Thomson	LF353			SiliconG	SG1527				SA4558				TL594C	
		TL082				SG1527A				MC1458				Toshiba	TD62781
		HA17082			Unitrode	UC1527				MC1558				Fujitsu	MB3760
TL082AC	TI	TL072		TL170	Matsushita	DN6838				MC4558C			TL595I	TL495I	
	Motorola	MC34002B	(2955, 2990)		Microswitch	SS46				RC4558			TL780-05C	IP780SAC	
TL082BC	Motorola	MC34002A	(2955, 2990)			SS46				RM4558				Motorola	TL780-05C
TL082C	AnalogSys	MA336			National	8SS1E1				RV4558			TL780-12C	Motorola	TL780-12C
	GE/RCA	CA3240	(2647)		Sprague	8SS5E1				TA7558			TL780-15C	Motorola	TL780-15C
	LinearTech	OP215		TL172C	Matsushita	DN6837				TA7558			TMC2911A	Intel	ID2911
	Motorola	MC34002	(2955, 2990)		Microswitch	DN6839				S4534				National	TP3021
						613S2				HEF4534				Samsung	KS51000
	National	μA772				8SS7			TL4810	Gould/AMI	UCN5810			AMD	AM9114
	PMI	OP215				8SS7E1				TI	UCN4810A				AM9124
	SGS-Thomson	TL072			National	DN6837				GoldStar	GL494	(2714)		Intel	2114A
		TL072				DN6837				National	μA494			Krueger	2114-150
		TA75072				DN6839				NEC	μPC494				2114-200
	Toshiba	TA75074			Siemens	SAS261				Toshiba	TA76494				2114-450
TL082M	Motorola	MC35002B	(2955)		Sprague	UGN3019	(3259)		TL494C	IPS	IP494C				215L2114
TL083	Exar	XR083	(2619)		Microswitch	91SS12-2				Unitrode	UC494AC				MCM2114
	Hitachi	HA17083			Sprague	UGN3503			TL494I	Fujitsu	MB3759				MCM2114
TL084	Exar	XR084	(2619)	TL173C	TI	TL1731			TL494M	Cherry Semi	CS494M				MSL2114
	GE/RCA	CA084	(2647)		Microswitch	91SS12-2				Exar	XR494	(2619)			F2114
	National	μA774			Sprague	UGN3503				IPS	IP494A				NMC2114A
	SGS-Thomson	TL084			TI	TL173C				Motorola	TL494	(2964)			MSM2114
TL084AC	Motorola	MC34004B	(2956, 2990)	TL175C	Sprague	UGN3076	(3259)		TL495C	Unitrode	UC495AC				OKI
				TL185	GE/Intersil	DG185			TL495I	Unitrode	UC495AC				Rockwell
TL084BC	AnalogSys	MA374				HI5045				Fujitsu	MB3760				Sharp
	Motorola	MC33074	(2957)			HI5045				TI	TL595I				Toshiba
	Motorola	MC34004	(2956, 2990)			DG185			TL500	GoldStar	GD74LS590	(2708)			UMC
		MC34004A	(2956, 2990)			DG5045				Samsung	KS74AHC590	(3035)			AMD
		MC34074	(2956, 2991)			CS2525				TeledyneS	TSC500				Cypress
	National	μA774			Cherry Semi	CS2525A				TI	SN74LS590				CY7C147
	NEC	PLC4084				CS2525A					TL5006				MBM2147
	TI	TL074				EHA2525				Unicorn	UC74HCT590				M2147H
TL084M	Motorola	MC35004	(2957)			XR2525A				UMC	UM74HCT590				2147
TL111	AD	AD111	(2470)			HA2525			TL5006	GoldStar	GD74LS590	(2708)			2147H
	LinearTech	LM111				IP2525A				Samsung	KS74AHC590	(3035)			2147-35
	Motorola	LM111	(2958)			LT2525A				TeledyneS	TSC500				2147-45
	National	μA111			SGS-Thomson	SG2525A	(2964)			TI	SN74LS590				2147-55
		LM111				SG2525					TL500				2147-70
		LM111				SG2525A				Unicorn	UC74HCT590				MCM6147
	PMI	PM111				SG2525A				UMC	UM74HCT590				MM2147
	Raytheon	LM111	(3025)			UC2525A			TL514	Motorola	MC1514				NMC2141
	SGS-Thomson	LM111				CS2527				National	LM1514				NMC2147H
		LM111				CS2527A				TI	TL514M				NM2147
	Signetics	SG111				XR2527A				Motorola	MC1514				ET2147
	SiliconG	IP117				IP2527A				National	LM1514				STC
	IPS	IP117				LT2527A				Sprague	UCN5812				STC2147
	Lambda	LLM117				Motorola	SG2527A	(2964)		Cherry Semi	CS594C				Toshiba
	LinearTech	LM117				SG2527A				Dionics	DI513B				TMM3150
	MCE	MCELM117				SG2527A					DI514B				S2364
	Motorola	LM117	(2962)			UC2527				Exar	DI514BR				NCR
	National	μA117				UC2527A				Motorola	XR6118	(2619)			OKI
	SGS-Thomson	LM117				TL431	(2991)			National	MC3490				MSM3864
		LM117				μA431					DM8887				Plessey
		LM117				TL431M	(2991)				DS8887				SL2364C
		LM117				μA431					MSL912				S-MOS
		LM117				OP270					LB1290				SMM2364
		LM117				TA75558					NE594				Sharp
		LM117				XR4558	(2619)				SA594				LH2364A
		LM117				CA1558	(2647)				UDN6118	(3258)			2364
		LM117				GL4558	(2714)				UDN6118A	(3258)			V72364
		LM117				Hitachi					UDN6118A-1	(3258)			SC8164
		LM117				Motorola	MC1558	(2955, 2990)			UDQ6118				WD2511
		LM117				NE5514					TL594M				AM27010
		LM117				SE5514					TD62781				AT27C010
		LM117				XR4156					XRL556	(2619)			HN27C010G
		LM117				CS1525A					ICL7556				HN27C101G
		LM117				XR1525A					ICL7556				HN27C101G
		LM117				IP1525A					CS594C				HN27C301G
		LM117				LT1525					CS594C				27010
		LM117				LT1525A					DI513B				27210
		LM117				SG1525					DI514B				M5M23C1000
		LM117				SG1525					DI514BR				M5M27C101K
		LM117				SG1525									M5M27C102
		LM117				SG1525									M5M27C102K
		LM117				SG1525									NMC27C1023
		LM117				SG1525									μPDC1024
		LM117				SG1525									μPDC23C1010
		LM117				SG1525									MSM271000
		LM117				SG1525									MSM271024

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALT SOURCE DIRECTORY

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QUALITY SOURCE DIRECTORY

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Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Texas Instruments (Cont'd)				ULN2002A (Cont'd)				ULN2068 (Cont'd)				28S166 National (Cont'd)				
TX4C1024	Samsung	KM41C1000	(3036)	Mitsubishi	M54525	MC1412	(2984)	SGS-Thomson		ULN2068				DM87S291A		
		KM41256A	(3036)	Motorola	ULN2002			SiliconG	ULN2068	(3258)				DM87S291B		
		HYB511000		National	μA9666			Sprague	ULN2068					93Z510		
		TI	TMS4C1024	(3326)	NEC	MC1412			TI	SN75068				93Z511		
			TMX4C1025		Sanyo	μPA2002			IPS	IP2069			28S166	Signetics	93Z512	
			TMX4C1026		SGS-Thomson	LB1232			Motorola	ULN2069					93Z511	
			TM4256FC1			L202			SGS-Thomson	ULN2069					N82S191	
			TM5256		SiliconG	ULN2002			SiliconG	SG2069			28S166	TI	N82S191A	
			TC511000		Sprague	ULN2002	(3258)		TI	SN75069	(3258)				82S191	
		Toshiba	TC511000C		ULS2002				IPS	IP2074			28S166	Waferscale	TBP38L166	
		TMM411001C		TI	ULN2002			Motorola	ULN2074	(2984)				TMS27C291		
				Toshiba	TD62002			SGS-Thomson	ULN2074			28S42	AMD	W557C191	(3390)	
				Exar	XR2003C	(2619)			ULN2074				MicroPwr	W557C291	(3390)	
					XR2203	(2619)			SG2074				National	27S29		
UCN4810A	Gould/AMI	S4534		Mitsubishi	M52523			SiliconG	ULN2074	(3258)		28S42	NEC	MP157		
	Signetics	HEF4534		Motorola	M54523			Toshiba	TD62074					LF157A		
	Sprague	UCN5810			MC1413	(2984, 2989)		IPS	IP2075					LF351		
	TI	TL4810			ULN2003			Motorola	ULN2075					LF353		
UDN2841	Motorola	UDN2841		National	μA9667			SGS-Thomson	ULN2075			28S42	Raytheon	PM157A		
	Sprague	UDN2841			MC1413				SG2075				Signetics	29621		
UDN5711	Sprague	UDN5711		Sanyo	LB1233			SiliconG	ULN2075	(3258)				PLS157	(3209, 3213)	
	TI	SN75476		SGS-Thomson	L203			Sprague	ULN2075					TI		
	Toshiba	TD62476			ULN2003			Exar	XR4151	(3025)		28S86	AMD	LF351		
UDN5712	Motorola	MC1472	(2984)		ULN2003			Raytheon	RC4151					LF353		
	Sprague	UDN5712			SG2003				RM4151					AM27S181		
	Toshiba	TD62477		SiliconG	ULN2003	(3258)			RV4151					CY7C282M	(2585)	
UDN5713	Sprague	UDN5713			ULS2003				OP470					S25089		
	TI	SN75478		Toshiba	TD62003				RC4156	(3025)				HN25089		
	Toshiba	TD62478			TD62103				RM4156	(3025)				63S881		
UDN5714	Motorola	MC1374	(2950)	Exar	XR2204	(2619)		Signetics	NE5514					DM77LS181		
	Sprague	UDN5714		Mitsubishi	M54526				SE5514					DM77S181		
	TI	SN75479		Motorola	MC1416	(2984)		TI	TL136					DM77S281		
	Toshiba	TD62479			ULN2004			AT&T	T7513A	(2516)				DM87S181		
ULN2001	Exar	XR2001	(2619)	Sanyo	LB1234			Intel	29C13					DM87S281		
		XR2001C	(2619)	SGS-Thomson	L204				2913					93Z451		
		XR2201	(2619)		ULN2004			TI	TCM29C13	(3325)		28S86	Raytheon	93Z451		
	Mitsubishi	M54524			SG2004				TCM2913					29631		
	Motorola	MC1411	(2984)	SiliconG	ULN2004	(3258)		24S81	AM27S185					29631AM		
		ULN2001		Sprague	ULN2004				27S185			28S86	Signetics	29632		
	National	μA9665			ULS2004				MB7128					N82S181		
	Sanyo	LB1231		TI	ULN2004A				HN25085					S82S181		
	SGS-Thomson			Toshiba	TD62004				63S841			28S86	TI	28S86-60		
		L201			TD62104				DM87S185			28S86-60	AMD	AM27S181		
		ULN2001		Exar	XR2204	(2619)			29651					CY7C282M	(2585)	
		SG2001		Mitsubishi	M54526				29651A					S25089		
	SiliconG	ULN2001	(3258)	Motorola	MC1416	(2984)		24S81	N82S185					HN25089		
		ULQ2001			ULN2004				S82S185					63S881		
		ULS2001		Sanyo	LB1234				24S81-55					DM77LS181		
		ULN2001A		SGS-Thomson	L204			24S81-55	AM27S185					DM77S181		
	TI	TD62001			ULN2004				27S185					DM77S281		
	Toshiba	TD62101		SiliconG	SG2004	(3258)			MB7128					DM87S181		
ULN2001A	Exar	XR2001	(2619)		ULN2004				HN25085					DM87S281		
		XR2001C	(2619)	Sprague	ULN2004				63S841					93Z451		
		XR2201	(2619)		ULS2004				DM87S185					93Z451		
	Mitsubishi	M54524		TI	ULN2004				29651			28S86-60	Raytheon	29631		
	Motorola	MC1411	(2984)	Toshiba	TD62004				29651A					29631AM		
		ULN2001			TD62104				N82S185					29632		
	National	μA9665		Exar	XR2205				S82S185			28S86-60	Signetics	N82S181		
	Sanyo	LB1231		Sprague	ULN2005	(3258)			MB7118					S82S181		
	SGS-Thomson			IPS	IP2064				N82LS135			28S86-60	TI	28S86-60		
		L201		Mitsubishi	M54532				AM27LS18					AM27S181		
		ULN2001		Motorola	ULN2064				DM54S188					CY7C282M	(2585)	
		SG2001		SGS-Thomson	ULN2064				DM7577					S25089		
	SiliconG	ULN2001	(3258)		ULN2064				27S185					HN25089		
		ULQ2001		Sprague	ULN2064	(3258)			MB7128					63S881		
		ULS2001		TI	SN75064				HN25085					DM77LS181		
	TI	ULN2001		Toshiba	TA75064				63S841					DM77S281		
	Toshiba	TD62001			TD62064				DM87S185					DM87S181		
ULN2002	Exar	XR2002C	(2619)	IPS	IP2065				29651					DM87S281		
		XR2202	(2619)	Motorola	ULN2065				29651A					93Z451		
				SGS-Thomson	ULN2065				N82S185					93Z451		
	Mitsubishi	M54525			SG2065				S82S185			28S165-35	Signetics	29631		
	Motorola	MC1412	(2984)	SiliconG	ULN2065	(3258)			24S81-55				Raytheon	29631AM		
		ULN2002		TI	SN75065				AM27S191					29632		
	National	μA9666		IPS	IP2066				AM27S191A					N82S181		
		MC1412		Motorola	ULN2066				27S191					S82S181		
	NEC	μPA2002		SGS-Thomson	ULN2066				CY7C291	(2585)		34SA10-25	AMD	AM27S20		
	Sanyo	LB1232			ULN2066				CY7C292	(2585)				63S140		
	SGS-Thomson				SG2066				CY7C292A	(2585)				DM54S387		
		L202			SN75066				CY7C292AL	(2585)				N82S126		
		ULN2002			IP2067				HN25169					82S126		
	SiliconG	ULN2002	(3258)	TI	ULN2067				82S191					AM27S41		
		ULN2002		Motorola	ULN2067				53S1681					AM27S41A		
	Sprague	ULN2002		SGS-Thomson	ULN2067				MCM76101					27S41		
		ULS2002			SG2067				MCM76160					MB7152		
	TI	ULN2002A			SN75067				DM77S191					53S1641		
	Toshiba	TD62002			IP2068				DM87S191					63S1641		
ULN2002A	Exar	XR2002C	(2619)		Motorola	ULN2068	(2984)		DM87S291					63S1641A		
		XR2202	(2619)													
			(Continued)				(Continued)				(Continued)					(Continued)

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Texas Instruments (Cont'd)				54AC11251	Signetics	54AC11251		74ACT11824	Signetics	74ACT11824		74AC11238	Signetics	74AC11238	
♦ 34S162-25	National	DM77S195		54AC11253	Signetics	54AC11253		74ACT11825	Signetics	74ACT11825		74AC11239	Signetics	74AC11239	
♦ 34S162-25	Signetics	DM87S195		54AC11257	Signetics	54AC11257		74ACT11826	Signetics	74ACT11826		74AC11240	Signetics	74AC11240	
		N82HS195		54AC11258	Signetics	54AC11258		74ACT11827	Signetics	74ACT11827		74AC11241	Signetics	74AC11241	
		N82HS195A		54AC11280	Signetics	54AC11280		74ACT11828	Signetics	74ACT11828		74AC11244	Signetics	74AC11244	
♦ 34S162-25	TI	82HS195		54AC11352	Signetics	54AC11352		74ACT11833	Signetics	74ACT11833		74AC11245	Signetics	74AC11245	
♦ 34S162-45	AMD	TBP34S162		54AC11353	Signetics	54AC11353		74ACT11834	Signetics	74ACT11834		74AC11251	Signetics	74AC11251	
		AM27S41		54AC11373	Signetics	54AC11373		74ACT11841	Signetics	74ACT11841		74AC11253	Signetics	74AC11253	
		AM27S41A		54AC11374	Signetics	54AC11374		74ACT11842	Signetics	74ACT11842		74AC11257	Signetics	74AC11257	
		27S41		54AC11520	Signetics	54AC11520		74ACT11843	Signetics	74ACT11843		74AC11258	Signetics	74AC11258	
		MB7152		54AC11533	Signetics	54AC11533		74ACT11844	Signetics	74ACT11844		74AC11269	Signetics	74AC11269	
	Fujitsu	53S1641		54AC11534	Signetics	54AC11534		74ACT11845	Signetics	74ACT11845		74AC11280	Signetics	74AC11280	
	MMI	63S1641		54ALS1010A	National	DM54ALS1010		74ACT11846	Signetics	74ACT11846		74AC11286	Signetics	74AC11286	
		63S1641A		TI	SN54ALS1010A			74ACT11853	Signetics	74ACT11853		74AC11299	Signetics	74AC11299	
♦ 34S162-45	National	DM77S195		74ACT11000	Signetics	74ACT11000		74ACT11854	Signetics	74ACT11854		74AC11323	Signetics	74AC11323	
		DM87S195		74ACT11002	Signetics	74ACT11002		74ACT11861	Signetics	74ACT11861		74AC11352	Signetics	74AC11352	
♦ 34S162-45	Signetics	N82HS195		74ACT11004	Signetics	74ACT11004		74ACT11862	Signetics	74ACT11862		74AC11353	Signetics	74AC11353	
		N82HS195A		74ACT11008	Signetics	74ACT11008		74ACT11863	Signetics	74ACT11863		74AC11373	Signetics	74AC11373	
		82HS195		74ACT11010	Signetics	74ACT11010		74ACT11864	Signetics	74ACT11864		74AC11374	Signetics	74AC11374	
		TBP34S162		74ACT11011	Signetics	74ACT11011		74ACT11873	Signetics	74ACT11873		74AC11378	Signetics	74AC11378	
♦ 34S162-45	TI	AM27LS18		74ACT11013	Signetics	74ACT11013		74ACT11874	Signetics	74ACT11874		74AC11379	Signetics	74AC11379	
♦ 38SA030	AMD	DM54S188		74ACT11014	Signetics	74ACT11014		74ACT11881	Signetics	74ACT11881		74AC11520	Signetics	74AC11520	
	National	DM7577		74ACT11020	Signetics	74ACT11020		74ACT11882	Signetics	74ACT11882		74AC11521	Signetics	74AC11521	
♦ 38SA030-25	AMD	AM27LS18		74ACT11021	Signetics	74ACT11021		74ACT29116	AMD	AM29C116		74AC11533	Signetics	74AC11533	
	National	DM7577		74ACT11027	Signetics	74ACT11027				AM29C116A		74AC11534	Signetics	74AC11534	
♦ 38S165-35	AMD	AM27S191		74ACT11030	Signetics	74ACT11030				AM29L116A		74AC11568	Signetics	74AC11568	
		AM27S291		74ACT11032	Signetics	74ACT11032				AM29116		74AC11569	Signetics	74AC11569	
		AM27S291A		74ACT11034	Signetics	74ACT11034				CY7C9116 (2592)		74AC11579	Signetics	74AC11579	
		AM27S291SA		74ACT11074	Signetics	74ACT11074				CT7C9117 (2592)		74AC11620	Signetics	74AC11620	
♦ 38S165-35	Cypress	CY7C291 (2585)		74ACT11109	Signetics	74ACT11109				27C322 (2875)		74AC11623	Signetics	74AC11623	
	Fujitsu	MB7138		74ACT11112	Signetics	74ACT11112				DM87S421		74AC11640	Signetics	74AC11640	
		MB7138E		74ACT11132	Signetics	74ACT11132				R29671S		74AC11643	Signetics	74AC11643	
		MB7138H		74ACT11138	Signetics	74ACT11138				74ACT29116-1		74AC11646	Signetics	74AC11646	
♦ 38S165-35	MMI	63S1681		74ACT11139	Signetics	74ACT11139		74ACT29116-1	AMD	AM29C116		74AC11648	Signetics	74AC11648	
		63S1681A		74ACT11151	Signetics	74ACT11151				AM29C116A		74AC11651	Signetics	74AC11651	
♦ 38S165-35	Motorola	MCM76		74ACT11153	Signetics	74ACT11153				AM29L116A		74AC11657	Signetics	74AC11657	
	National	DM878291		74ACT11157	Signetics	74ACT11157				AM29116		74AC11818	Signetics	74AC11818	
		932511		74ACT11158	Signetics	74ACT11158				CY7C9116 (2592)		74AC11819	Signetics	74AC11819	
♦ 38S165-35	Raytheon	29683A		74ACT11160	Signetics	74ACT11160				CY7C9117 (2592)		74AC11821	Signetics	74AC11821	
	TI	TBP38A166		74ACT11161	Signetics	74ACT11161				27C322 (2875)		74AC11822	Signetics	74AC11822	
		TBP38S166		74ACT11162	Signetics	74ACT11162				DM87S421		74AC11823	Signetics	74AC11823	
♦ 38S165-35	Waferscale	WS57C291 (3390)		74ACT11163	Signetics	74ACT11163				R29671S		74AC11824	Signetics	74AC11824	
		WS57C291 (3390)		74ACT11166	Signetics	74ACT11166				74ACT29116		74AC11825	Signetics	74AC11825	
54ACT11000	Signetics	54ACT11000		74ACT11169	Signetics	74ACT11169				TI		74AC11826	Signetics	74AC11826	
54ACT11011	Signetics	54ACT11011		74ACT11174	Signetics	74ACT11174		74ACT7202	AMD	67CA4502		74AC11827	Signetics	74AC11827	
54ACT11021	Signetics	54ACT11021		74ACT11175	Signetics	74ACT11175			Cypress	CY7C414		74AC11828	Signetics	74AC11828	
54ACT11030	Signetics	54ACT11030		74ACT11181	Signetics	74ACT11181				CY7C424		74AC11833	Signetics	74AC11833	
54ACT11032	Signetics	54ACT11032		74ACT11190	Signetics	74ACT11190				DS2010		74AC11834	Signetics	74AC11834	
54ACT11074	Signetics	54ACT11074		74ACT11191	Signetics	74ACT11191				IDT7202		74AC11841	Signetics	74AC11841	
54ACT1109	Signetics	54ACT1109		74ACT11192	Signetics	74ACT11192				IDT7202A		74AC11842	Signetics	74AC11842	
54ACT11138	Signetics	54ACT11138		74ACT11193	Signetics	74ACT11193				IDT7202LA		74AC11843	Signetics	74AC11843	
54ACT11240	Signetics	54ACT11240		74ACT11194	Signetics	74ACT11194				IDT7202SA		74AC11844	Signetics	74AC11844	
54ACT11241	Signetics	54ACT11241		74ACT11238	Signetics	74ACT11238				67LA4502		74AC11845	Signetics	74AC11845	
54ACT11244	Signetics	54ACT11244		74ACT11240	Signetics	74ACT11240				Plessey		74AC11846	Signetics	74AC11846	
54ACT11245	Signetics	54ACT11245		74ACT11241	Signetics	74ACT11241		74AC11000	Signetics	74AC11000		74AC11853	Signetics	74AC11853	
54ACT11299	Signetics	54ACT11299		74ACT11242	Signetics	74ACT11242		74AC11002	Signetics	74AC11002		74AC11854	Signetics	74AC11854	
54ACT11373	Signetics	54ACT11373		74ACT11244	Signetics	74ACT11244		74AC11004	Signetics	74AC11004		74AC11861	Signetics	74AC11861	
54ACT11374	Signetics	54ACT11374		74ACT11245	Signetics	74ACT11245		74AC11008	Signetics	74AC11008		74AC11862	Signetics	74AC11862	
54ACT11520	Signetics	54ACT11520		74ACT11251	Signetics	74ACT11251		74AC11010	Signetics	74AC11010		74AC11863	Signetics	74AC11863	
54ACT11533	Signetics	54ACT11533		74ACT11252	Signetics	74ACT11252		74AC11011	Signetics	74AC11011		74AC11864	Signetics	74AC11864	
54ACT11534	Signetics	54ACT11534		74ACT11258	Signetics	74ACT11258		74AC11012	Signetics	74AC11012		74AC11873	Signetics	74AC11873	
54AC11000	Signetics	54AC11000		74ACT11269	Signetics	74ACT11269		74AC11014	Signetics	74AC11014		74AC11874	Signetics	74AC11874	
54AC11002	Signetics	54AC11002		74ACT11280	Signetics	74ACT11280		74AC11014	Signetics	74AC11014		74AC11881	Signetics	74AC11881	
54AC11004	Signetics	54AC11004		74ACT11286	Signetics	74ACT11286		74AC11020	Signetics	74AC11020		74AC11882	Signetics	74AC11882	
54AC11008	Signetics	54AC11008		74ACT11288	Signetics	74ACT11288		74AC11021	Signetics	74AC11021		74AL5648	Signetics	74AL5648	
54AC11010	Signetics	54AC11010		74ACT11299	Signetics	74ACT11299		74AC11027	Signetics	74AC11027		74AL5651	Signetics	74AL5651	
54AC11011	Signetics	54AC11011		74ACT11323	Signetics	74ACT11323		74AC11030	Signetics	74AC11030		74AL5651-1	Signetics	74AL5651-1	
54AC11020	Signetics	54AC11020		74ACT11352	Signetics	74ACT11352		74AC11032	Signetics	74AC11032		74AL5652	Signetics	74AL5652	
54AC11027	Signetics	54AC11027		74ACT11353	Signetics	74ACT11353		74AC11034	Signetics	74AC11034		74AL5652-1	Signetics	74AL5652-1	
54AC11030	Signetics	54AC11030		74ACT11373	Signetics	74ACT11373		74AC11074	Signetics	74AC11074		74AS805B	National	DM74AS805A	
54AC11032	Signetics	54AC11032		74ACT11374	Signetics	74ACT11374		74AC11109	Signetics	74AC11109		♦ 9615	TI	9615	
54AC11034	Signetics	54AC11034		74ACT11378	Signetics	74ACT11378		74AC11112	Signetics	74AC11112				SN55115	
54AC11074	Signetics	54AC11074		74ACT11379	Signetics	74ACT11379		74AC11132	Signetics	74AC11132				SN75115	
54AC11109	Signetics	54AC11109		74ACT11520	Signetics	74ACT11520		74AC11138	Signetics	74AC11138		9636	Motorola	MC3488 (2983)	
54AC11112	Signetics	54AC11112		74ACT11521	Signetics	74ACT11521		74AC11139	Signetics	74AC11139			TI	9636A	
54AC11151	Signetics	54AC11151		74ACT11533	Signetics	74ACT11533		74AC11151	Signetics	74AC11151		9637A	Motorola	MC3488 (2983)	
54AC11153	Signetics	54AC11153		74ACT11534	Signetics	74ACT11534		74AC11153	Signetics	74AC11153			TI	9636	
54AC11157	Signetics	54AC11157		74ACT11568	Signetics	74ACT11568		74AC11157	Signetics	74AC11157			National	µA9637A	
54AC11158	Signetics	54AC11158		74ACT11569	Signetics	74ACT11569		74AC11158	Signetics	74AC11158				µA9637A	
54AC11161	Signetics	54AC11161		74ACT11579	Signetics	74ACT11579		74AC11160	Signetics	74AC11160					
54AC11163	Signetics	54AC11163		74ACT11623	Signetics	74ACT11623		74AC11161	Signetics	74AC11161					
54AC11169	Signetics	54AC11169		74ACT11640	Signetics	74ACT11640		74AC11162	Signetics	74AC11162					
54AC11174	Signetics	54AC11174		74ACT11643	Signetics	74ACT11643		74AC11163	Signetics	74AC11163					
54AC11175	Signetics	54AC11175		74ACT11646	Signetics	74ACT11646		74AC11168	Signetics	74AC11168					
54AC11191	Signetics	54AC11191		74ACT11648	Signetics	74ACT11648		74AC11169	Signetics	74AC11169					

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Toshiba (Cont'd)				TA75072	National	μA772	(Cont'd)	TA75458	Toshiba	TA75558	(Cont'd)	TA7644BP	ICT	27CX641	(Cont'd)	
TA7366P	GoldStar	GL1223	(2712)		PMI	OP215		TA7555	Exar	XR555	(2619)		Microchip	27HC64	(2875)	
	ROHM	BA6137			SGS-Thomson					XR555M	(2619)		NEC	μPC1401C	(2907)	
TA7402P	National	LA1423B			TI	TL072			GE/Intersil	NE555			Raytheon	39VP864		
		DM7402				TL072				SE555			Sharp	LH5763		
	Signetics	7402	(3057)	TA75074	Toshiba	TA75074			GE/RCA	CA555	(2656)		Waferscale	WSSC49		
	TI	SN7402			NEC	μPC4074			GoldStar	GLC555	(2713)			WSSC49B		
TA7502	AD	AD7502	(2425, 2462)		SGS-Thomson					GL555	(2713)	TA76494	GoldStar	GL494	(3390)	
				TA75339	Fujitsu	MB4204	(2648, 2653)		Hitachi	HA17555			National	μA494	(2714)	
	MicroPwr	MP7502			GE/RCA	CA339			Mitsubishi	M5E555			NEC	μPC494		
TA7504	Unitrode	PIC7502	(2427, 2462)							M51841			TI	TL494		
	AD	AD741				CA339A	(2648, 2653)		Motorola	MC1455	(2989)	TA76524	Cherry Semi	CS3524		
	Fujitsu	MB3609							National	μA555			Exar	XR3524	(2619)	
	Hitachi	HA17741				LM339	(2714)			LM555			GE/RCA	CA3524	(2651, 2659)	
	MicroPwr	MP0P02			GoldStar	GL339	(2958, 2989)		NEC	μPC1555						
	Motorola	MC1741	(2953, 2989)		Motorola	LM339				μPC617			IPS	IP3524		
										μPD555				IP3524B		
	National	μA741M			National	μA339			Raytheon	RC555			LinearTech	LT3524		
		LM741			NEC	μPC137				RM555			National	LM3524		
	NEC	μPC151				μPC177			Samsung	NE555	(3039)		SGS-Thomson	SG3524		
		μPC741				μPC339			Sanyo	LB8555				UC3524A		
	PMI	OP02			PMI	CMP04			SGS-Thomson	NE555			Signetics	SG3524		
		OP77				PM139				SE555			SiliconG	SG3524		
		PM741				PM339			Signetics	NE555				SG3524B		
	Raytheon	RM741				PM339A				SE555			Sprague	SG3524		
	Samsung	LM741	(3039)		Raytheon	LM339	(3025)		TI	NE555			TI	SG3524		
	SGS-Thomson				SGS-Thomson					SE555			Unitrode	UC3524		
		μA741				LM339				SE555M				UC3524A		
		LM741			TI	LM339		TA75558	Exar	TLC555	(3325)	TA78L005	Motorola	MC78L05	(2990)	
		LS141		TA75358	Fujitsu	MB47358				XR1458			National	μA78L05		
	Signetics	μA741			GE/RCA	CA358A	(2647, 2653)			XR4558	(2619)			μA78L05A		
	SiliconG	SG741							GE/RCA	CA1558	(2647)			LM340LA-5		
	TI	μA741				LM358	(2647)		GoldStar	GL4558	(2714)			LM78L05		
		μA741M			GoldStar	GL358	(2714)		Hitachi	HA17458			NEC	μPC78L05		
TA7506	Unitrode	PIC7504			Hitachi	HA17358				HA17558			TI	μA78L05		
	AD	AD301			Motorola	LM358	(2954, 2989)		Motorola	MC1558	(2955)	TA78L008	Motorola	MC78L08	(2960, 2990)	
	GE/Intersil	AD301								MC4558	(2955, 2990)			National	μA78L05A	
	GE/RCA	CA301A	(2647)		National	LM358				SE4558				μA78L08		
		LM301			NEC	μPC1251			National	μA1458				μA78L08A		
	LinearTech	LM301				μPC358				μA4558			NEC	LM78L08		
	Motorola	LM301A	(2952, 2989)		PMI	OP221				LM1458			TI	μPC78L08		
					Sanyo	LA6358			NEC	LM1558				μA78L08		
	National	μA301			SGS-Thomson					μPC1458		TA78L010	National	μA78L08A		
		μA301A				LM358				μPC4558				μA78L10		
		LM301			Signetics	LM358			PMI	OP14				μA78L10A		
		LM301A				NE532			Raytheon	OP270			TI	LM78L10		
	NEC	μPC301			TI	LM348				RC1458				μA78L10		
		μPC301A				LM358				RC4558	(3024)	TA78L012	Motorola	μA78L10A		
	PMI	OP77		TA75393	Fujitsu	MB47393				RM1558				MC78L12	(2960, 2990)	
	Raytheon	LM301	(3024)		Hitachi	HA17393				RM4558	(3024)			μA78L12A		
	SGS-Thomson				NEC	μPC277			Samsung	MC4558	(3039)		National	LM340LA-12		
		LM301		TA75458	Exar	XR1458				MC1458				LM78L12		
		LM301A				XR4558	(2619)			MC1558			NEC	μPC78L12		
		SG301			GE/RCA	CA1558	(2647)			NE4558			TI	μA78L12		
	TI	μA301			GoldStar	GL4558	(2714)			SA4558		TA78L015	Motorola	MC78L15	(2961, 2990)	
		LM301			Hitachi	HA17458				SE4558				National	μA78L15	
		LM301A				HA17558				MC1458				μA78L15A		
TA75060	TI	TL060			Motorola	MC1558	(2955)			MC1558				LM340LA-15		
TA75061	TI	TL061				MC4558	(2955, 2990)			MC4558C			NEC	LM78L15		
TA75062	National	LF442								RC4558			TI	μPC78L15		
	SGS-Thomson					SE4558				RV4558				μA78L15		
		TL062			National	μA1458				TL4558				μA78L15A		
		TL062				μA4558			TA75458	TA75458		TA78L018	Motorola	MC78L18	(2961)	
TA75064	IPS	IP2064				LM1458			Signetics	GL324	(2714)		National	μA78L18		
	Mitsubishi	M54532				LM1558				Hitachi	HA17902			LM78L18		
	Motorola	ULN2064				μPC1458				Motorola	LM2902		TA78L024	TI	μA78L18	
	SGS-Thomson					μPC4558					MC33174	(2956, 2989)		National	μA78L20	
		ULN2064				OP14				National	μA2902				LM78L20	
	Sprague	ULN2064	(3258)			OP270		TA75902	Toshiba	TA75458				μA78L20		
	TI	SN75064			Raytheon	RC1458	(3024)		GoldStar	GL324	(2714)			TA78L20		
		ULN2064				RM1558			Hitachi	HA17902				μA78L20		
		ULN2064				RM4558	(3024)			Motorola	LM2902			μA78L20		
TA75070	Toshiba	TD62064				MC4558	(3039)				MC33174	(2957, 2990)	TA78L024	TI	μA78L20	
	IPS	IP2070			Samsung	MC4558				National	μA2902			TI	μA78L20	
	TI	SN75070			SGS-Thomson						μA324			Toshiba	TA78L20	
	VLSI Tech	VT20C68	(3343, 3350)			LS4558					LM2902				μA78L20	
						MC4558					LM324			TI	μA78L20	
TA75071	AnalogSys	MA333			Signetics	MC1458				NEC	μPC324			Toshiba	TA78L024	
	Motorola	MC34001	(2953, 2990)			MC1558				PMI	μPC451		TA78M05	Motorola	MC78M05	(2990)
						NE4558					OP400			National	μA78M05	
	National	μA771				SA4558					OP421				LM341-5	
	NEC	μPC4071				SE4558				Raytheon	LM2902				LM342-05	
	PMI	OP15			TI	MC1458				SGS-Thomson	LM2902				LM78M05	
		TL071				MC1558					LM2902			NEC	μPC78M05	
		TL081C				MC4558C					LM2902			Samsung	MC78M05	
TA75072	AnalogSys	MA336				RC4558				TI	LM324				LM78M05	
	GE/RCA	CA3240	(2647)			RM4558		TA7644BP	Atmel	AT27HC64				SGS-Thomson		
	LinearTech	OP215				RV4558			GoldStar	GL3320	(2711)				L78M05	
	Motorola	MC34002	(2955, 2990)			TL4558				GM57HC64					L78M05CV	

* Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Toshiba (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
TA78M05	SiliconG	SG14005	(2960)	TA78005	SGS-Thomson	μA7805 L7805	(2714) (2960)	TA78015	Unitrode	UC340-15 UC7815	(2961)	TA79012	SiliconG	SG320P-12 SG7912	(2714) (2961)
TA78M06		SG14012 SG7805AT μA78M05		TA78006	SiliconG	SG7805 SG7805A		TA78018	Motorola National	MC7818 LM7818		TA79015	TI	μA79M12M μA7912	
TA78M08		TA78M06 LM78M06 MC78M06 L78M06		TA78008	TI Toshiba Unitrode	μA7805 TA79005 UC7805		TA78020	NEC Samsung SGS-Thomson	μPC7818 MC7818		TA79018	Toshiba GoldStar IPS	TA78024 GL7915 IP320-15 IP7915	
TA78M09	Samsung	MC78M06	(2960)	TA78009	GoldStar	GL7806	(2714) (2960)	TA78024	SiliconG	μA7818 L7818	(2414, 2416, 2462) (2714) (2961)	TA79018	Motorola National	MC7915 μA7915	(2961)
TA78M10	Sanyo	L78M06		TA78010	Motorola	MC7806		TA79005	TI	SG7818 SG7818A		TA79024	NEC Samsung SGS-Thomson	μPC7915 MC7915	
TA78M12	SGS-Thomson	L78M06CV		TA78012	National	μA7806 LM7806		TA79018	SGS-Thomson	EF7910 μA7910		TA79020	SiliconG	μA7915 L7915	
TA78M15	TI	μA78M06	(2960)	TA78015	NEC	μPC7806 MC7806	(2714) (2960)	TA79024	TI	μA7818 AM7910	(2961)	TA79024	TI	SG7918 SG7918A	(2961)
TA78M18	Motorola	μA78M08		TA78018	SiliconG	SG340-6 SG7806		TA79024	TI	μA7910 AD7824		TA79028	SGS-Thomson	μA7915 L7915	
TA78M20	National	LM78M08		TA78020	TI	SG7806A		TA79028	GoldStar	GL7824		TA79032	TI	SG7915A	
TA78M24	SGS-Thomson	LM78M08	(2960, 2990)	TA78024	Hitachi	HA17808	(2714) (2960)	TA79032	Motorola	MC7824	(2961)	TA79032	TI	μA7915	(2961)
TA78M28	TI	μA78M08		TA78028	Motorola	MC08		TA79036	Maxim	AD7824		TA79040	Unitrode	UC320-15	
TA78M32	National	LM78M08		TA78032	National	μA7808 LM7808		TA79040	Motorola	MC7824		TA79044	Motorola	MC7918	
TA78M36	NEC	μPC78M12	(2961)	TA78036	NEC	μPC7808 Samsung	(2960)	TA79044	NEC	μPC7824 SGS-Thomson	(2959)	TA79044	Samsung	MC7918	(2961)
TA78M40	Samsung	MC78M12		TA78040	SGS-Thomson	MC7808		TA79048	SGS-Thomson	μA7824 L7824		TA79052	SGS-Thomson	L7918	
TA78M44	Sanyo	L78M12		TA78044	SGS-Thomson	μA7808 L7808		TA79056	SiliconG	SG7824 SG7824A		TA79060	SiliconG	SG7918	
TA78M48	SGS-Thomson	L78M12	(2960, 2990)	TA78048	SiliconG	SG340-8 SG7808	(2960) (2960)	TA79060	TI	μA7824 LM340-24	(2961)	TA79060	TI	μA7918	(2961)
TA78M52	TI	L78M12CV		TA78052	TI	SG7808A		TA79064	Motorola	MC79L05		TA79068	SGS-Thomson	LM7920	
TA78M56	Motorola	μA78M12		TA78056	GoldStar	μA7808 LM7808		TA79072	Motorola	MC79L12		TA79076	SGS-Thomson	LM7920	
TA78M60	National	LM341-12	(2961)	TA78060	Hitachi	HA17809	(2714) (2960)	TA79076	Motorola	MC79L18	(2961)	TA79076	SGS-Thomson	L7920	(2961)
TA78M64	SGS-Thomson	LM342-12		TA78064	Motorola	MC7809		TA79080	Motorola	MC79L24		TA79084	SGS-Thomson	SG7920	
TA78M68	TI	LM78M12		TA78068	National	μA7809 LM7809		TA79084	Motorola	GL7805		TA79088	SiliconSys	SS957	
TA78M72	NEC	μPC78M12	(2961)	TA78072	NEC	μPC7809	(2960)	TA79088	GoldStar	GL7805	(2714)	TA79088	TI	μA7920	(2961)
TA78M76	Samsung	MC78M12		TA78076	TI	μA7809		TA79092	IPS	IP7805		TA79096	GoldStar	GL7924	
TA78M80	Sanyo	L78M12		TA78080	National	μA7810 LM7810	TA79096	Motorola	MC7805	TA79100	Hitachi	HD74LS195A			
TA78M84	SGS-Thomson	L78M12	(2961)	TA78084	SGS-Thomson	L7810	(2960) (2960)	TA79100	National	μA7805 LM340-5	(2959)	TA79100	Motorola	MC71992A	(2961)
TA78M88	TI	L78M12CV		TA78088	TI	μA7810		TA79104	NEC	μPC7805		TA79108	Motorola	SN74LS195A	
TA78M92	Motorola	μA78M12		TA78092	GoldStar	GL7812	TA79108	Samsung	MC7805	TA79112	National	μA7924	Motorola	DM74LS195	
TA78M96	National	μA78M15	(2961)	TA78096	IPS	IP140-12	(2960) (2960)	TA79112	SGS-Thomson	μA7805 L7805	(2960)	TA79112	NEC	74LS195A	(2944)
TA78M100	SGS-Thomson	LM341-15		TA78100	Motorola	IP340-12		TA79116	SiliconG	SG7805		TA79120	NEC	DM74LS195	
TA78M104	TI	LM342-15		TA78104	Motorola	IP7812AC	TA79120	TI	SG7805A	TA79124	NEC	LM7924			
TA78M108	NEC	LM78M15	(2960, 2990)	TA78108	National	μA7812	(2960) (2960)	TA79124	TI	μA7805	(2960)	TA79124	SGS-Thomson	74LS195A	(3057)
TA78M112	Samsung	μPC78M15		TA78112	National	LM340-12		TA79128	Toshiba	TA78005		TA79132	Signetics	74LS195A	
TA78M116	Sanyo	L78M15		TA78116	NEC	LM7812	TA79132	Unitrode	UC7805	TA79136	TI	μA7924			
TA78M120	SGS-Thomson	L78M15CV	(2961)	TA78120	SGS-Thomson	μPC7812 MC7812	(2960) (2960)	TA79136	National	μA79M08	(2960)	TA79136	Motorola	SN74LS195A	(3335)
TA78M124	TI	μA78M15		TA78124	TI	μA7812		TA79140	Motorola	MC7908		TA79144	TI	SN74LS195A	
TA78M128	Motorola	μA78M18		TA78128	SiliconG	SG340-12	TA79144	Samsung	LM7908	TA79148	MicronTech	MB81C74			
TA78M132	National	LM341-15	(2961)	TA78132	TI	SG7812A	(2960) (2960)	TA79148	SGS-Thomson	MC7908	(2960)	TA79148	Motorola	MT5C6404	(3335)
TA78M136	SGS-Thomson	LM342-15		TA78136	TI	SG7812AT		TA79152	SiliconG	L7908		TA79156	Toshiba	MT5C6405	
TA78M140	TI	LM78M15		TA78140	Unitrode	μA7812	TA79156	TI	SG7908	TA79160	Signetics	TMM55417			
TA78M144	Motorola	μA78M18	(2961)	TA78144	GoldStar	UC340-12	(2714) (2960)	TA79160	TI	μA79M08	(2960)	TA79160	Vitelco	V61C62	(3057)
TA78M148	Samsung	MC78M18		TA78148	IPS	UC7812		TA79164	GoldStar	μA7908		TA79168	GE/RCA	PA50800	
TA78M152	Sanyo	L78M18		TA78152	NEC	IP140-15	TA79168	National	LM7909	TA79172	GE/RCA	PA51400			
TA78M156	SGS-Thomson	LM78M18	(2961)	TA78156	SGS-Thomson	IP340-15	(2960) (2960)	TA79172	NEC	μPC7909	(2960)	TA79172	LSI Logic	PA52200	(2840)
TA78M160	TI	L78M18		TA78160	TI	IP7815AC		TA79176	SGS-Thomson	LM7909		TA79180	LSI Logic	PA53200	
TA78M164	Motorola	μA78M18		TA78164	Lambda	LAS1515	TA79180	TI	L7909	TA79184	GE/RCA	PA54200			
TA78M168	National	LM340-12	(2961)	TA78168	Motorola	LM340-12	(2960) (2961)	TA79184	TI	μA7909	(2714)	TA79184	GE/RCA	PA56000	(2840)
TA78M172	SGS-Thomson	SG7812		TA78172	National	SG7812A		TA79188	GoldStar	GL7912		TA79192	LSI Logic	LL7050	
TA78M176	TI	SG7812AT		TA78176	TI	μA7812	TA79192	IPS	IP320-12	TA79196	Raytheon	RL7050			
TA78M180	Motorola	μA78M18	(2961)	TA78180	NEC	μA7815	(2960) (2960)	TA79196	Motorola	μA79M12	(2960)	TA79196	Raytheon	RL7080	(2840)
TA78M184	National	LM341-15		TA78184	SGS-Thomson	LM7815		TA79200	GoldStar	IP7912		TA79204	Raytheon	RL7080	
TA78M188	SGS-Thomson	LM342-15		TA78188	TI	μPC7812 MC7812	TA79204	NEC	μPC7912	TA79208	Raytheon	IDT7140			
TA78M192	TI	L78M18	(2961)	TA78192	NEC	LM340-15	(2960) (2960)	TA79208	National	μA79M12	(2960)	TA79208	LSI Logic	LL7140	(2840)
TA78M196	Motorola	μA78M18		TA78196	SGS-Thomson	LM7815		TA79212	GoldStar	μA7912		TA79216	Raytheon	LL7140	
TA78M200	Samsung	MC78M18		TA78200	TI	μPC7815	TA79216	IPS	IP320-12	TA79220	LSI Logic	LL7220			
TA78M204	Sanyo	L78M18	(2961)	TA78204	NEC	LM340-15	(2960) (2960)	TA79220	SGS-Thomson	LM79M12	(2960)	TA79220	NEC	μPD7220A	(2840)
TA78M208	SGS-Thomson	LM78M18		TA78208	TI	SG7812A		TA79224	Motorola	IP7912		TA79228	Raytheon	RL7220	
TA78M212	TI	L78M18		TA78212	Unitrode	μA7812	TA79228	National	μA79M12	TA79232	Raytheon	RL7220			
TA78M216	Motorola	μA78M18	(2961)	TA78216	GoldStar	UC340-12	(2714) (2960)	TA79232	TI	μA79M12M	(2960)	TA79232	LSI Logic	LL7220	(2840)
TA78M220	National	LM78M18		TA78220	IPS	UC7812		TA79236	GoldStar	μA7912		TA79240	Raytheon	LL7220	
TA78M224	SGS-Thomson	LM78M20		TA78224	NEC	IP140-15	TA79240	NEC	LM7909	TA79244	Raytheon	μPD7220A			
TA78M228	TI	L78M20	(2961)	TA78228	SGS-Thomson	IP340-15	(2960) (2960)	TA79244	TI	L7909	(2960)	TA79244	Raytheon	RL7320	(2840)
TA78M232	Motorola	μA78M20		TA78232	TI	IP7815AC		TA79248	GoldStar	μA7909		TA79252	Raytheon	RL7320	
TA78M236	National	LM340-12		TA78236	Lambda	LAS1515	TA79252	IPS	IP320-12	TA79256	LSI Logic	LL7320			
TA78M240	SGS-Thomson	SG7812	(2961)	TA78240	Motorola	SG7812A	(2960) (2961)	TA79256	TI	μA7912	(2714)	TA79256	Raytheon	RL7320	(2960)
TA78M244	TI	SG7812AT		TA78244	National	μA7812		TA79260	GoldStar	IP7912		TA79264	Raytheon	RL7320	
TA78M248	Motorola	μA78M20		TA78248	TI	μA7815	TA79264	NEC	μPC7912	TA79268	Raytheon	RL7320			
TA78M252	National	LM340-5	(2959)	TA78252	SGS-Thomson	LM340-15	(2960) (2960)	TA79268	SGS-Thomson	LM79M12	(2960)	TA79268	LSI Logic	LL7600	(2960)
TA78M256	TI	LM7805		TA78256	TI	SG7815A		TA79272	NEC	μA7912		TA79276	Raytheon	LL7600	
TA78M260	SGS-Thomson	μPC7805		TA78260	TI	μA7815	TA79276	SGS-Thomson	LM7912	TA79280	Raytheon	LL71000			
TA78M264	Samsung	MC7805	(2959)	TA78264	TI	LM340-15	(2960) (2960)	TA79280	NEC	μA7912	(2960)	TA79280	Raytheon	RL71000	(2960)
TA78M268	TI	L78M24CV		TA78268	SGS-Thomson	LM7815		TA79284	SGS-Thomson	LM7912		TA79288	Raytheon	RL71000	
TA78M272	Motorola	μA78M24		TA78272	TI	μPC7815		TA79288	SGS-Thomson	LM7912		TA79292	Raytheon	RL71000	
TA78M276	GoldStar	GL7805	(2714)	TA78276	NEC	μA7815	(2960) (2960)	TA79292	TI	μA7912	(2960)	TA79292	Raytheon	RL71000	(2960)
TA78M280	IPS	IP7805		TA78280	SGS-Thomson	LM340-15		TA79296	GoldStar	μA7912		TA79296	Raytheon	RL71000	
TA78M284	Motorola	MC7805		TA78284	TI	LM340-15		TA79300	NEC	μA7912		TA79304	Raytheon	RL71000	
TA78M288	National	LM340-5	(2959)	TA78288	SGS-Thomson	SG7815	(2960) (2960)	TA79304	SGS-Thomson	μA7912	(2960)	TA79304	Raytheon	RL71000	(2960)
TA78M292	TI	LM7805		TA78292	TI	SG7815A		TA79308	SGS-Thomson	LM7912		TA79312	Raytheon	RL71000	
TA78M296	SGS-Thomson	μPC7805		TA78296	TI	LM340-15		TA79312	SGS-Thomson	LM7912		TA79316	Raytheon	RL71000	
TA78M300	Samsung	MC7805	(2959)	TA78300	TI	LM340-15	(2960) (2960)	TA79316	NEC	μA7912	(2960)	TA79316	Raytheon	RL71000	(2960)
TA78M304	TI	L78M24		TA78304	SGS-Thomson	LM7815		TA79320	SGS-Thomson	LM7912		TA79324	Raytheon	RL71000	
TA78M308	Motorola	μA78M24		TA78308	TI	μPC7815		TA79324	SGS-Thomson	LM7912		TA79328	Raytheon	RL71000	
TA78M312	GoldStar	GL7805	(2714)	TA78312	NEC	μA7815	(2960) (2960)	TA79328	TI	μA					

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Toshiba (Cont'd)				TC4009UB	GE/RCA	CD4009 (2637)		TC4015B	(Cont'd)			TC40162B	(Cont'd)		
TC40H004	GE/RCA	CD74HC04 (2639)			Motorola	MC14009			OKI	MSM4015			Motorola	MC140162B	
	Hitachi	HD74HC04			National	CD4009			Sanyo	LC4015			National	MC14162 (2942)	
	Motorola	MC74HC04 (2939)			SGS-Thomson				SGS-Thomson					CD40162	
	National	MM74HC04				HCC/HCF4009				HCC/HCF4015			SGS-Thomson	CD40162B	
	SGS-Thomson			TC4010B		Solitron	CM4009			Signetics	HEF4015			F40162	
		M74HC04			GE/RCA	CD4010 (2637)		TC4016B	GE/RCA	CD4016 (2639, 2653, 2655)				HCC/HCF40162	
		74HC04 (3057)			Motorola	MC14010				CM4015				HCC/HCF40162B	
	TI	SN74HC04			National	CD4010				HEF4015			Signetics	HEF40162	
TC4000B	Toshiba	TC74HC04A (3340)			SGS-Thomson				Motorola	MC14016 (2945)		TC40163	Toshiba	TC40162 (3341)	
	GE/RCA	CD4000 (2637)		TC40102		Solitron	CM4010			MC14066 (2945)			GE/RCA	CD40163 (2638)	
		CD4000B (2637)			SGS-Thomson					MC14066 (2945)				CD40163B (2638)	
	Motorola	MC14000 (2938)				HCC/HCF40102			National	CD4016			Motorola	MC140163B	
		MC14000B (2938)				HCC/HCF40102B				CD4066				MC14163 (2942)	
	National	CD4000		TC40102B	Toshiba	TC40102B (3341)				F4016			National	CD40163	
	SGS-Thomson	CD4000B			SGS-Thomson					LC4016				CD40163B	
		HCC/HCF4000				HCC/HCF40102			Sanyo	LC4066			SGS-Thomson	F40163	
		HCC/HCF4000B		TC40103	Toshiba	TC40102 (3341)				SGS-Thomson				HCC/HCF40163B	
	Signetics	HEF400			SGS-Thomson					HCC/HCF4016		TC40163B	Signetics	HEF40163	
	Solitron	CM4000				HCC/HCF40103				HCC/HCF4066			Toshiba	TC40163B (3341)	
TC4001B	Fujitsu	MB4001			Toshiba	TC40103B (3341)			Signetics	HEF4016			GE/RCA	CD40163 (2638)	
	GE/RCA	CD4001 (2637)		TC40103B	SGS-Thomson					HEF4066				CD40163B (2638)	
		CD4001UB (2637)				HCC/HCF40103			Solitron	CM4016			Motorola	MC140163B	
	Motorola	MC14001 (2938)				HCC/HCF40103B				CM4066			National	MC14163 (2942)	
		MC14001UB (2938)			Toshiba	TC40103 (3341)				HCF4016				CD40163B	
	National	CD4001		TC40104	SGS-Thomson				Toshiba	TC4066B (3341)				F40163	
		CD4001UB				HCC/HCF40104			Unitrode	PIC7516			SGS-Thomson	HCC/HCF40163B	
		F4001				HCC/HCF40104B			GE/RCA	CD40160 (2638)				HEF40163	
		MM74C02		TC40104B	SGS-Thomson				Motorola	MC14160 (2942)			Signetics	HEF40163	
	OKI	MSM4001				HCC/HCF40104				MC40160B		TC4017B	Toshiba	TC40163 (3341)	
	Sanyo	LC4001B				HCC/HCF40104B			National	CD40160			GE/RCA	CD4017 (2638)	
	SGS-Thomson				Toshiba	TC40104 (3341)				CD40160B			Motorola	MC14017 (2943)	
		HCC/HCF4001		TC40107B	SGS-Thomson					F40160			National	CD4017	
	Signetics	HEF4001				HCC/HCF40107			SGS-Thomson				SGS-Thomson	F4017	
TC4001UB	Solitron	CM4001		TC4011B	GE/RCA	CD4011 (2637)				HCC/HCF40160				HCC/HCF4017	
	Toshiba	TC4001UB (3341)			Motorola	MC14011 (2937)				HCC/HCF40160B			Signetics	HEF4017	
	Fujitsu	MB4001				MC14011UB (2937)			Signetics	HEF40160			Solitron	CM4017	
	GE/RCA	CD4001 (2637)				MC14011UB (2937)		TC40160B	Toshiba	TC40160B (3341)		TC40174	GE/RCA	CD40174B (2638)	
		CD4001UB (2637)			National	CD4011			GE/RCA	CD40160 (2638)			Motorola	MC140174B	
	Motorola	MC14001 (2938)				CD4011UB			Motorola	CD40160B (2638)				MC14174 (2942)	
		MC14001UB (2938)				F4011				MC40160B			National	CD40174B	
	National	CD4001				MM74C00			National	CD40160			SGS-Thomson	F40174B	
		CD4001UB				MSM4011				CD40160B				HCC/HCF40174	
		F4001			OKI	LC4011				F40160				HCC/HCF40174B	
		MM74C02			Sanyo				SGS-Thomson				Signetics	HEF40174	
	OKI	MSM4001			SGS-Thomson	HCC/HCF4011				HCC/HCF40160		TC40174B	Toshiba	TC40174B (3341)	
	Sanyo	LC4001B				HEF4011				HCC/HCF40160B			GE/RCA	CD40174B (2638)	
	SGS-Thomson				Signetics	CM4011				HEF40160			Motorola	MC140174B	
		HCC/HCF4001		TC4011UB	Toshiba	TC4011UB (3341)				TC40160 (3341)				MC14174 (2942)	
	Signetics	HEF4001			GE/RCA	CD4011 (2637)				CD40161 (2638)			National	CD40174B	
	Solitron	CM4001			Motorola	MC14011 (2937)				CD40161B (2638)				F40174B	
	Toshiba	TC4001B (3341)				MC14011UB (2937)			Motorola	MC14016B (2945)			SGS-Thomson	HCC/HCF40174	
	Fujitsu	MB4002				MC14011UB (2937)				MC14161 (2942)				HCC/HCF40174B	
	GE/RCA	CD4002 (2637)			National	CD4011				CD40161				HEF40174	
	Motorola	MC14002 (2938)				CD4011UB				CD40161B				TC40175B	
	National	CD4002				MM74C00				F40161				CD40175	
		F4002				MSM4011			Panasonic	MN40161				MC40175	
	SGS-Thomson					LC4011			SGS-Thomson					CD40175	
		HCC/HCF4002				HCC/HCF4011				HCC/HCF40161			National	CD40175	
	Signetics	HEF4002				HEF4011				HCC/HCF40161B				F40175	
	Solitron	CM4002				CM4011				HEF40161				MM54C175	
	GE/RCA	CD4006 (2638, 2653)				TC4011B (3341)		TC40161B	GE/RCA	CD40161 (2638)				MM74C175	
	Motorola	MC14006 (2944)				TC4011B (3341)		CD40161B (2638)	Motorola	MC14016B (2945)				HEF40175	
	National	CD4006				GE/RCA	CD4012 (2637)	MC14161 (2942)		MC14161 (2942)		TC40177B	GE/RCA	CD40117B (2637)	
		F4006				Motorola	MC14012 (2937)			CD40161		TC4018B	GE/RCA	CD4018 (2638)	
		F4006B				National	CD4012			CD40161B			Motorola	MC14018 (2943)	
	SGS-Thomson						F4012			F40161			National	CD4018	
		HCC/HCF4006				SGS-Thomson				MN40161			SGS-Thomson	F4018	
	Signetics	HEF4006					HCC/HCF4012			SGS-Thomson				HCC/HCF4018	
	Solitron	CM4006				Signetics	HEF4012			HCC/HCF40161			Signetics	HEF4018	
	GE/RCA	CD4007 (2637)		TC4013B	Solitron	CM4012				HCC/HCF40161B			Solitron	CM4018	
	Motorola	MC14007 (2939)			Motorola	MCM4027				HEF40161			GE/RCA	CD4019 (2637, 2639)	
	National	CD4007			National	M4027				TC40161 (3341)					
		F4007			STC	STC4027		TC40162	GE/RCA	CD40162 (2638)			National	CD4019	
	SGS-Thomson			TC4014B	GE/RCA	CD4014 (2638)				CD40162B (2638)				F4019	
		HCC/HCF4007			Motorola	MC14014 (2944)				MC140162B				F4019B	
	Signetics	HEF4007			National	CD4014			Motorola	MC14162 (2942)				MSM4019	
	Solitron	CM4007				F4014				National			OKI	LC4019	
	GE/RCA	CD4008 (2639)			SGS-Thomson					CD40162			Sanyo		
	Motorola	MC14008 (2947)				HCC/HCF4014				CD40162B			SGS-Thomson		
	National	CD4008				HEF4014				F40162				HCC/HCF4019	
		F4008				CM4014				SGS-Thomson			Signetics	HEF4019	
		MM74C83				CD4015 (2638)				HCC/HCF40162		TC40192B	Solitron	CM4019	
	SGS-Thomson					MC14015 (2944)				HEF40162			GE/RCA	CD40192 (2638)	
		HCC/HCF4008				CD4015			Signetics	HEF40162				CD4029 (2638)	
	Signetics	HEF4008				F4015			Toshiba	TC40162B (3341)			Motorola	MC14029 (2942)	
	Solitron	CM4008				MM74C164			GE/RCA	CD40162B (2638)			National	CD40192	
						(Continued)				CD40162B (2638)				CD4029	
										(Continued)				(Continued)	

• Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
Toshiba (Cont'd)				• TC4027	National	F4027 MM74C76 MSM4027 LC4027	(Cont'd)	TC4042B	GE/RCA Motorola National	CD4042 MC14042 CD4042 F4042	(2638) (2941)	TC4056B	Motorola SGS-Thomson	MC4056 HCC/HCF4056 HCC/HCF4056B	(Cont'd)	
TC40192B	National	F40192 F4029	(Cont'd)	• TC4027	OKI Sanyo SGS-Thomson	HCC/HCF4027 HCC/HCF4027B			SGS-Thomson	HCC/HCF4042						
	SGS-Thomson	HCC/HCF40192 HCC/HCF4029		• TC4027	Signetics Solitron	HEF4027 CM4027		TC4043B	Signetics Solitron	HEF4042 CM4042	(2638)	TC4063B	Toshiba Fujitsu GE/RCA SGS-Thomson	TC4056 MB4063 CD4063	(3341) (2639)	
TC40193B	Signetics	HEF40192		• TC4027	Signetics Solitron	HEF4027 CM4027			Motorola	MC14043 CD4043	(2941)			HCC/HCF4063		
	Soliton	CM4029		TC4027B	Toshiba GE/RCA	TC4027B CD4027	(3341) (2638)		SGS-Thomson	HCC/HCF4043		TC4066B	GE/RCA	CD4016 2653, 2655 CD4066	(2639) (2639) (2639)	
	Toshiba	TC4029B	(3341)		Motorola	MC14027 MC14027B			Signetics	HEF4043			Motorola	MC14016 2655, 2658 MC14066	(2639) (2945) (2945)	
	GE/RCA	CD40193	(2638)		National	CD4027 CD4027B		TC4044B	Signetics Solitron	HEF4043 CM4043	(2638)		National	CD4016 CD4066 F4016		
	National	CD40193 F40193 MM54C193 MM74C193			OKI Sanyo SGS-Thomson	CD4027 MM74C76 MSM4027 LC4027			SGS-Thomson	MC4044 F4044			Sanyo	F4066 LC4016 LC4066		
	SGS-Thomson	HCC/HCF40193			Signetics Soliton	HEF4027 CM4027			SGS-Thomson	HCC/HCF4044			SGS-Thomson	HCC/HCF4016 HCC/HCF4066		
TC40194B	Signetics	HEF40193		TC4028B	Signetics Soliton	HEF4027 CM4027	(2637)	TC4047B	Signetics Soliton	HEF4044 CM4044	(2638)	TC4068B	Signetics	HEF4016 HEF4066		
	GE/RCA	CD40194	(2638)		GE/RCA Motorola	CD4028 MC14028	(2637) (2945)		SGS-Thomson	CD4047 F4047			Soliton	CM4016 CM4066 HCF4016		
	Motorola	CD40194B	(2638)		National	CD4028 F4028			Signetics	HCC/HCF4047			Toshiba	TC4016B PIC7516	(3341)	
	National	MC140194B MC14194	(2944)		OKI Sanyo SGS-Thomson	MM74C42 MSM4028 LC4028		TC4049B	Signetics Soliton	HEF4047 CM4047	(2637) 2656		GE/RCA Motorola	CD4068 MC14068	(2637) (2937)	
	SGS-Thomson	HCC/HCF40194 HCC/HCF40194B			Signetics	HCC/HCF4028 HEF4028			Motorola	MC14049	(2939)		SGS-Thomson	F4068		
TC4020B	Signetics	HEF40194		TC4029B	Signetics Soliton	HEF4028 CM4028	(2638)		National	CD4049 F4049		TC4069UB	Signetics Soliton	HCC/HCF4068 HEF4068		
	GE/RCA	CD4020	(2638)		GE/RCA	CD40192 CD4029	(2638)		OKI	MSM4049 LC4049			GE/RCA Motorola	CD4069 MC14069	(2637) (2939)	
	Motorola	MC14020	(2943)		Motorola	MC14029 CD40192	(2942)		SGS-Thomson	HCC/HCF4049			National	CD4069 F4069		
	National	CD4020 F4020			National	CD40192 CD4029		TC4050B	Signetics Soliton	HEF4049 CM4049	(2637) 2656		OKI Sanyo SGS-Thomson	MM54C04 MM74C04 MSM4069 LC4069		
	SGS-Thomson	HCC/HCF4020			SGS-Thomson	F40192 F4029			Motorola	MC14050	(2939)			HCC/HCF4069		
TC4021B	Signetics	HEF4020			Signetics	HCC/HCF40192 HCC/HCF4029			National	CD4050 F4050		TC4071B	Signetics Soliton	HEF4069 CM4069		
	Soliton	CM4020			Signetics	HEF40192 CM4029	(3341)		SGS-Thomson	HCC/HCF4050			GE/RCA	CD4071 CD4071B	(2637) (2637)	
	GE/RCA	CD4021	(2638)	TC4030B	Toshiba GE/RCA	TC40192B CD4030	(2637) 2639		Signetics	HEF4050			Motorola	MC14071 MC14071B	(2937) (2937)	
	Motorola	MC14021	(2943)		National	CD4030 F4030		TC4051B	Soliton	CM4050			National	CD4071 CD4071B		
	National	CD4021 F4021			SGS-Thomson	HCC/HCF4030			GE/RCA	CD4051 F4051	(2639) 2655, 2658			F4071		
	SGS-Thomson	HCC/HCF4021			Signetics	HEF4030 CM4030	(2639)		Motorola	MC14051	(2945)			MM74C32		
TC4022B	Signetics	HEF4021		TC4032B	GE/RCA Motorola	CD4032 MC14032	(2639) (2947)		SGS-Thomson	HCC/HCF4051			OKI Sanyo SGS-Thomson	MSM4071 LC4071		
	GE/RCA	CD4022	(2638)		SGS-Thomson	HCC/HCF4032		TC4052B	Signetics	HEF4051				HCC/HCF4071		
	Motorola	MC14022	(2943)		Soliton	CM4032			Soliton	CM4051		TC4072B	Signetics Soliton	HEF4071 CM4071		
	National	CD4022 F4022		TC4034B	Motorola	MC14034	(2943)	TC4053B	Harris	HI1828A			Motorola	MB4072		
	SGS-Thomson	HCC/HCF4022			National	CD4034 F4034			Motorola	MC14052	(2945)		SGS-Thomson	CD4072		
TC4023	Signetics	HEF4022			SGS-Thomson	HCC/HCF4034			GE/RCA	CD4053	(2639) 2655, 2658			GE/RCA	CD4072	(2637)
	Soliton	CM4022			Signetics	HEF4034 CM4034	(2638)		National	CD4053 F4053			Motorola	CD4072B	(2637)	
	GE/RCA	CD4023	(2637)	TC4035B	Soliton	CM4034 CD4035	(2638)		SGS-Thomson	HCC/HCF4053			National	MC14072	(2937)	
	Motorola	MC14023	(2937)		Motorola	MC14035B	(2944)	TC4054B	Signetics Soliton	HEF4053 CM4053	(2639) 2653, 2656			CD4072		
	National	CD4023 F4023 MM74C10			National	CD4034 F4034			GE/RCA	CD4054	(2639) 2653, 2656		TC4073B	NEC	µPC4072	
	SGS-Thomson	HCC/HCF4023			SGS-Thomson	HCC/HCF4035			SGS-Thomson	HCC/HCF4054			SGS-Thomson	HCC/HCF4072		
TC4023B	Signetics	HEF4023			Signetics	HEF4035 CM4035	(2639)	TC4055B	SGS-Thomson	HCC/HCF4054		TC4076B	Signetics GE/RCA Motorola	HEF4072 CD4073 MC14073	(2637) (2637) (2937)	
	Soliton	CM4023			Soliton	CM4036			SGS-Thomson	CD4055	(2639) 2653, 2656			F4073		
	Toshiba	TC4023B	(3341)	TC4038B	GE/RCA Motorola	CD4038 MC14038	(2639) (2947)		SGS-Thomson	HCC/HCF4055			SGS-Thomson	HCC/HCF4073		
	GE/RCA	CD4023	(2637)		SGS-Thomson	HCC/HCF4038		TC4056	GE/RCA	CD4056	(2639) 2653, 2656			HEF4073		
	Motorola	MC14023	(2937)		Signetics	HEF4038 CM4038	(2638)			CD4056B	(2639) 2653, 2656		TC4075B	Signetics Soliton	HEF4073 CM4073	
	National	CD4023 F4023 MM74C10			Soliton	CM4039			Motorola	MC4056			GE/RCA	CD4075	(2637)	
	SGS-Thomson	HCC/HCF4023		TC4039B	Soliton	CM4039			SGS-Thomson	HCC/HCF4056			Motorola	MC14075	(2937)	
TC4024B	Signetics	HEF4023			GE/RCA	CD4040	(2638)	TC4054B	Signetics Soliton	HEF4053 CM4053	(2639) 2653, 2656			National	CD4075 F4075	
	Soliton	CM4024			Motorola	MC14040	(2943)		SGS-Thomson	HCC/HCF4056B			SGS-Thomson	HCC/HCF4075		
	Toshiba	TC4024	(3341)	TC4040B	National	CD4040 F4040		TC4056B	Toshiba GE/RCA	TC4056B CD4056	(3341) (2639) 2653, 2656			SGS-Thomson	HCC/HCF4075	
	GE/RCA	CD4024	(2638)		SGS-Thomson	HCC/HCF4040				CD4056B	(2639) 2653, 2656		TC4076B	Signetics Soliton	HEF4075 CM4075	(2637) (2638)
	Motorola	MC14024	(2943)		Signetics	HEF4040 CM4040	(Continued)			CD4056B	(2639) 2653, 2656			Motorola	MC14076	(2942)
	National	CD4024 MC4024 F4024			SGS-Thomson	HCC/HCF4040				(Continued)				(Continued)		
	SGS-Thomson	HCC/HCF4024			Signetics	HEF4040										
TC4025B	Signetics	HEF4024			Soliton	CM4040										
	Soliton	CM4024			SGS-Thomson	HCC/HCF4040										
	GE/RCA	CD4025	(2637)		Signetics	HEF4040										
	Motorola	MC14025	(2938)		Soliton	CM4040										
	National	CD4025 F4025			SGS-Thomson	HCC/HCF4040										
	SGS-Thomson	HCC/HCF4025			Signetics	HEF4040										
• TC4027	Signetics	HEF4025			Soliton	CM4040										
	Soliton	CM4025			SGS-Thomson	HCC/HCF4040										
	GE/RCA	CD4027	(2638)		Signetics	HEF4040										
	Motorola	MC14027			Soliton	CM4040										
	National	MC14027B CD4027 CD4027B			SGS-Thomson	HCC/HCF4040										
	(Continued)				Signetics	HEF4040										
• TC4027	National	CD4027 CD4027B			Soliton	CM4040										
	(Continued)				(Continued)											

• Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Toshiba (Cont'd)				TC4094B	GE/RCA	CD4094B (2638, 2656, 2658)		TC4519B	GE/RCA	CD4519B (2938, 2944)		TC4556B	GE/RCA	CD4556 (2637, 2639)	
TC4076B	National	CD4076 F4076 MM54C173 MM74C173	(Cont'd)		Motorola	MC14094 (2944)			Motorola	MC14519 (2938, 2944)			Motorola	MC14556 (2945)	
	SGS-Thomson	HCC/HCF4076			National	CD4094B			National	CD4519			National	F4556	
TC4077B	Signetics	HEF4076		TC4099B	Signetics	HCC/HCF4094		TC4520B	Signetics	HEF4519		TC4560B	Signetics	HEF4556	
	Solitron	CM4076			GE/RCA	CD4099B (2638)			Gould/AMI	S4520			Exar	XR4560	
	GE/RCA	CD4077 (2637, 2639)			Motorola	MC14099 (2941)			Motorola	MC14520 (2942)			NEC	μPC4560	
		CD4077B (2637, 2639)			National	CD4099B			National	CD4520		TC4561B	Motorola	MC14561 (2947)	
	Motorola	MC14077 (2938)			SGS-Thomson	HCC/HCF4099			OKI	MSM4520		TC4572B	Motorola	MC14572 (2938)	
		MC14077B (2938)		TC4502B		HCC/HCF4099B			Sanyo	LC4520		TC4583B	Motorola	MC14583 (2940)	
	National	CD4077 F4077			GE/RCA	CD4502 (2637)			SGS-Thomson	HCC/HCF4520		TC4584B	GE/RCA	CD40106 (2637, 2653)	
	Raytheon	RC4077 (3024)			Motorola	MC14502 (2939)				HEF4520			Motorola	CD4584B	
	SGS-Thomson	HCC/HCF4077				MC14502B (2939)		TC4521B		Solitron	CM4520			MC14106 (2940)	
		HCC/HCF4077B							GE/RCA	CD4521B (2638)				MC14584 (2940)	
TC4078B	Signetics	HEF4077							Motorola	MC14521 (2946)			National	CD40106	
	Solitron	CM4077			Signetics	HCC/HCF4502			National	F4521				CD4584	
	GE/RCA	CD4078 (2637)		TC4503B	Unicorn	UC4502			SGS-Thomson	HCC/HCF4045				F400014	
	Motorola	MC14078 (2938)			GE/RCA	CD4503 (2637)		TC4522B	Signetics	HEF4521				MM54C14	
	National	F4078			Motorola	MC14503 (2939)			Solitron	CM4045				MM74C14	
	SGS-Thomson	HCC/HCF4078			National	CD4503			Motorola	MC14522B (2943)					
		HEF4078				F40097B			National	CD4522					
TC4081B	Signetics	HEF4078			SGS-Thomson	HCF4503		TC4526B		CD4522B		TC4585B	Signetics	HCC/HCF40106	
	Solitron	CM4078			GE/RCA	CD4508 (2638)			Motorola	MC14526 (2943)			GE/RCA	CD4585 (2639)	
	GE/RCA	CD4081 (2637)			Motorola	MC14508 (2941)			National	CD4526			Motorola	MC14585 (2946)	
	Motorola	MC14081 (2937)								F4526			National	F40085	
	National	CD4081				HCC/HCF4508			Signetics	HEF4526				MM74C85	
		F4081						TC4527B		CD4527 (2639)					
	NEC	μPC4081			Signetics	HEF4508			GE/RCA	CD4527 (2947)					
	OKI	MSM4081		TC4510B	Motorola	MC14510 (2942)			Motorola	CD4527		TC511000	Signetics	HEF4585	
	Sanyo	LC4081			National	CD4510			National	F4527			Dense-Pac	DPD411M (2608)	
	SGS-Thomson	HCC/HCF4081				F4510			SGS-Thomson	HCC/HCF4527			Fujitsu	MB81C1000	
		HEF4081			SGS-Thomson	HCC/HCF4510				HEF4527				TH22568	
TC4082B	Signetics	HEF4081			Signetics	HEF4510		TC4528B	Signetics	HEF4527			GoldStar	GM7C1024	
	Solitron	CM4081			Solitron	CM4510			Motorola	MC14528			Hitachi	HB561003	
	GE/RCA	CD4082 (2637)			GE/RCA	CD4511 (2656, 2658)			National	CD4528				HM511000	
	Motorola	MC14082 (2937)			Motorola	MC14511 (2946, 2985)				F4528				HM51101	
	National	CD4082								MM74C221				HM51102	
		F4082							SGS-Thomson	HCC/HCF4098				HM561003	
	NEC	μPC4082				CD4511			Signetics	HEF4528			Hyundai	HY51C1000 (2778)	
	SGS-Thomson	HCC/HCF4082			National	F4511		TC4530B	Motorola	MC14530B (2938)				HY51C1002 (2778)	
		HEF4082			SGS-Thomson	μPD4511		TC4531B	Motorola	MC14531 (2947)			MicronTech	MT1259	
TC4085	Signetics	HCC/HCF4085				HCC/HCF4511			National	F4531			Mitsubishi	MT4C1024	
	SGS-Thomson	HCC/HCF4085B			Signetics	HEF4511			SGS-Thomson	HCC/HCF40101				MH25608	
		HEF4085			Solitron	CM4511			Signetics	HEF4531				MH25609	
	Toshiba	TC4085B (3341)		TC4512B	GE/RCA	CD4512 (2653)			GE/RCA	CD4532 (2637)				M5M4C1000	
	SGS-Thomson	HCC/HCF4085			Motorola	MC14512 (2944)			Motorola	MC14532 (2946)			Motorola	M5M410000	
		HCC/HCF4085B			National	CD4512			National	F4532			Motorola	M5M410000	
	Signetics	HEF4085				F4512		TC4532B		HCC/HCF4532			Motorola	MCM511000	
TC4085B	Signetics	HEF4085			SGS-Thomson	HCC/HCF4512			SGS-Thomson	HEF4532			NEC	μPD421000	
	Toshiba	TC4085 (3341)		TC4514B	GE/RCA	CD4514 (2637)			Signetics	HEF4532				MC421000	
	GE/RCA	CD4086B (2637)			Motorola	MC14514 (2945)			GE/RCA	CD14538B			OKI	MSM41000	
	Motorola	MC14506 (2938)			National	CD4514		TC4538B		CD14538B			Panasonic	MN411000	
	SGS-Thomson	HCC/HCF4086				F4514			Motorola	MC14538 (2638, 2653)			Samsung	KM41C1000	
		HCC/HCF4086B								MC14538B (2946)				KM41256A (3036)	
	Signetics	HEF4086B			Signetics	HEF4514			National	CD4538			Siemens	HYB511000	
TC4093	GE/RCA	CD4093B (2637)			Solitron	CM4514				CD4538B			TI	TM54C1024 (3326)	
	Motorola	MC14093 (2937, 2940)		TC4515B	GE/RCA	CD4515 (2637)			Motorola	MC14538B (2946)				TMX4C1025	
		MC14093B (2937, 2940)			Motorola	MC14515 (2945)				CD4538B				TMX4C1026	
	National	CD4093B			National	CD4515			OKI	MSM4538				TMX4C1029	
	SGS-Thomson	F4093B				F4515			SGS-Thomson	HCC/HCF4538B				TM4256FC1	
		HCC/HCF4093			Signetics	HCC/HCF4515		TC4539B		HEF4538				TM5256	
		HCC/HCF4093B			Solitron	CM4515			Signetics	HEF4538				TX4C1024	
	Signetics	HEF4093		TC4516B	GE/RCA	CD4516 (2638)			Motorola	MC14539 (2944)			Toshiba	TC511000C	
TC4093B	Toshiba	TC4093B (3341)			Motorola	MC14516 (2942)			National	F4539				TC511001C	
	GE/RCA	CD4093B (2637)			National	CD4516			Signetics	HEF4539				TMM411001C	
	Motorola	MC14093 (2937, 2940)				F4516		TC4543B	Motorola	MC14543 (2639, 2653, 2656)				DPD411M (2608)	
		MC14093B (2937, 2940)			SGS-Thomson	HCC/HCF4516				MC14543B (2946, 2985)				MB81C1000	
	National	CD4093B			Signetics	HEF4516				CD4543				GM7C1024	
	SGS-Thomson	F4093B		TC4518B	GE/RCA	CD4518 (2638)			National	CD4543				HB561003	
		HCC/HCF4093			Motorola	MC14518 (2942)			Signetics	HEF4543				HM511000	
		HCC/HCF4093B							GE/RCA	CD4555 (2637, 2639)				HM51101	
	Signetics	HEF4093			SGS-Thomson	HCC/HCF4518		TC4555B	Motorola	MC14555 (2945)				HM51102	
	Toshiba	TC4093 (3341)			Signetics	HEF4518			National	F4555				HM561003	
					Solitron	CM4518			SGS-Thomson	HCC/HCF4555			Hyundai	HY51C1000 (2778)	
														HY51C1002 (2778)	
													MicronTech	MT1259	
														MT4C1024	
														MH25608	
														MH25609	
														M5M4C1000	
														M5M410000	
														M5M410000	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
Toshiba (Cont'd)				(Cont'd)				TC74HCT640A				TC74HC10A (Cont'd)					
TC74HCT138A																	
	CTI	74HCT138		Hitachi	HD74HCT373			GE/RCA	CD74HCT640	(2641)			National	MM74HC10	(Cont'd)		
	GE/RCA	CD74HCT138	(2640)	Micrel	MIC74HCT373				Hitachi	HD74HCT640			SGS-Thomson	M74HC10			
	National	MM74HCT138		Motorola	MC74HCT373				Motorola	MC74HCT640			Signetics	74HC10	(3057)		
	Plessey	MV74HCT138		National	MM74HCT373				National	MM74HCT640			TI	SN74HC10			
	SGS-Thomson	M74HCT138		Plessey	MV74HCT373				SGS-Thomson	M74HCT640			GE/RCA	CD74HC107	(2640)		
		74HCT138	(3057)	SGS-Thomson	M74HCT373				Signetics	74HCT640	(3057)			Hitachi	HD74HC107		
	Signetics	74HCT138	(3057)	Supertex	74HCT373	(3057)			TI	SN74HCT640			Motorola	MC74HC107	(2941)		
	TI	SN74HCT138		TI	SN74HCT373				GE/RCA	CD74HCT643	(2641)			National	MM74HC107		
TC74HCT240A				TC74HCT374A													
	CTI	74HCT240			CTI	74HCT374			Motorola	MC74HCT643							
	GE/RCA	CD74HCT240	(2640)		CMD Micro	G74SC374			SGS-Thomson	M74HCT643				Signetics	74HC107	(3057)	
	Hitachi	HD74HCT240			GE/RCA	CD74HCT374	(2641, 2653)			M74HCT643				TI	SN74HC107		
	Micrel	MIC74HCT240			Hitachi	HD74HCT374			Signetics	74HCT643	(3057)			GE/RCA	CD74HC109	(2640)	
	Motorola	MC74HCT240			Micrel	MIC74HCT374			TI	SN74HCT643							
	National	MM74HCT240			Motorola	MC74HCT374								Hitachi	HD74HC109		
	Plessey	MV74HCT240			National	MM74HCT374			GE/RCA	CD74HCT646	(2641)			Motorola	MC74HC109	(2941)	
	Samsung	74HCT240			Plessey	MV74HCT374			SGS-Thomson	M74HCT646				National	MM74HC109		
	SGS-Thomson	M74HCT240			SGS-Thomson	MV74SC374				74HCT646	(3057)			SGS-Thomson	M74HC109		
		74HCT240	(3057)			M74HCT374			Signetics	74HCT646	(3057)			Signetics	74HC109	(3057)	
	Signetics	74HCT240	(3057)		Supertex	74HCT374	(3057)			TI	SN74HCT646			TI	SN74HC109		
	Supertex	74HCT240			TI	SN74HCT374								GE/RCA	CD74HC111	(2640)	
	TI	SN74HCT240			CTI	74HCT540			SGS-Thomson	M74HCT648	(2641)			Hitachi	HD74HC111		
TC74HCT241A				TC74HCT540										Motorola	MC74HC111	(2937)	
	CTI	74HCT241			GE/RCA	CD74HCT540	(2641)			TI	SN74HCT648			National	MM74HC111		
	GE/RCA	CD74HCT241	(2640)		Micrel	MIC74HCT540			Signetics	74HCT648	(3057)			SGS-Thomson	M74HC111		
	Hitachi	HD74HCT241			Motorola	MC74HCT540			TI	SN74HCT648					Signetics	74HC111	(3057)
	Micrel	MIC74HCT241			National	MM74HCT540			GE/RCA	CD74HCT651				TI	SN74HC111		
	Motorola	MC74HCT241			Plessey	MV74HCT540			SGS-Thomson	MC74HCT651				GE/RCA	CD74HC112	(2640)	
	National	MM74HCT241			SGS-Thomson	M74HCT540			TI	SN74HCT651				Hitachi	HD74HC112		
	Plessey	MV74HCT241			Signetics	74HCT540	(3057)		GE/RCA	CD74HCT652				Motorola	MC74HC112	(2941)	
	Samsung	74HCT241			TI	SN74HCT540			SGS-Thomson	MC74HCT652				National	MM74HC112		
	SGS-Thomson	M74HCT241			CTI	74HCT541			TI	SN74HCT652				SGS-Thomson	M74HC112		
		74HCT241	(3057)		GE/RCA	CD74HCT541	(2641)		GE/RCA	CD74HCU04	(2642, 2649)			Signetics	74HC112	(3057)	
	Signetics	74HCT241	(3057)		Micrel	MIC74HCT541			Motorola	MC74HCU04	(2939)			TI	SN74HC112		
	Supertex	74HCT241			Motorola	MC74HCT541								GE/RCA	CD74HC113		
	TI	SN74HCT241			National	MM74HCT541			National	MM74HCU04				Hitachi	HD74HC113		
TC74HCT244A					Plessey	MV74HCT541			SGS-Thomson	M74HCU04				Motorola	MC74HC113	(2941)	
	CTI	74HCT244			SGS-Thomson	M74HCT541			Signetics	74HCU04				National	MM74HC113		
	GE/RCA	CD74HCT244	(2640, 2653)		Signetics	74HCT541	(3057)		TI	SN74HCU04				SGS-Thomson	M74HC113		
	Hitachi	HD74HCT244			Supertex	74HCT541			GE/RCA	CD74HC00	(2639, 2653)			Signetics	74HC113		
	Micrel	MIC74HCT244			TI	SN74HCT541			Hitachi	HD74HC00				TI	SN74HC113		
	Motorola	MC74HCT244			CTI	74HCT563			Motorola	MC74HC00	(2937)			GE/RCA	CD74HC123	(2640)	
	National	MM74HCT244			GE/RCA	CD74HCT563	(2641)		SGS-Thomson	M74HC00				Hitachi	HD74HC123		
	Plessey	MV74HCT244				MIC74HCT563			TI	SN74HC00				Motorola	MC74HC123A		
	Samsung	74HCT244			National	MM74HCT563			Signetics	74HC00	(3057)			National	MM74HC123		
	SGS-Thomson	M74HCT244			Plessey	MV74HCT563			GE/RCA	CD74HC02	(2639)			SGS-Thomson	M74HC123		
		74HCT244	(3057)		SGS-Thomson	M74HCT563			Hitachi	HD74HC02				Signetics	74HC123	(3057)	
	Signetics	74HCT244	(3057)		TI	SN74HCT563	(3057)		TI	SN74HC02				TI	SN74HC123		
	Supertex	74HCT244			TI	SN74HCT563			GE/RCA	CD74HC02	(2639)			GE/RCA	CD74HC125	(2640)	
	TI	SN74HCT244			CTI	74HCT564			Motorola	MC74HC02	(2938)			Hitachi	HD74HC125		
TC74HCT245				TC74HCT564					National	MM74HC02				Motorola	MC74HC125	(2939)	
	CTI	74HCT245			GE/RCA	CD74HCT564	(2641)		SGS-Thomson	M74HC02				National	MM74HC125		
	CMD Micro	G74SC245				MIC74HCT564			Signetics	74HC02	(3057)			SGS-Thomson	M74HC125		
	GE/RCA	CD74HCT245	(2640, 2653)		National	MM74HCT564			GE/RCA	CD74HC03	(2639)				Signetics	74HC125	(3057)
	Hitachi	HD74HCT245			Plessey	MV74HCT564			Motorola	MC74HC03	(2937)			TI	SN74HC125		
	Micrel	MIC74HCT245			SGS-Thomson	M74HCT564			National	MM74HC03				GE/RCA	CD74HC126	(2640)	
	Motorola	MC74HCT245				74HCT564	(3057)		SGS-Thomson	M74HC03				Hitachi	HD74HC126		
	National	MM74HCT245			Signetics	74HCT564			TI	SN74HC03				Motorola	MC74HC126	(2939)	
	Plessey	MV74HCT245			TI	SN74HCT564			GE/RCA	CD74HC04	(2639)			National	MM74HC126		
	SGS-Thomson	MV74SC245			CTI	74HCT573			Motorola	MC74HC04	(2937)			SGS-Thomson	M74HC126		
		M74HCT245			GE/RCA	CD74HCT573	(2641)		National	MM74HC04				Signetics	74HC126	(3057)	
		74HCT245	(3057)			MIC74HCT573			Signetics	74HC03	(3057)			GE/RCA	CD74HC132	(2640)	
	Signetics	74HCT245	(3057)		National	MM74HCT573			TI	SN74HC04				Hitachi	HD74HC132		
	Supertex	74HCT245			Plessey	MV74HCT573			GE/RCA	CD74HC04	(2639)			Motorola	MC74HC132	(2937, 2940)	
	TI	SN74HCT245			SGS-Thomson	M74HCT574			Motorola	MC74HC08	(2937)			National	MM74HC132		
	Toshiba	TC74HCT245A				74HCT574	(2641)		National	MM74HC08				SGS-Thomson	M74HC132		
TC74HCT245A				TC74HCT573					Signetics	74HC03	(3057)			Signetics	74HC132	(3057)	
	CTI	74HCT245			GE/RCA	CD74HCT573	(2641)		TI	SN74HC03				TI	SN74HC132		
	CMD Micro	G74SC245				MIC74HCT573			GE/RCA	CD74HC04	(2639)			GE/RCA	CD74HC133		
	GE/RCA	CD74HCT245	(2640, 2653)		National	MM74HCT573			Hitachi	HD74HC04				Motorola	MC74HC133	(2937)	
	Hitachi	HD74HCT245			Plessey	MV74HCT573			Motorola	MC74HC04				National	MM74HC133		
	Micrel	MIC74HCT245			SGS-Thomson	M74HCT574			SGS-Thomson	M74HC04					(Continued)		
	Motorola	MC74HCT245				74HCT573	(3057)		Signetics	74HC04	(3057)						
	National	MM74HCT245			Signetics	74HCT573			TI	SN74HC04							
	Plessey	MV74HCT245			Supertex	74HCT573			Toshiba	TC40HC04				Hitachi	HD74HC132		
	SGS-Thomson	MV74SC245			TI	SN74HCT573			GE/RCA	CD74HC08	(2639)			Motorola	MC74HC132	(2937, 2940)	
		M74HCT245			CTI	74HCT574			Hitachi	HD74HC08				National	MM74HC132		
		74HCT245	(3057)		GE/RCA	CD74HCT574	(2641)		Motorola	MC74HC08	(2937)			SGS-Thomson	M74HC132		
	Signetics	74HCT245	(3057)			MIC74HCT574			National	MM74HC08				Signetics	74HC132	(3057)	
	Supertex	74HCT245			National	MM74HCT574			Signetics	74HC08	(3057)			TI	SN74HC132		
	TI	SN74HCT245			Plessey	MV74HCT574			TI	SN74HC08				GE/RCA	CD74HC133		
	Toshiba	TC74HCT245A			SGS-Thomson	M74HCT574			GE/RCA	CD74HC10	(2640)			Motorola	MC74HC133	(2937)	
TC74HCT373				TC74HCT574					Hitachi	HD74HC10				National	MM74HC133		
	CTI	74HCT373			GE/RCA	CD74HCT574	(2641, 2653)			Motorola	MC74HC10	(2937)			(Continued)		
	CMD Micro	G74SC373				MIC74HCT574											
	GE/RCA	CD74HCT373	(2641, 2653)		National	MM74HCT574											
		(Continued)															

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Toshiba (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
TC74HC133A	SGS-Thomson	(Cont'd)		TC74HC155	TI	SN74HC155		TC74HC166A	SGS-Thomson	M74HC166		TC74HC194	Signetics	74HC194	(3057)
	TI	M74HC133		Toshiba	TC74HC155A		(3340)		Signetics	74HC166	(3057)	TC74HC195	GE/RCA	74HC194	(3057)
TC74HC137A	GE/RCA	CD74HC137	(2640)	TC74HC155A	Motorola	MC74HC155		TC74HC173	TI	SN74HC166			Hitachi	HD74HC195	
	Hitachi	HD74HC137			National	MM74HC155			GE/RCA	CD74HC173	(2640)		Motorola	MC74HC195	(2944)
	Motorola	MC74HC137	(2945)		SGS-Thomson	MC74HC155			Hitachi	HD74HC173			National	MM74HC195	
	National	MM74HC137			TI	M74HC155			Motorola	MC74HC173	(2942)		SGS-Thomson	M74HC195	
	SGS-Thomson	M74HC137		TC74HC157A	Toshiba	TC74HC155	(3340)		National	MM74HC173		TC74HC20A	Signetics	74HC195	(3057)
	Signetics	74HC137	(3057)		GE/RCA	CD74HC157	(2640, 2653)		SGS-Thomson	M74HC173			TI	SN74HC195	
TC74HC138A	TI	SN74HC137			Hitachi	HD74HC157		TC74HC174A	GE/RCA	CD74HC174	(2640)		GE/RCA	CD74HC20	(2640)
	GE/RCA	CD74HC138	(2640)		Motorola	MC74HC157	(2944)		Hitachi	HD74HC174			Hitachi	HD74HC20	
	Hitachi	HD74HC138			National	MM74HC157			Motorola	MC74HC174	(2942)		Motorola	MC74HC20	(2937)
	Motorola	MC74HC138	(2945)		SGS-Thomson	M74HC157			National	MM74HC174			National	MM74HC20	
	National	MM74HC138		TC74HC158A	Signetics	74HC157	(3057)		SGS-Thomson	M74HC174		TC74HC21A	GE/RCA	CD74HC21	(2640)
	SGS-Thomson	M74HC138			TI	SN74HC157		TC74HC175A	Signetics	74HC174	(3057)		Hitachi	HD74HC21	
	Signetics	74HC138	(3057)		GE/RCA	CD74HC158	(2640)		TI	SN74HC174			Motorola	MC74HC21	
TC74HC139A	TI	SN74HC138			Hitachi	HD74HC158			GE/RCA	CD74HC175	(2640)		SGS-Thomson	M74HC21	
	GE/RCA	CD74HC139	(2640)		Motorola	MC74HC158	(2944)		Hitachi	HD74HC175		TC74HC221	Signetics	74HC21	(3057)
	Hitachi	HD74HC139			National	MM74HC158			Motorola	MC74HC175	(2942)		TI	SN74HC21	
	Motorola	MC74HC139	(2945)		SGS-Thomson	M74HC158			National	MM74HC175			GE/RCA	CD74HC221	(2640)
	National	MM74HC139		TC74HC160A	Signetics	74HC158	(3057)		SGS-Thomson	M74HC175			Hitachi	HD74HC221	
	SGS-Thomson	M74HC139			TI	SN74HC158		TC74HC181	Signetics	74HC175	(3057)		Motorola	MC74HC221A	
	Signetics	74HC139	(3057)		GE/RCA	CD74HC160	(2640)		TI	SN74HC175			National	MM74HC221A	
TC74HC14A	GE/RCA	CD74HC139	(3057)		Motorola	MC74HC160	(2942)		GE/RCA	CD74HC181	(2640)		SGS-Thomson	M74HC221	
	Hitachi	HD74HC14			National	MM74HC160			Motorola	MC74HC181		TC74HC237A	Signetics	74HC221	(3057)
	Motorola	MC74HC14	(2940)		SGS-Thomson	M74HC160			National	MM74HC181			TI	SN74HC221	
	National	MM74HC14		TC74HC161A	Signetics	74HC160	(3057)		SGS-Thomson	M74HC181			GE/RCA	CD74HC237	(2640)
	SGS-Thomson	M74HC14			TI	SN74HC160		TC74HC182	Signetics	74HC181	(3057)		Motorola	MC74HC237	(2945)
	Signetics	74HC14	(3057)		GE/RCA	CD74HC161	(2640)		TI	SN74HC181			National	MM74HC237	
TC74HC147	TI	SN74HC14			Hitachi	HD74HC161			GE/RCA	CD74HC182	(2640)		SGS-Thomson	M74HC237	
	GE/RCA	CD74HC147	(2640)		Motorola	MC74HC161	(2942)		Motorola	MC74HC182		TC74HC238A	Signetics	74HC237	
	Hitachi	HD74HC147			National	MM74HC161			National	MM74HC182			TI	SN74HC237	
	Motorola	MC74HC147		TC74HC162A	Signetics	74HC161	(3057)		SGS-Thomson	M74HC182			GE/RCA	CD74HC238	(2640)
	National	MM74HC147			TI	SN74HC161		TC74HC190	Signetics	74HC182	(3057)		Motorola	MC74HC238	
	SGS-Thomson	M74HC147			GE/RCA	CD74HC162	(2640)		TI	SN74HC182			National	MM74HC238	
	Signetics	74HC147	(3057)		Hitachi	HD74HC162			GE/RCA	CD74HC190	(2640)		SGS-Thomson	M74HC238	
TC74HC148	TI	SN74HC147			Motorola	MC74HC162	(2942)		Hitachi	HD74HC190		TC74HC240A	Signetics	74HC238	(3057)
	Hitachi	HD74HC148			National	MM74HC162			Motorola	MC74HC190			TI	SN74HC238	
	SGS-Thomson	M74HC148		TC74HC163A	Signetics	74HC162	(3057)		National	MM74HC190			GE/RCA	CD74HC240	(2640)
	TI	SN74HC148			TI	SN74HC162		TC74HC191	Signetics	74HC190	(3057)		Hitachi	HD74HC240	
TC74HC151A	GE/RCA	CD74HC151	(2640)		GE/RCA	CD74HC163	(2640)		TI	SN74HC190			Motorola	MC74HC240	(2939)
	Hitachi	HD74HC151			Hitachi	HD74HC163			GE/RCA	CD74HC191	(2640)		National	MM74HC240	
	Motorola	MC74HC151	(2944)		Motorola	MC74HC163	(2942)		Hitachi	HD74HC191		TC74HC241A	Signetics	74HC240	
	National	MM74HC151			National	MM74HC163			Motorola	MC74HC191			TI	SN74HC240	
	SGS-Thomson	M74HC151		TC74HC164A	Signetics	74HC163	(3057)		SGS-Thomson	M74HC191			GE/RCA	CD74HC241	(2640)
	Signetics	74HC151	(3057)		TI	SN74HC163		TC74HC192A	Signetics	74HC191	(3057)		Hitachi	HD74HC241	
	TI	SN74HC151			GE/RCA	CD74HC164	(2640)		TI	SN74HC191			Motorola	MC74HC241	(2939)
TC74HC153	GE/RCA	CD74HC153	(2640)		Hitachi	HD74HC164			GE/RCA	CD74HC192	(2640)		National	MM74HC241	
	Hitachi	HD74HC153			Motorola	MC74HC164	(2943)		Hitachi	HD74HC192			SGS-Thomson	M74HC241	
	Motorola	MC74HC153	(2944)		National	MM74HC164		TC74HC193A	Signetics	74HC192	(3057)			74HC241	
	National	MM74HC153			SGS-Thomson	M74HC164			TI	SN74HC192		TC74HC242	Signetics	74HC241	
	SGS-Thomson	M74HC153		TC74HC165A	Signetics	74HC164	(3057)		GE/RCA	CD74HC193	(2640)		TI	SN74HC241	
	Signetics	74HC153	(3057)		TI	SN74HC164			Hitachi	HD74HC193			GE/RCA	CD74HC242	(2640)
TC74HC154A	GE/RCA	CD74HC154	(2640)		GE/RCA	CD74HC165	(2640)		Motorola	MC74HC193			Hitachi	HD74HC242	
	Hitachi	HD74HC154			Hitachi	HD74HC165		TC74HC194	Signetics	74HC193	(3057)		Motorola	MC74HC242	(2939)
	Motorola	MC74HC154	(2945)		Motorola	MC74HC165	(2943)		TI	SN74HC193			National	MM74HC242	
	National	MM74HC154			National	MM74HC165			GE/RCA	CD74HC194	(2640)	TC74HC243	Signetics	74HC242	(3057)
	SGS-Thomson	M74HC154			SGS-Thomson	M74HC165			Hitachi	HD74HC194			TI	SN74HC242	
	Signetics	74HC154	(3057)		TI	SN74HC165			Motorola	MC74HC194	(2944)		GE/RCA	CD74HC243	(2640)
TC74HC155	TI	SN74HC155			Signetics	74HC165	(3057)		National	MM74HC194			Hitachi	HD74HC243	
	Motorola	MC74HC155		TC74HC166A	GE/RCA	CD74HC166	(2640)		SGS-Thomson	M74HC194			Motorola	MC74HC243	(2939)
	National	MM74HC155			Hitachi	HD74HC166							National	MM74HC243	
	SGS-Thomson	M74HC155			Motorola	MC74HC166							SGS-Thomson	M74HC243	(Continued)
	(Continued)				National	MM74HC166	(Continued)								

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Toshiba (Cont'd)				Motorola (Cont'd)				SGS-Thomson (Cont'd)				Motorola (Cont'd)			
TC74HC243	Signetics TI	74HC243 SN74HC243	(3057)	TC74HC272A	SGS-Thomson	MC74HC27 MM74HC27	(2938)	TC74HC354A	Signetics TI	M74HC354 74HC354 SN74HC354	(3057)	TC74HC390A	Signetics TI	MC74HC390 MM74HC390	(2942)
TC74HC244A	GE/RCA	CD74HC244 HD74HC244	(2640, 2653)	TC74HC273A	GE/RCA	74HC27 US74HC27 74HC273	(3057)	TC74HC356A	Hitachi Motorola	HD74HC356 MC74HC356	(2640)	TC74HC393A	GE/RCA	74HC390 SN74HC390 CD74HC393	(3057)
	Hitachi	HD74HC244	(2939)		Hitachi	HD74HC273	(2640)		National	MM74HC356	(2945)		Hitachi	HD74HC393	(2641)
	National	MM74HC244			Motorola	MC74HC273	(2942)		SGS-Thomson	74HC356	(3057)		Motorola	MC74HC393	(2942)
	Signetics	74HC244	(3057)		National	MM74HC273		TC74HC365	Signetics TI	74HC356 SN74HC356	(3057)		National	MM74HC393	
TC74HC245A	GE/RCA	CD74HC245 SN74HC244	(2640, 2653)	TC74HC279	SGS-Thomson	74HC273 74HC273	(3057)		GE/RCA	CD74HC356	(2641)		SGS-Thomson	74HC393	(3057)
	Hitachi	HD74HC245	(2939)		Signetics	74HC273	(3057)		Hitachi	HD74HC365	(2939)	TC74HC4002A	Signetics TI	74HC393	(3057)
	Motorola	MC74HC245			GE/RCA	CD74HC279	(2640)		Motorola	MC74HC365	(2939)		GE/RCA	CD74HC4002	(2641)
	National	MM74HC245		TC74HC280A	SGS-Thomson	74HC279	(2947)		National	MM74HC365			Motorola	MC74HC4002	(2938)
	Signetics	74HC245	(3057)		Signetics	74HC279		TC74HC366	Signetics TI	74HC365 SN74HC365	(3057)		National	MM74HC4002	
TC74HC251A	GE/RCA	CD74HC251 SN74HC245	(2640)		GE/RCA	CD74HC280	(2640)		GE/RCA	CD74HC366	(2641)		SGS-Thomson	74HC4002	(3057)
	Hitachi	HD74HC251	(2944)		Hitachi	HD74HC280			Hitachi	HD74HC366	(2939)	TC74HC40102	Signetics TI	74HC4002	(3057)
	Motorola	MC74HC251			Motorola	MC74HC280			Motorola	MC74HC366	(2939)		GE/RCA	CD74HC40102	(2642)
	National	MM74HC251			National	MM74HC280			National	MM74HC366			SGS-Thomson	74HC40102	(2642)
	Signetics	74HC251	(3057)	TC74HC283A	SGS-Thomson	74HC280	(3057)	TC74HC367A	Signetics TI	74HC366 SN74HC366	(3057)	TC74HC40103	Signetics	74HC40102	(3057)
TC74HC253A	GE/RCA	CD74HC253 SN74HC251	(2640)		GE/RCA	CD74HC283	(2640)		GE/RCA	CD74HC367	(2641)		GE/RCA	CD74HC40103	(2642)
	Hitachi	HD74HC253	(2944)		Motorola	MC74HC283			Hitachi	HD74HC367	(2939)		SGS-Thomson	74HC40103	
	Motorola	MC74HC253			National	MM74HC283			Motorola	MC74HC367	(2939)	TC74HC40105A	Signetics	74HC40103	(3057)
	National	MM74HC253			Signetics	74HC283	(3057)		National	MM74HC367			GE/RCA	CD74HC40105	(2642)
	Signetics	74HC253	(3057)	TC74HC298	Hitachi	HD74HC283			Signetics	74HC367	(3057)	TC74HC4017	Signetics	74HC40105	(3057)
TC74HC257	GE/RCA	CD74HC257 SN74HC253	(2640, 2653)		Motorola	MC74HC298		TC74HC368A	TI	SN74HC367	(2641)		GE/RCA	CD74HC4017	(2641)
	Hitachi	HD74HC257	(2944)		National	MM74HC298			Hitachi	HD74HC368	(2939)		Motorola	MC74HC4017	(2943)
	Motorola	MC74HC257			Signetics	74HC298			Motorola	MC74HC368	(2939)		National	MM74HC4017	
	National	MM74HC257		TC74HC299A	SGS-Thomson	TC74HC298A			National	MM74HC368		TC74HC4020	Signetics TI	74HC4017	(3057)
	Signetics	74HC257	(3057)		GE/RCA	CD74HC299	(2640)		Signetics	74HC368	(3057)		GE/RCA	CD74HC4020	(2641)
TC74HC257A	GE/RCA	CD74HC257 SN74HC257	(2640, 2653)		Hitachi	HD74HC299	(2944)	TC74HC373A	TI	SN74HC368	(2641)		Hitachi	HD74HC4020	(2943)
	Hitachi	HD74HC257	(2944)		Motorola	MC74HC299			Hitachi	HD74HC373	(2941)		Motorola	MC74HC4020	
	National	MM74HC257			National	MM74HC299			Motorola	MC74HC373			National	MM74HC4020	
	Signetics	74HC257	(3057)	TC74HC30	SGS-Thomson	74HC299	(3057)		National	MM74HC373		TC74HC4022	Signetics TI	74HC4020	(3057)
TC74HC257A	GE/RCA	CD74HC257 SN74HC257	(2640, 2653)		GE/RCA	CD74HC30	(2640)		Hitachi	HD74HC373	(2941)		GE/RCA	CD74HC4022	(2641)
	Hitachi	HD74HC257	(2944)		Hitachi	HD74HC30		TC74HC374A	Signetics TI	74HC373 SN74HC373	(3057)	TC74HC4024	Hitachi	HD74HC4024	(2943)
	Motorola	MC74HC257			Motorola	MC74HC30	(2937)		Hitachi	HD74HC374	(2942)		Motorola	MC74HC4024	
	National	MM74HC257			National	MM74HC30			Motorola	MC74HC374			National	MM74HC4024	
	Signetics	74HC257	(3057)	TC74HC32A	SGS-Thomson	74HC30	(3057)		National	MM74HC374		TC74HC4025	Signetics TI	74HC4024	(3057)
TC74HC258A	GE/RCA	CD74HC258 SN74HC257	(2640)		GE/RCA	CD74HC32	(2640)		Signetics	74HC374	(3057)		GE/RCA	CD74HC4025	(2641)
	Hitachi	HD74HC258	(2944)		Hitachi	HD74HC32		TC74HC375A	TI	SN74HC374	(2641)	TC74HC4026	Hitachi	HD74HC4026	(2943)
	Motorola	MC74HC258			Motorola	MC74HC32	(2937)		Hitachi	HD74HC375	(2942)		Motorola	MC74HC4026	
	National	MM74HC258			National	MM74HC32			Motorola	MC74HC375			National	MM74HC4026	
	Signetics	74HC258	(3057)	TC74HC323	SGS-Thomson	74HC32	(3057)		National	MM74HC375		TC74HC4027	Signetics TI	74HC4026	(3057)
TC74HC259	GE/RCA	CD74HC259 SN74HC257	(2640)		GE/RCA	CD74HC33	(2640)		Signetics	74HC375	(3057)		GE/RCA	CD74HC4027	(2641)
	Hitachi	HD74HC259	(2941)		Hitachi	HD74HC33		TC74HC377	TI	SN74HC375	(2641)	TC74HC4028	Hitachi	HD74HC4028	(2943)
	Motorola	MC74HC259			Motorola	MC74HC33	(2937)		Hitachi	HD74HC377	(2942)		Motorola	MC74HC4028	
	National	MM74HC259			National	MM74HC33			Motorola	MC74HC377			National	MM74HC4028	
	Signetics	74HC259	(3057)	TC74HC323A	SGS-Thomson	74HC33	(3057)	TC74HC377A	Signetics TI	74HC377 SN74HC377	(3057)	TC74HC4029	Hitachi	HD74HC4029	(2943)
TC74HC266A	GE/RCA	CD74HC266 SN74HC259	(2640)		GE/RCA	CD74HC33A	(2640)		Hitachi	HD74HC377	(2942)		Motorola	MC74HC4029	
	Hitachi	HD74HC266	(2941)		Hitachi	HD74HC33A			Motorola	MC74HC377			National	MM74HC4029	
	Motorola	MC74HC266			Motorola	MC74HC33A	(2937)	TC74HC386A	Signetics TI	74HC377 SN74HC377	(3057)	TC74HC4030	Signetics TI	74HC4029	(3057)
	National	MM74HC266			National	MM74HC33A			Hitachi	HD74HC386	(2942)		GE/RCA	CD74HC4030	(2641)
	Signetics	74HC266	(3057)	TC74HC354A	SGS-Thomson	74HC33A	(3057)		Motorola	MC74HC386	(2942)		Motorola	MC74HC4030	(2939)
TC74HC27A	GE/RCA	CD74HC27 SN74HC266	(2640)		GE/RCA	CD74HC354	(2640)	TC74HC390A	Signetics TI	74HC386 SN74HC386	(3057)		National	MM74HC4030	
	Hitachi	HD74HC27	(2941)		Hitachi	HD74HC354	(2945)		GE/RCA	CD74HC390	(2641)	TC74HC4049	Signetics TI	74HC4030	(3057)
	National	MM74HC27			Motorola	MC74HC354			Hitachi	HD74HC390	(2942)		Motorola	MC74HC4030	(2939)
	Signetics	74HC27	(3057)		National	MM74HC354							National	MM74HC4030	
	Motorola	MC74HC27			Signetics	74HC354	(3057)						Signetics	74HC4030	(3057)
	SGS-Thomson	74HC27			TI	SN74HC354							TI	SN74HC4030	(3057)
	GE/RCA	CD74HC27	(2640)		TI	SN74HC354									
	Hitachi	HD74HC27	(2941)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI	SN74HC354									
	Signetics	74HC27	(3057)		TI	SN74HC354									
	Motorola	MC74HC27			TI	SN74HC354									
	National	MM74HC27			TI										

ALTA CALIDAE DIRECTORY

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ALT. SOURCE DIRECTORY

◆ **Discontinued**

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Toshiba (Cont'd)				TD62505	Sanyo	LB1215		♦ TMM2015	Inmos	IMS1433		TMM2015A	Krueger	(Cont'd)	
TD62081		(Cont'd)		TD62506	Sanyo	LB1216			IDT	IDT6116 (2835)				6116-150 (2877)	
	SiliconG	SG2801		TD62507	Sanyo	LB1217				IDT6116A (2835)				6116-200 (2877)	
TD62082	Sprague	ULS2801		TD62706	Sanyo	LB1294				IDT6116L (2835)				6116LP-120 (2877)	
	SGS-Thomson			TD62781	Cherry Semi	CS594				IDT6116S (2835)				6116LP-150 (2877)	
		ULN2802				CS594C		♦ TMM2015	Intel	IDT6166				6116LP-200 (2877)	
	SiliconG	SG2802			Dionics	DI513B			Krueger	81C28					
	Sprague	ULN2802	(3258)			DI514B				2128-100 (2877)			Matra-Harris	HM6166	
		ULS2802			Exar	XR6118	(2619)			2128-120 (2877)				HM65161	
TD62083	SGS-Thomson				Motorola	MC3490				2128-150 (2877)				HM65162	
	SiliconG	SG2803			National	DM8887				2128-200 (2877)				HM65163	
		SG2813				DS8887				6116-120 (2877)				HN65728	
	Sprague	ULN2803	(3258)		OKI	MSL912				6116-150 (2877)				MT5C1608	
		ULS2803			Sanyo	LB1290				6116LP-120 (2877)				MS8725	
TD62084	Motorola	ULN2804	(2984)		Signetics	NE594								MSM116	
	SGS-Thomson					SA594				6116LP-150 (2877)				MSM5116	
		ULN2804			Sprague	UDN6118	(3258)			6116LP-200 (2877)				MSM5117	
	SiliconG	SG2804				UDN6118A	(3258)							MSM5118	
	Sprague	ULN2804	(3258)			UDN6118A-1	(3258)	♦ TMM2015	Matra-Harris	HM6166				M58275	
		ULS2804								HM65161				MCM2016	
TD62101	Exar	XR2001	(2619)		TI	UDQ6118				HM65162				MCM2016H	
		XR2001C	(2619)			TL594C				HM65163				MCM2018P	
		XR2201	(2619)			TL594M				HN65728				MCM6116	
	Mitsubishi	M54524		TD62782	Exar	XR6128		♦ TMM2015	MicronTech	MT5C1608				MMC2116	
	Motorola	MC1411	(2984)	TD6316	Sprague	AD			Mitsubishi	MS8725				MSM2128	
		ULN2001				AD7575	(2414, 2416, 2460)			M5M116				MSM5126	
	National	μA9665			Maxim	AD7575				MSM5116				MSM5128	
	Sanyo	LB1231			Siemens	SDA3203				MSM5117				MSM5129	
	SGS-Thomson			THM81000	Hitachi	HB56A18				MSM5118				P4C116	
		L201			Mitsubishi	MH1M08				M58275				S-MOS	SMC6116
	SiliconG	ULN2001				MH1M09		♦ TMM2015	Motorola	MCM2016				Saratoga	SSM6116
	Sprague	ULN2001	(3258)		OKI	MSC2311KS8				MCM2016H				SGS-Thomson	ET2128
		ULQ2001				MSC2311YS8				MCM2018P					MK2817
		ULS2001			TI	TM024GAD8	(3326)	♦ TMM2015	National	MCM6116					MK6116
	TI	ULN2001		THM91000	OKI	MSC2310KS9			OKI	MMC2116				Sharp	LH5115
		ULN2001A				MSC2310YS9				MSM2128				Signetics	NE5517
TD62103	Toshiba	TD62001		THS102	Asahi	HW101A				MSM5126				Sony	CXK5814P
	Exar	XR2003C	(2619)			HW200A				MSM5128				Sprague	UDN6116
		XR2203	(2619)			HW300A				MSM5129				STC	STC2018
	Mitsubishi	M52523				HW300B		♦ TMM2015	Performance	P4C116				TI	SMJ68CE16
		M54523				H300A			S-MOS	SMC6116				Toshiba	TC5517B
	Motorola	MC1413	(2984, 2989)		Bell	BHA900			Saratoga	SSM6116					TMM2018
		ULN2003				BHT900			SGS-Thomson	ET2128					TMM2018AP
	National	μA9667				BH200				MK2817				UMC	UM6116
		MC1413				BH700				MK6116				Vitellic	V61C16
	Sanyo	LB1233				FS301		♦ TMM2015	Sharp	LH5115					V62C16
	SGS-Thomson				Siemens	KSY10			Signetics	NE5517				VLSI Tech	VT20C18 (3343, 3345, 3349)
		L203			Sprague	UGN3604	(3259)			CXK5814P					
		ULN2003		♦ TMB2464	AMD	UGN3605K	(3259)			UND6116					
	SiliconG	SG2003				AM2764				STC2018				♦ TMM2016	Cypress
	Sprague	ULN2003	(3258)			AM2764A				STC6116					CY6116
		ULS2003		♦ TMB2464	Fujitsu	MBM2764				SMJ68CE16				♦ TMM2016	GE/Intersil
	TI	ULN2003			Intel	M2764			TI	TC5517B					GE/RCA
	Toshiba	TD62003				P2764A		♦ TMM2015	Toshiba	TMM2015A					CDM6116 (2644, 2653)
TD62104	Exar	XR2204	(2619)			2764				TMM2018					CDM6116A (2644, 2653)
	Mitsubishi	M54526				2764A				TMM2018AP					GoldStar
	Motorola	MC1416	(2984)	♦ TMB2464	Krueger	2764-200 (2877)		♦ TMM2015	UMC	UM6116					GM76C28 (2696, 2700)
		ULN2004				2764-250 (2877)			Vitellic	V61C16					Harris
	Sanyo	LB1234				2764-300 (2877)				V62C16					HM6516 (2747)
	SGS-Thomson					2764-450 (2877)		♦ TMM2015	VLSI Tech	VT20C18 (3343, 3345, 3349)					HM65162 (2747)
		L204				2764A-200 (2877)				CY6116					Hitachi
	SiliconG	SG2004				2764A-250 (2877)				CY7C128 (2580)					HM6719
	Sprague	ULN2004	(3258)	♦ TMB2464	Mitsubishi	2764A-300 (2877)			GE/Intersil	HY61C16A (2778)					HY61C16A
		ULS2004			National	MSL2764			GE/RCA	IH6116 (2670)					HY6116A (2778)
	TI	ULN2004			OKI	MSM2764				CDM6116 (2644, 2653)					IMS1433
		ULN2004A				MSM2764A				CDM6116A (2644, 2653)					IDT6116 (2835)
TD62105	Toshiba	TD62004		♦ TMB2464	SEEQ	2764				CDM6116A (2644, 2653)					IDT6116A (2835)
	Mitsubishi	M54517				5133		♦ TMM2015	GoldStar	GM76C28 (2696, 2700)					IDT6116L (2835)
	Sanyo	LB1275		♦ TMB2464	SGS-Thomson	M2764A				HM6516 (2747)					IDT6116S (2835)
	Sprague	ULN2801	(3258)			TMS2764	(3326)			HM65162 (2877)					IDT6166
TD62381	Mitsubishi	M54584			TI	CY6116				HM6116					81C28
TD62476	Sprague	UDN5711		♦ TMM2015	Cypress	CY7C128	(2580)			HM6716					2128-100 (2877)
	TI	SN75476				HY61C16A	(2670)			HM6719					2128-120 (2877)
TD62477	Motorola	MC1472	(2984)	♦ TMM2015	GE/Intersil	CDM6116	(2644, 2653)			HY61C16A (2778)					2128-150 (2877)
	Sprague	UDN5712			GE/RCA	CDM6116	(2644, 2653)			IMS1433					2128-200 (2877)
	TI	UDN5712				CDM6116A	(2644, 2653)			IDT6116 (2835)					6116-120 (2877)
TD62478	Sprague	UDN5713				GM76C28	(2696, 2700)			IDT6116A (2835)					6116-150 (2877)
	TI	SN75478		♦ TMM2015	GoldStar	GM76C28	(2696, 2700)			IDT6116L (2835)					6116-200 (2877)
TD62479	Motorola	MC1374	(2950)			HM6516	(2747)			IDT6116S (2835)					6116LP-120 (2877)
	Sprague	UDN5714				HM65162	(2747)			IDT6166					6116LP-150 (2877)
	TI	SN75479				HM6116				IDT6116A (2835)					6116LP-200 (2877)
		UDN5714		♦ TMM2015	Hitachi	HM6719			Intel	81C28					6116LP-200 (2877)
TD62501	Sanyo	LB1211				HM6116			Krueger	2128-100 (2877)					
TD62502	Sanyo	LB1212				HM6719				2128-120 (2877)					
TD62503	Sanyo	LB1213		♦ TMM2015	Hyundai	HY61C16A	(2778)			2128-150 (2877)					
TD62504	Sanyo	LB1214				HY6116A	(2778)			2128-200 (2877)					
										6116-120 (2877)					

♦ Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Toshiba (Cont'd)				TMM2064 Fujitsu (Cont'd)				TMM2068 IDT (Cont'd)				TMM2069 Cypress (Cont'd)			
• TMM2019	Vitellic	V61C16 V62C16	(Cont'd)	GE/RCA	MB8464 MB8464A	CDM6264	(2644, 2653)	Matra-Harris	IDT6168SA IDT6169	(2836)	• TMM2069	Fujitsu	CY7C168 CY7C169	(2580) (2580)	
• TMM2019	VLSI Tech	VT20C18	(3343, 3345, 3349)	GoldStar	GM76C88	GM76C88	(2696, 2703)	MicronTech	HM65682 HM65768		• TMM2069	Hitachi	MB81C68 MB81C68A		
TMM2063	Cypress	CY7C185 CY7C186	(2580) (2580)	Harris	HM65642	HM65642	(2747)	Mitsubishi	MT5C1604 MT5C1605		• TMM2069	Hyundai	HM6168HP HM6268		
	Dense-Pac	DPS88H08		Hitachi	HM6264 HM6464	HM6264		Mosel	MS6168		• TMM2069	Inmos	HY61C68 IMS1421C		
	Exar	XR8464	(2620)		MB6264	MB6264		Motorola	MCM6168			IDT	IDT6120		
	Fujitsu	MB8B464 MB81C78A		Hyundai	HY6264	HY6264	(2778)	NEC	MCM6269		• TMM2069	Matra-Harris	IDT6168 IDT6168A	(2836) (2836)	
		MB8464 MB8464A		Inmos	IMS1630	IMS1630	(2796)	μPD4314			• TMM2069	MicronTech	IDT6168LA IDT6168S	(2836) (2836)	
	GE/RCA	CDM6264	(2644, 2653)	IDT	IDT7165	IDT7165		μPD4314C			• TMM2069	Hitachi	IDT6168SA IDT6169	(2836) (2836)	
	GoldStar	GM76C88	(2696, 2703)	Krueger	6264-100 6264-120 6264-150	6264-100 6264-120 6264-150	(2877) (2877) (2877)	Performance	P4C168 P4C169		• TMM2069	Saratoga	SSM6168		
	Harris	HM65642	(2747)		6264LP-100	6264LP-100	(2877)	Ricoh	PS6168		• TMM2069	SGS-Thomson	SSM6168		
	Hitachi	HM6264 HM6464 MB6264			6264LP-120	6264LP-120	(2877)	SGS-Thomson	MK41H68 MK41H69 MK41L68		• TMM2069	Matra-Harris	HM65682 HM65768		
	Hyundai	HY6264	(2778)		6264LP-150	6264LP-150	(2877)	Sony	CKX5416P/K SMJ64C16		• TMM2069	MicronTech	MT5C1604 MT5C1605		
	Inmos	IMS1630	(2796)	Matra-Harris	HM2064 HM56162	HM2064 HM56162		TI	SMJ68CE64 TMM2018		• TMM2069	Mitsubishi	MT5C1608 M5M21C68P		
	IDT	IDT7165			HM62641	HM62641		Toshiba	SMJ68CE64 TMM2068AP		• TMM2069	Mosel	MS6168		
	Krueger	6264-100 6264-120 6264-150	(2877) (2877) (2877)		HN65641	HN65641		UMC	TMM2068AP		• TMM2069	Motorola	MCM6168 MCM6269		
		6264LP-100	(2877)	MicroLinear	ML8464	ML8464		Vitellic	UM6168		• TMM2069	NEC	μPD4314 μPD4314C		
		6264LP-120	(2877)	MicronTech	MT5C6404	MT5C6404		VLSI Tech	V61C68	(3349)	• TMM2069	Performance	P4C168 P4C169		
		6264LP-150	(2877)	Mitsubishi	MT5C6408	MT5C6408			VT20C19 VT20C68	(3349) (3343, 3350)	• TMM2069	Ricoh	PS6168		
					M5M165	M5M165			VT20C69	(3343, 3350)	• TMM2069	Saratoga	SSM6168		
					M5M5164	M5M5164			VT20C98 VT2069			SGS-Thomson	MK41H68 MK41H69		
					M5M5165	M5M5165		TMM2068AP	AM2169 AM99CL68		• TMM2069	Sony	CKX5416P/K SMJ64C16		
					M5M5178	M5M5178		AMD	AM99C58		• TMM2069	TI	SMJ68CE64 TMM2018		
					MS6264	MS6264		Cypress	CY7C168 CY7C169	(2580) (2580)	• TMM2069	Toshiba	TMM2068 TMM2068AP		
					MCM6064	MCM6064		Fujitsu	MB81C68 MB81C68A		• TMM2069	UMC	UM6168		
					MCM61L64	MCM61L64		Hitachi	HM6168HP HM6268		• TMM2069	Vitellic	V61C68		
					MCM6164	MCM6164			HM6268L			VLSI Tech	VT20C19 VT20C68	(3349) (3343, 3350)	
					MCM6164C	MCM6164C		Hyundai	HY61C68				VT20C69	(3343, 3350)	
					MCM6264	MCM6264		Inmos	IMS1421C				VT20C98		
					DP8464	DP8464		IDT	IDT6120		• TMM2078	AMD	VT2069 AM2169		
					NMC6164	NMC6164			IDT6168 IDT6168A	(2836) (2836)	• TMM2078		AM99CL68 AM99C58		
					μPD4364	μPD4364		Samsung	IDT6168LA IDT6168S	(2836) (2836)	• TMM2078	Cypress	CY7C168 CY7C169	(2580) (2580)	
					MSM5164	MSM5164		Sharp	IDT6168SA IDT6168S	(2836) (2836)	• TMM2078	Fujitsu	MB81C68 MB81C68A		
					MSM5165	MSM5165		Sony	IDT6169		• TMM2078	Hitachi	HM6168HP HM6268		
					MSM5178	MSM5178			HM65682		• TMM2078		HM6268L HY61C68		
					MS6264	MS6264		Performance	MT5C1604 MT5C1605		• TMM2078	Hyundai	IMS1421C IDT6120		
					MCM6064	MCM6064		S-MOS	MT5C1608 M5M21C68P		• TMM2078	Inmos	IDT6168 IDT6168A	(2836) (2836)	
					MCM61L64	MCM61L64		Toshiba	MCM6168 MCM6269		• TMM2078	IDT	IDT6168LA IDT6168S	(2836) (2836)	
					MCM6164	MCM6164			μPD4314 μPD4314C		• TMM2078		IDT6168SA IDT6169	(2836) (2836)	
					MCM6164C	MCM6164C		NEC	P4C168 P4C169		• TMM2078	Matra-Harris	HM65682 HM65768		
					MCM6264	MCM6264		Performance	SSM6168		• TMM2078		MT5C1604 MT5C1605		
					DP8464	DP8464		SGS-Thomson	MK41H68 MK41H69		• TMM2078	MicronTech	MT5C1608 M5M21C68P		
					NMC6164	NMC6164			MK41L68		• TMM2078		MT5C1608 MCM6168		
					DP8464	DP8464		Matra-Harris	CKX5416P/K SMJ64C16		• TMM2078	Mitsubishi	MS6168		
					NMC6164	NMC6164		MicronTech	SMJ68CE64 TMM2018		• TMM2078	Mosel	MCM6168		
					NMC6164	NMC6164		Hitachi	TMM2068		• TMM2078	Motorola	MCM6269		
					NMC6164	NMC6164			UM6168		• TMM2078		μPD4314 μPD4314C		
					NMC6164	NMC6164			V61C68		• TMM2078	NEC	P4C168 P4C169		
					NMC6164	NMC6164			VT20C19 VT20C68	(3349) (3343, 3350)	• TMM2078	Performance	PS6168		
					NMC6164	NMC6164			VT20C69	(3343, 3350)	• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078	Ricoh	SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078	SGS-Thomson	SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		MK41H68 MK41H69		
					NMC6164	NMC6164			SSM6168		• TMM2078		MT5C1604 MT5C1605		
					NMC6164	NMC6164			SSM6168		• TMM2078		MT5C1608 M5M21C68P		
					NMC6164	NMC6164			SSM6168		• TMM2078		MS6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		MCM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		MCM6269		
					NMC6164	NMC6164			SSM6168		• TMM2078		μPD4314		
					NMC6164	NMC6164			SSM6168		• TMM2078		μPD4314C		
					NMC6164	NMC6164			SSM6168		• TMM2078		P4C168		
					NMC6164	NMC6164			SSM6168		• TMM2078		P4C169		
					NMC6164	NMC6164			SSM6168		• TMM2078		PS6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		
					NMC6164	NMC6164			SSM6168		• TMM2078		SSM6168		

♦ Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Toshiba (Cont'd)				TMM2088 Sony (Cont'd)				TMM2332 SiliconG Supertex				TMM2732 OKI SGS-Thomson			
• TMM2078	Toshiba	TMM2018 TMM2068 TMM2068AP			STC	CKX5865 CKX5865P STC6264 SMJ68CE64		• TMM2332	TI	SG3532 CM3200 235C32 D51C69 P51C69		• TMM2732	OKI	MSM2732	
• TMM2078	UMC	UM6168 V61C68			TI	TC5565 TC5565A TC5585 TC5588 TMM2063 TMM2064		• TMM2332	Toshiba	TMM333P VT2332		TMM27512	TI	M2732A TMS2732A (3326)	
	VLSI Tech	VT20C19 (3349) VT20C68 (3343, 3345, 3350) VT20C69 (3343, 3345, 3350)			Toshiba	V61C62 V61C64 V62C64 V65C64		• TMM2364	Gould/AMI	S2364 NCR MSM3864 Plessey S-MOS SMM2364 Sharp Signetics			AMD	AM27512 HN27512 N27512 P27512 27512	
• TMM2078D	AMD	VT20C98 VT2069 AM99CL68			Vitellic	VT20C98 VT20C99 CY7C183		• TMM2365	NCR	SL2364C SMM2364 LH2364A 2364 TMS2364		• TMM27512D	Krueger	27512-200 (2877) 27512-250 (2877)	
	Cypress	CY7C170 (2580)			VLSI Tech	MB81C79A M5M5179P		• TMM2366	Microchip	VT2364 SC8164 NCR NCR2365 S-MOS SMM2365 Toshiba TC5364 VLSI Tech VT2365			Mitsubishi	M27512 M27512 TMM27512D	
	MicronTech	MT5C1605			NEC	μPD4369			National	RO9464 M58334 MM52164 26S64 2664		• TMM2764	AMD	AM27512 HN27512 N27512 P27512 27512	
	Motorola	MCM6271			Performance	P4C163			Intel	AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	Hitachi	HN27512 N27512 P27512 27512	
	SGS-Thomson	MK41H78 MK4170 TMM2978 CT2078 VT20C78 (3345, 3352) VT20C79 (3343, 3352)			Toshiba	TC5589 AM9114 AM9124 2114A			Krueger	27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	Intel	M2764 P2764A 2764 2764A 2764A-200 (2877) 2764-250 (2877) 2764-300 (2877) 2764-450 (2877) 2764A-200 (2877) 2764A-250 (2877) 2764A-300 (2877) 2764A-450 (2877)	
• TMM2078D	Toshiba	TMM2978 CT2078 VT20C78 (3345, 3352) VT20C79 (3343, 3352)			AMD	AM9114 AM9124 2114A		• TMM24128	AMD	AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	Mitsubishi	M5L2764 2764 MSM2764 MSM2764A 2764 5133	
	VLSI Tech	VT20C78 (3345, 3352) VT20C79 (3343, 3352)			Intel	2114A		• TMM27128	AMD	M27128 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	SEEQ	2764 2764A 2764A-200 (2877) 2764-250 (2877) 2764-300 (2877) 2764-450 (2877) 2764A-200 (2877) 2764A-250 (2877) 2764A-300 (2877) 2764A-450 (2877)	
TMM2088	Cypress	VT2079 CY7C185 (2580) CY7C186 (2580)			Krueger	2114-150 (2877) 2114-200 (2877) 2114-450 (2877)		• TMM27128	Intel	M27128 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	SGS-Thomson	M2764A TMS2764 (3326)	
	Dense-Pac	DPS88H08			Mitsubishi	M5L2114 MCM21L14		• TMM27128	Krueger	27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		TMM2978	TI	AM99CL68	
	Exar	XR8464			Motorola	MCM2114 M5L2114			SGS-Thomson	M27128 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)			AMD	AM99CL68	
	Fujitsu	MB8B464 MB81C78A MB8464 MB8464A CDM6264 (2644, 2653) GM76C88 (2696, 2703) HM65642 HM6264 HM6464 MB6264 HY6264 (2778) IMS1630 (2796) IDT7165 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)			National	F2114 NMC2114A MSM2114		• TMM23128	AMD	M27128 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)			Cypress	CY7C170 (2580)	
	GE/RCA	MB8B464 MB81C78A MB8464 MB8464A CDM6264 (2644, 2653) GM76C88 (2696, 2703) HM65642 HM6264 HM6464 MB6264 HY6264 (2778) IMS1630 (2796) IDT7165 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)			OKI	R6514 LH2114 Toshiba TMM2114A TMM314A			Intel	M27128 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)			MicronTech	MT5C1605	
	GoldStar	GM76C88 (2696, 2703) HM65642 HM6264 HM6464 MB6264 HY6264 (2778) IMS1630 (2796) IDT7165 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)			UMC	UM6114 AM9128 S23128 Microchip RO9128 Mitsubishi M5M23128 NCR NCR23128 Signetics 23128 Supertex CM1310 UMC UM23128 VLSI Tech VT23128 VT23129 VT23129A VT23130 VT23131 VT23138		• TMM27128	SGS-Thomson	M27128 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	Motorola	MCM2114 MCM2114A MCM2114 M5L2114 M5L2114 F2114 NMC2114A MSM2114 R6514 LH2114 Toshiba TMM2114A UMC UM6114 AM2141 AM9244	
	Harris	HM65642 HM6264 HM6464 MB6264 HY6264 (2778) IMS1630 (2796) IDT7165 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)			Sharp	SMJ69CE72		• TMM27128	Intel	M27128 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	SEEQ	2764 2764A 2764A-200 (2877) 2764-250 (2877) 2764-300 (2877) 2764-450 (2877) 2764A-200 (2877) 2764A-250 (2877) 2764A-300 (2877) 2764A-450 (2877)	
	Hitachi	HM65642 HM6264 HM6464 MB6264 HY6264 (2778) IMS1630 (2796) IDT7165 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)			Toshiba	TC5589 AM9114 AM9124 2114A		• TMM27128	Krueger	27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	SGS-Thomson	M2764A TMS2764 (3326)	
	Hyundai	HY6264 (2778) IMS1630 (2796) IDT7165 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)			AMD	AM9128 S23128 Microchip RO9128 Mitsubishi M5M23128 NCR NCR23128 Signetics 23128 Supertex CM1310 UMC UM23128 VLSI Tech VT23128 VT23129 VT23129A VT23130 VT23131 VT23138		• TMM27128	SGS-Thomson	M27128 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	TI	TMS2764 (3326)	
	Inmos	IMS1630 (2796) IDT7165 6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)			Gould/AMI	S23128		• TMM27128	Intel	M27128 AM27128 AM27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM2764	AMD	AM99CL68	
	Krueger	6264-100 (2877) 6264-120 (2877) 6264-150 (2877) 6264LP-100 (2877) 6264LP-120 (2877) 6264LP-150 (2877)			Microchip	RO9128		• TMM27128	Krueger	27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)			Cypress	CY7C170 (2580)	
	Matra-Harris	HM2064 HM56162 HM62641 HM65641 HN65641 ML8464 MT5C6404 MT5C6408 AM99C88 M5M165 M5M5164 M5M5165 M5M5178 MS6264 MCM6064 MCM61L64 MCM6164 MCM6164C MCM6264 DP8464 NMC6164 μPD4364 MSM5164 MSM5165 MSM5188			NCR	NCR23256 NCR23257 SMM23256 SMM6325 SMM6326		• TMM23256	Dense-Pac	DPS92256 (2609)		• TMM27128	SGS-Thomson	M2764A TMS2764 (3326)	
	MicroLinear	ML8464 MT5C6404 MT5C6408			OKI	MSM38256 MN23256 MN23257		• TMM23256	Gould/AMI	S23256		• TMM27128	SGS-Thomson	M2764A TMS2764 (3326)	
	MicronTech	MT5C6404 MT5C6408			Panasonic	SMM23256 SMM6325 SMM6326		• TMM23256	SGS-Thomson	M27128 M27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM27128	SGS-Thomson	M2764A TMS2764 (3326)	
	Mitsubishi	AM99C88 M5M165 M5M5164 M5M5165 M5M5178 MS6264 MCM6064 MCM61L64 MCM6164 MCM6164C MCM6264 DP8464 NMC6164 μPD4364 MSM5164 MSM5165 MSM5188			S-MOS	SMM23256 SMM6325 SMM6326		• TMM23256	SGS-Thomson	M27128 M27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM27128	SGS-Thomson	M2764A TMS2764 (3326)	
	Mosel	MS6264 MCM6064 MCM61L64 MCM6164 MCM6164C MCM6264 DP8464 NMC6164 μPD4364 MSM5164 MSM5165 MSM5188			Signetics	23256 23256A TC53257 VT23256 VT23257		• TMM23256	SGS-Thomson	M27128 M27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM27128	SGS-Thomson	M2764A TMS2764 (3326)	
	Motorola	MCM61L64 MCM6164 MCM6164C MCM6264 DP8464 NMC6164 μPD4364 MSM5164 MSM5165 MSM5188			Toshiba	TC53257 VT23256 VT23257		• TMM23256	SGS-Thomson	M27128 M27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM27128	SGS-Thomson	M2764A TMS2764 (3326)	
	National	DP8464 NMC6164 μPD4364 MSM5164 MSM5165 MSM5188			VLSI Tech	VT23256 VT23257		• TMM23256	SGS-Thomson	M27128 M27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM27128	SGS-Thomson	M2764A TMS2764 (3326)	
	NEC	μPD4364 MSM5164 MSM5165 MSM5188			Commodore	MPS2332		• TMM23256	SGS-Thomson	M27128 M27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM27128	SGS-Thomson	M2764A TMS2764 (3326)	
	OKI	MSM5164 MSM5165 MSM5188			Fujitsu	P51C69		• TMM23256	SGS-Thomson	M27128 M27128A M27128 N27128A P27128 P27128A 27128 27128A 27128-200 (2877) 27128-250 (2877) 27128-300 (2877) 27128-450 (2877) 27128A-200 (2877) 27128A-250 (2877) 27128A-300 (2877) 27128A-450 (2877)		• TMM27128	SGS-Thomson	M2764A TMS2764 (3326)	
	Performance	P4C164 P4C188 SRM2064 SRM2264			Hitachi	P51C69 UM2168 51C69		• TMM23256	SGS-Thomson	M27128 M27128A M27128 N27128A P27128 P27128A 27128 27					

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Toshiba (Cont'd)				TMM411001C				TMM4164				TMM5562			
TMM3150	AMD	AM2147		TI		TM4256FC1	(Cont'd)	Siemens	HYB4164		(Cont'd)	GoldStar	GM76C64		(Cont'd)
	Cypress	CY2147				TM5256		TI	SMJ4164	(3286)		Hitachi	HM6287		
		CY7C147	(2580)			TX4C1024			SM4164				HM6787		
	Fujitsu	MBM2147		Toshiba		TC511000			TMS4164			Hyundai	HY62C87		
	Intel	M2147H				TC511000C		Toshiba	TMM4164A			Inmos	IMS1600	(2792)	
		2147				TC511001C		Vitellic	V51C64				IMS1601	(2793)	
		2147H						Harris	HA5104			IDT	IDT7187	(2850)	
	Krueger	2147-35	(2877)	TMM41256	Fujitsu	MB81256		Immos	IMS2600				IDT7187L	(2850)	
		2147-45	(2877)		Hitachi	HM50256		IDT	IDT7164	(2848)		MicronTech	MT5C6401		
		2147-55	(2877)			HM50257		Intel	M2164A			Mitsubishi	M5M5187		
		2147-70	(2877)		Mitsubishi	MSM4257		Krueger	4164-120	(2877)			M5M5187AP		
	Motorola	MCM6147				M5M4256			4164-150	(2877)		Motorola	MCM6287		
	National	MM2147				M5M4257			4164-200	(2877)		National	F1600		
		NMC2141				MCM6256		MicronTech	MT4264				F1602		
		NMC2147H				MT1259		Motorola	MCM4164			NEC	μPD4361		
		NM2147				μPD41256			MCM4164C			OKI	MSM5187		
	SGS-Thomson	ET2147				MSM37256			MCM6665			Performance	P4C187		
		STC2147				MSM37257A			F4164			S-MOS	SRM2261		
	STC	STC2147				MSM41256		National	F64K			Saratoga	SSM7187		
	AMD	AM2732			Panasonic	MM41256			NMC4164			SGS-Thomson			
	Intel	M2732			Samsung	KM41256	(3036)	OKI	MSM3764				MK41H87		
		2732				KM41256A	(3036)	Panasonic	MN4164				LH5261		
		2732A			TI	TMS4257			MN4864			Sharp	74HC4515	(3057)	
	Krueger	2732-250	(2877)		Vitellic	V51C256		Samsung	KM4164A	(3036)		TI	SMJ61CD64		
		2732-300	(2877)			V51C257			KM4164B	(3036)		Toshiba	TC5562		
		2732-350	(2877)		Western	WCM41256		Saratoga	SSM7164			AMD	AM27128A		
		2732-450	(2877)			MB81257		SGS-Thomson					M27128		
		2732A-250	(2877)	TMM41257	Fujitsu	HM50257			MKB4564				N27128A		
		2732A-300	(2877)		Hitachi	MSM4257			MK45H64				P27128		
		2732A-350	(2877)		Mitsubishi	M5M4257A		Siemens	HYB4164				P27128A		
		2732A-450	(2877)			MSM41257A		TI	SMJ4164	(3286)			27128		
	National	MM2732			NEC	μPD41257			SM4164				27128A		
		NMC2732			Samsung	KM41257	(3036)		TMS4164				27128-200	(2877)	
	OKI	MSM2732				KM41257A	(3036)		TMM4164				27128-250	(2877)	
	SGS-Thomson				TI	TMS4257			TMS4164				27128-300	(2877)	
		M2732A			Toshiba	V51C256			V51C64				27128-450	(2877)	
	TI	TMS2732A	(3326)		Vitellic	V51C257		TMM41832	CY7C198	(2580)			27128A-200	(2877)	
TMM333P	Commodore	MPS2332				V51C257		Dense-Pac	DPS412S88				27128A-250	(2877)	
	Fujitsu	P51C69		TMM41464	Fujitsu	MB81464		GoldStar	GM76C256	(2696)			27128A-300	(2877)	
	Hitachi	P51C69			Hitachi	HM50464		Hitachi	HM65256				27128A-450	(2877)	
	Intel	UM2168			Inmos	IMS2820		IDT	IDT7M856S				M5L27128		
		51C69			Krueger	4464-100	(2877)		IDT71256	(2837)			M27128		
	Microchip	RO9432				4464-120	(2877)		IDT71256	(2837)			27128		
	Mitsubishi	M58333				4464-150	(2877)		IDT8M8254	(2872)					
	National	F3532			Mitsubishi	MCM41464		Mitsubishi	M5M5256						
		NM52132				MSM4464P		Toshiba	TC51832						
	NCR	NCR2332				M5M4464		AMD	AM99C164						
	Panasonic	MN2332			NEC	μPD41464			AM99C165						
	Sharp	LH2332				μPD4464		Dense-Pac	DPS8M464	(2606)					
	Siemens	SAB8332			OKI	MSM41464		GoldStar	GM76C164						
		SA88332			Samsung	KM41464	(3036)	Hitachi	HM6288						
	Signetics	2332				KM41464A			HM6788						
		2632A			TI	SMJ4469			HN6288						
	SiliconG	SG3532				TMS4464	(3326)	Inmos	IMS1620	(2794)					
	Supertex	CM3200		TMM416	ITT	ITT4116		IDT	DPS8M464						
		23SC32			Krueger	4116-120	(2877)		IDT6198						
	TI	D51C69				4116-150	(2877)		IDT7188						
		P51C69				4116-200	(2877)		IDT7188L						
TMM411001C	VLSI Tech	VT2332			National	F16K		MicronTech	MT5C6404						
						F4116			MT5C6405						
	Dense-Pac	DPD411M	(2608)			MM5290		Mitsubishi	M5M5188						
	Fujitsu	MB81C1000			OKI	MSM3716		Motorola	MCM6288						
		TH22568			SGS-Thomson				MCM6289						
	GoldStar	GM7C1024				M4116		NEC	μPD4362						
	Hitachi	HB561003				HYB4116		Performance	P4C188						
		HM511000			Siemens	2690		S-MOS	SRM2274						
		HM51101			Signetics	STC4116		Saratoga	SSM7188						
		HM51102			STC	STC4116		TI	SMJ64C64						
		HM561003			Harris	HA5104		Toshiba	TC55416						
	Hyundai	HY51C1000	(2778)		Inmos	IMS2600			TC55417	(3335)					
		HY51C1002	(2778)		IDT	IDT7164	(2848)		CT64KS4						
					Intel	M2164A			MB81C74						
	MicronTech	MT1259			Krueger	4164-120	(2877)		MB81C75						
		MT4C1024				4164-150	(2877)		MT5C6404						
	Mitsubishi	MH25608				4164-200	(2877)		MT5C6405						
		MH25609							TCC55417						
		M5M4C1000			MicronTech	MT4264			TC55417	(3335)					
		M5M41000S			Motorola	MCM4164			V61C62						
		M5M410000				MCM6665			CS5561						
	Motorola	MCM511000			National	F4164			CS5561N						
	NEC	μPD421000				NMC4164			CS5561S						
		MC421000				MSM3764			GL5561						
	OKI	MSM41000			OKI	MN4164		GoldStar	IP5561						
	Panasonic	MN411000			Panasonic	MN4864		IPS	IP5561C						
	Samsung	KM41C1000	(3036)						SE5561						
					Samsung	KM4164A	(3036)	Signetics	NE5561	(3184)					
		KM41256A	(3036)			KM4164B	(3036)		SE5561						
	Siemens	HYB511000				SSM7164			TC5561						
	TI	TMS4C1024	(3326)		Saratoga				CY7C187	(2580)					
		TMX4C1025			SGS-Thomson				MB81C71A						
		TMX4C1026							MB81C87						
		TMX4C1029													
			(Continued)				(Continued)								(Continued)

REAL: SOURCE DIRECTORY

♦ Discontinued

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
TRW (Cont'd)				UC6845E	Unicorn	VL6845E		UC82C59A	(Cont'd)			UM2128	Krueger	6116LP-150 (2877)	
TMC216H	TRWLSI	(Cont'd)		UC6845R	UMC	UM6845E		OKI	MSM82C59A			UM2128	Matra-Harris	HM6166 (2877)	
	Weitek	MPY016K		UC74HCT590	UMC	UM6845R		Samsung	SMC82C59AC					HM65162	
		TMC216			VLSI Tech	VL6845R		Toshiba	KS82C59A					HM65163	
		WTL1016			GoldStar	GD74LS590 (2708)			TMP82C59 (3339)					HN65728	
		WTL1516			Samsung	KS74AHC7590 (3035)		UMC	UM8259A					MT5C1608	
TMC2208	AD	ADSP1008 (2436)			TeledyneS	TSC500		VLSI Tech	VL82C59A					MS8725	
	TRWLSI	TDC1008			TI	SN74LS590		Calmos	CA82C84A					M5M116	
TMC2210	AMD	AM29L510				TL500		Fujitsu	CP82C84A					M5M5116	
		AM29510			UMC	TL5006		Harris	82C84A					M5M5117	
	AD	ADSP1010 (2436)		UC74HCT612	AD	ADG221 (2424, 2462)		Intel	8284A					M5M5118	
		ADSP1010A (2436, 2462)			GoldStar	GD74LS612 (2708)		Mitsubishi	M5L8284A					M5M5119	
	Cypress	CY7C510			Siliconix	DG221		NEC	M5L8284AP					M5M5120	
	Intel	IM29C510		UC82C11	UMC	UM82C11			μPB8284					M5M5121	
	LogicDev	LMA1010		UC82C206	Chips&Tech	82C206		OKI	μPD71084C					M5M5122	
	LSI Logic	L64010 (2888)		UC82C37A	AMD	AM8237A		Samsung	MSM82C84					M5M5123	
		L64012				D8237A		UMC	KS82C84A					M5M5124	
	Matra-Harris	MS2010				8237A			UM82C84A					M5M5125	
	TI	SN74HCT9510			Calmos	CA82C37A		VLSI Tech	VL82C84A					M5M5126	
	TRWLSI	TDC1010			Harris	CP82C37A		AMD	D82C88					M5M5127	
	VLSI Tech	VL2010			Intel	8037A		Calmos	CA82C88					M5M5128	
	Waferscale	WS59610				8237		Fujitsu	MBL8288 (2635)					M5M5129	
	Weitek	WTL1010				8237A-4		Harris	CP82C88					P4C116	
		WTL2010				8237A-5		Intel	82C88					SMC6116	
		WTL2044				8288			8288					SSM6116	
		WTL2245				μPD8237		Mitsubishi	M5L8288					ET2128	
TMC28KU	AMD	AM255557			NEC	μPD8237A			M5L82885					MK2817	
	AD	ADSP1080 (2436)			OKI	MSM82C37A		NEC	μPB8288					MK6116	
		ADSP1081 (2436, 2462)			S-MOS	SMC82C37AC-5			μPD71088C					LH5115	
	LogicDev	LMU08			Samsung	KS82C37A		OKI	MSM82C88					NE5517	
		LMU8			Toshiba	TMP82C37 (3339)		Samsung	KS82C88					CXK5814P	
	TRWLSI	MPY08HU			UMC	UM8237A		UMC	UM82C88					UDN6116	
TMC3032	Weitek	WTL1032				UM8237A			UM8288					STC2018	
TMC3033	Weitek	WTL1033				VL82C37A		VLSI Tech	VL82C88					STC6116	
Unicorn Microelectronics				UC82C384	Intel	8272		UC8272A	Intel	8272		UM2128	TI	SMJ68CE16	
UC4501	AMD	67C4501			NEC	μPD72066			NEC	μPD72066			Toshiba	TC5517B	
	Cypress	CY7C412			Rockwell	R6765			Rockwell	R6765				TMM2015A	
		CY7C420				R6765A				R6765A				TMM2018	
		DS2009			SMC	FDC72C65			SMC	FDC72C65				TMM2018AP	
		DS2009				FDC765A				FDC765A				UM6116	
	Dallas	DS2009			Unicorn	UC8272A			Unicorn	UC82C384				V61C16	
	IDT	IDT7201			UMC	UM8272A			UMC	UM8272A				V62C16	
		IDT7201A			AMD	82C54		UC9216	SMC	FDC92C36				VT20C18 (3343, 3345)	
		IDT7201LA			Calmos	CA82C54			UMC	FDC9215				AM2148	
		IDT7201SA			Harris	CP82C54				UM8326				CY21L49	
		67L4501			Intel	82C54				UM9216				CY2148	
	MMI	MS7201				8254			Western	WD92C32				CY7C148 (2580)	
	Mosel	KM75C01A			Mitsubishi	M5M82C54				WD9216				CY7C149 (2580)	
	Samsung	SSL7201				M5M82C54P			Unicorn	UC6845E				HM6148	
	Saratoga	SS7201			NEC	μPD71054C			UMC	UM6845E				HM6148H	
	SGS-Thomson	MK4501			OKI	MSM82C54								HM6148HL	
		SG4501			S-MOS	SMC82C54A								2148H	
	SiliconG	UM4501				SMC82C54AC								2148-35 (2877)	
UC4502	GE/RCA	CD4502 (2637)			Samsung	KS82C54		UM2128	Cypress	CY6116				2148-45 (2877)	
	UMC	CD4502B (2637)			UMC	UM8254				CY7C128 (2580)				2148-70 (2877)	
	Motorola	MC14502 (2939)			VLSI Tech	VL82C54			GE/Intersil	IHM6116 (2670)				NMC2148	
		MC14502B (2939)			AMD	D8255A			GE/RCA	CDM6116 (2644, 2653)				NMC2148	
	SGS-Thomson	HCC/HCF4502			Calmos	CA82C55A				CDM6116A (2644, 2653)				P4C149	
		HCC/HCF4502B			Harris	CP82C55A								SSM2148	
		MK4502			Intel	P8255								ET2148	
		HEF4502				82C55A								AM9128	
	Signetics	TC4502B (3341)			Mitsubishi	M5M82C55A			GoldStar	GM76C28 (2696, 2700)				S23128	
UC6551	Toshiba	MPS6551				M5M82C55AP			Harris	HM6516 (2747)				R09128	
	Commodore	MP6551			NEC	μPD71055				HM65162 (2747)				M5M23128	
		MP6551				μPD8255A-21-5				HM6716				NCR23128	
	Gould/AMI	HM6551 (2749)				MSM82C55A				HM6719				23128	
	Harris	AN6551			OKI	SMC82C55A-5				HY61C15A				CM1310	
	Panasonic	R6551 (3028)			S-MOS	SMC82C55AC				HY61C16A (2778)				VT23128	
	UMC	UM6551			Samsung	KS82C55A				IMS1433				VT23129	
	VLSI Tech	VL6551			Toshiba	TMP82C55 (3339)				IDT6116 (2835)				VT23130	
UC68C18	Dallas	DS1287				TMP8255 (3339)				IDT6116A (2835)				VT23131	
	GE/RCA	CDP6818 (2644, 2653)			UMC	UM82C55A				IDT6116L (2835)				VT23138	
		MC146818 (2932)			Calmos	CA82C59A				IDT6116S (2835)				VT23138	
	Motorola	MC146818A (2932)			Fujitsu	MBL8259 (2635)				IDT6116S				MPS2333	
					Intel	82C59A				IDT6166				R09433	
						8259A				81C28				F3533	
	UMC	UM82C6818				8259A			Intel	2128-100 (2877)				23C32	
UC6845	Xecom	XE1287				MT8259			Krueger	2128-120 (2877)				S2364	
	Hitachi	HD6845			MicronTech	M5M82C59				2128-150 (2877)				RO39365	
	Motorola	MC6845 (2932)			Mitsubishi	M5M82C59AP				2128-200 (2877)				R09864	
	National	F6845				M5M8259AP				6116-120 (2877)				M5M2364	
		F6845A				INS8259				6116-150 (2877)				M5M2365	
	Samsung	KS68C45			National	μPD71059				6116-200 (2877)				F3568	
	UMC	UM6845			NEC	μPD71059C				6116LP-120 (2877)				F3569	
	VLSI Tech	VL6845				μPD8259A									(Continued)

• Discontinued

The manufacturers report their devices can be used as direct replacements. Performance details often differ, so compare the specifications considering your requirements.

THE EVERETT COLLECTION

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	
United Microelectronics (UMC) (Cont'd)																
UM2366	National	(Cont'd)		UM6116	Krueger	(Cont'd)		UM6168		(Cont'd)		UM82C55A		(Cont'd)		
		F3570				2128-150	(2877)		IDT	IDT6120			OKI	MSM82C55A		
		MM52264				2128-200	(2877)			IDT6168	(2836)		S-MOS	SMC82C55A-5		
		NM52264				6116-120	(2877)			IDT6168A	(2836)		Samsung	SMC82C55AC		
	OKI	MSM3864				6116-150	(2877)			IDT6168L	(2836)		Toshiba	K582C55A		
	Panasonic	MN2364				6116-200	(2877)			IDT6168LA	(2836)			TMP82C55	(3339)	
	SGS-Thomson					6116LP-120	(2877)			IDT6168S	(2836)			TMP8255	(3339)	
		MK37000				6116LP-150	(2877)			IDT6168SA	(2836)		Unicorn	UC82C55A		
		CM6400				6116LP-200	(2877)			IDT6169			Dallas	DS1287		
		23SC64							Matra-Harris	HM65682			GE/RCA	CDP6818	(2644, 2653)	
		23SC64A			Matra-Harris	HM6166				HM65768			Motorola	MC146818	(2932)	
		TMS2364				HM65161			MicronTech	MT5C1604				MC146818A	(2932)	
	TI	67C4501				HM65162				MT5C1605						
	AMD	CY7C401				HM65163				MT5C1608			Unicorn	UC68C18		
	Cypress	CY7C420				HM65728			Mitsubishi	M5M21C68P			Xecom	XE1287		
		DS2009				MS7825			Mosel	MS6168			Calmos	CA82C84A		
		DS2009				M5M116			Motorola	MCM6269			Fujitsu	MBL8284	(2635)	
	Dallas	IDT7201				M5M5116			NEC	μPD4314			Harris	CP82C84A		
	IDT	IDT7201A				M5M5117				μPD4314C			Intel	82C84A		
		IDT7201LA				M5M5118			Performance	P4C168				8284A		
		IDT7201SA				M58275				P4C169			Mitsubishi	M5L8284A		
	MMI	67L4501				M58725				PS6168				M5L8284AP		
	Mosel	MS7201				MCM2016			Ricoh	SSM6168			NEC	μPB8284		
	Samsung	KM75C01A			Motorola	MCM2016H			Saratoga	SSM6168				μPB8284A		
	Saratoga	SSL7201				MCM2018P			SGS-Thomson					μPD71084		
	SGS-Thomson					MCM6116				MK41H68			OKI	μPD71084C		
		MK4501				MMC2116				MK41H69				MSM82C84		
	SiliconG	SG4501				MSM2128				MK41L68			Samsung	UC82C84A		
	Unicorn	UC4501			National	MSM5126			Sony	CKX5416P/K			Unicorn	UC82C84A		
	ITT	SBA5089			OKI	MSM5128			TI	SMJ64C16			UMC	UM8284A		
	National	TP5089				MSM5129			Toshiba	SMJ68CE64			VLSI Tech	VL82C84A		
	Samsung	MK5089				P4C116				TMM2018			AMD	D82C88		
	SGS-Thomson				Performance	SMC6116				TMM2068			Calmos	CA82C88		
		STC5089			S-MOS	SSM6116			Vitellic	TMM2068AP			Fujitsu	MBL8288	(2635)	
		TCM5089			Saratoga					V61C68			Harris	CP82C88		
	AMD	AM9124			SGS-Thomson	ET2128				VT20C19	(3349)		Intel	82C88		
	CMD Micro	G2114				MK2817				VT20C66	(3343, 3345, 3350)			8288		
	Cypress	CY7C148	(2580)			MK6116				VT20C69	(3343, 3345, 3350)		Mitsubishi	M5L8288		
	Harris	HA5114			Sharp	LH5115				VT20C98				M5L8288S		
		HM6514	(2748)		Signetics	NE5517			UM6551	VT2069			NEC	μPB8288		
	Inmos	IMS1223	(2789)		Sony	CKX5814P				MPS6551				μPD71088		
	Intel	5114			Sprague	UDN6116				MP6551			OKI	μPD71088C		
	Matra-Harris	HM6514			STC	STC2018				S6551			Samsung	MSM82C88		
	Mitsubishi	M58981				STC6116			Gould/AMI	HM6551	(2749)		Unicorn	UC82C88		
	OKI	MSM5114			TI	SMJ68CE16			Harris	AN6551			UMC	UM8288		
	Sanyo	LC3514			Toshiba	TC5517B			Panasonic	R6551	(3028)		VLSI Tech	VL82C88		
	Signetics	5114				TMM2015A			Rockwell	UC6551			AMD	AM8237A		
	AMD	AM9114				TMM2018AP			Unicorn	VL6551				D8237A		
		AM9124				V61C16			VLSI Tech	HD6845				8237A		
	Intel	2114A				V62C16			Hitachi	Motorola	MC6845	(2932)		8237A-4		
	Krueger	2114-150	(2877)		VLSI Tech	VT20C18	(3343, 3345, 3349)		UM6845	Motorola	MC6845			8237A-5		
		2114-200	(2877)							National	F6845			M5M82C37A		
		2114-450	(2877)								F6845A			MSM82C37AP		
	Mitsubishi	M5L2114			AMD	SSM6167					K568C45			μPD8237		
	Motorola	MCM21L14			Cypress	CY7C167	(2580)		UM6845E	Unicorn	UC6845			μPD8237A		
		MCM2114			Fujitsu	MB8167A				VLSI Tech	VL6845			MSM82C37A		
		M5L2114			GE/RCA	CDM5167				Unicorn	UC6845E			MSM82C37A		
	National	F2114			Harris	HM65262	(2747)		UM6845R	Unicorn	UC6845R			NEC	μPD8237A	
		NMC2114A			Hitachi	HM6267				VLSI Tech	VL6845R			OKI	MSM82C37A	
	OKI	MSM2114			Inmos	IMS1400								S-MOS	SMC82C37AC-5	
	Rockwell	R6514				IMS1403	(2790)		UM74HCT162	GE/RCA	CD74HCT162	(2640)		Samsung	K582C37A	
	Sharp	LH2114			IDT	IDT6167				Signetics	74HCT162	(3057)		Toshiba	TMP82C37	(3339)
	Toshiba	TMM2114A			Intel	51C67			UM74HCT590					UC82C37A		
		TMM314A			Matra-Harris	HM65262				GoldStar	GD74LS590	(2708)		UMC	UM8737A	
	Cypress	CY6116				HM65263				Samsung	KS74AHCT590	(3035)		VLSI Tech	VL82C37A	
		CY7C128	(2580)		MicronTech	MT5C1601				TeledyneS	TSC500			Calmos	CA82C50A	
	GE/Intersil	IH6116	(2670)		Mitsubishi	M5M21C67				TI	SN74LS590			Exar	XR16C450	(2618)
	GE/RCA	CDM6116	(2644, 2653)			M5M2167					TL500			Harris	CP82C50A	
		CDM6116A	(2644, 2653)		NEC	μPD4311					TL5006			National	INS82C50A	
					S-MOS	SRM2267					TL5006				NS16C450	
					SGS-Thomson	SRM2367				Unicorn	UC74HCT590				NS16450	
	GoldStar	GM76C28	(2696, 2700)			MK41H66			UM82C11	Unicorn	UC82C11			Samsung	K582C250	
						MK41H67			UM82C284	AMD	82C284				K582C50	
	Harris	HM6516	(2747)			LH5167				Intel	82C284				LD1101	
		HM65162	(2747)			STC2167				Samsung	K582C284			Silicon Logic	SS173M450	(3255)
	Hitachi	HM6116				STC6167					82C88			VLSI Tech	VL16C450	(3363)
		HM6716				SMJ61CD16			UM82C288	AMD	82288				VL82C50	
		HM6719			TI	AM2169				Intel	82288				VL82C50A	
	Hyundai	HY61C16A			AMD	AM99CL68				Samsung	K582C288			Western	WD82C50A	(3395)
		HY6116A	(2778)			AM99C58			UM82C55A	AMD	D8255A			AMD	82C54	
	Inmos	IMS1433				CY7C168	(2580)			Calmos	CA82C55A				CA82C54	
	IDT	IDT6116	(2835)			CY7C169	(2580)			Harris	CP82C55A				CP82C54	
		IDT6116A	(2835)			MB81C68				Intel	82C55A				82C54	
		IDT6116L	(2835)		Fujitsu	MB81C68A				Mitsubishi	M5M82C55A			Mitsubishi	M5M82C54	
		IDT6116S	(2835)			HM6168HP					M5M82C55AP				M5M82C54P	
		IDT6166			Hitachi	HM6268				NEC	μPD71055				μPD71054C	
		81C28				HM6268L					μPD8255A			NEC	MSM82C54	
	Intel	2128-100	(2877)		Hyundai	HY61C68					μPD8255A-21-5			OKI		
	Krueger	2128-120	(2877)		Inmos	IMS1421C										
(Continued)				(Continued)				(Continued)				(Continued)				

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page		
United Microelectronics (UMC) (Cont'd)				UM8737A	Toshiba	TMP82C37	(Cont'd)	PIC7504	PMI	OP02	(Cont'd)	PIC7520	Motorola	MC7520	(Cont'd)		
					Unicorn	UC82C37A	(3339)			OP77			National	AD7520			
UM8254	S-MOS	SMC82C54A	(Cont'd)	UM9216	UMC	UM8237A			Raytheon	PM741				DAC1020			
	Samsung	KS82C54			VLSI Tech	VL82C37A			Samsung	RM741				DAC1021			
	Unicorn	UC82C54A			SMC	FDC92C36			SGS-Thomson	LM741	(3039)			DAC1022			
UM8259A	VLSI Tech	VL82C54				FDC9216				μA741				7520			
	Calmos	CA82C59A			Unicorn	UC9216				LM741			PIC7522	LA7520	(2462, 2470)		
	Fujitsu	MBL8259	(2635)		UMC	UM8326				LS141				AD7522			
	Harris	CP82C59A			Western	WD92C32			Signetics	μA741				MicroPwr	MP7522		
	Intel	82C59A				WD9216			SiliconG	SG741			PIC7523	AD7523	(2470)		
		8259A							TI	μA741				Datel	DAC7523	(2596)	
										μA741M				GE/Intersil	AD7523	(2666)	
	MicronTech	MT8259							Toshiba	TA7504				Maxim	AD7523		
	Mitsubishi	M5M82C59						PIC7505	SiliconG	SM611				MicroPwr	MP7523		
		M5M82C59AP							Unitrode	PIC611				Motorola	MC7523		
		M5M8259AP						PIC7506	Datel	DAC612				National	LM7523		
	National	INS8259							SiliconG	SM612				PMI	PM7523		
	NEC	μPD71059						PIC7507	Unitrode	PIC612				Raytheon	RC7523		
		μPD71059C							SiliconG	SM625			PIC7524	Motorola	MC7525		
		μPD8259A							Unitrode	PIC625				National	LM7525		
	OKI	MSM82C59A			TI	L298	(3322)			PIC7525				7525			
	S-MOS	SMC82C59AC				L298	(3322)			SM626			PIC7525	SiliconG	SM625		
	Samsung	KS82C59A			PBL3770A	L298				PIC626				Unitrode	PIC625		
	Toshiba	TMP82C59	(3339)		SiliconG	TLP298	(3322)		PIC7508	PIC7526				PIC7507			
		TMP8259	(3339)		Unitrode	SM600				PIC626				SM626			
	Unicorn	UC82C59A			SiliconG	PIC7519			PIC7509	PIC7527				PIC626			
	VLSI Tech	VL82C59A			National	DM5445				PIC7527				PIC7508			
	Intel	8272			SGS-Thomson	L602			PIC7510	AD7510	(2424, 2462)			PIC7527	SM627		
UM8272A	NEC	μPD72066				S042				MicroPwr	MP7510DI			Unitrode	PIC627		
	Rockwell	R6765				NE602	(3155)			PMI	SW7510			PIC7509			
		R6765A				SA602				TeledyneS	TSC445	(3273)		PIC7528	AD7528	(2413, 2461)	
		FDC72C65				SM602				AD7511	(2424, 2462)						
	SMC	FDC765A				SN5445					AD7590	(2424, 2462)		Maxim	AD7528		
	Unicorn	UC82C384				SM610					AD7591	(2424, 2462)		MicroPwr	MP7528		
UM8284A	Calmos	CA82C84A	(2635)		PIC610	SM611					AD7591	(2424, 2462)		Motorola	MC7528		
	Fujitsu	MBL8284			PIC611	Unitrode					AD7591	(2424, 2462)		Plessey	ZN7528		
	Harris	CP82C84A			PIC612	Datel					AD7591	(2424, 2462)		PMI	PM7528	(3019)	
	Intel	82C84A				SM612					AD7591	(2424, 2462)		Raytheon	RC7528		
		8284A				PIC7506					AD7591	(2424, 2462)		TI	TLC7528	(3325)	
	Mitsubishi	M5L8284A			PIC625	Unitrode					AD7591	(2424, 2462)		Motorola	MC7529		
		M5L8284AP				PIC7507			PIC7512	TSC445	(3273)			National	LM7529		
	NEC	μPB8284				PIC7525				AD7512	(2424, 2462)			7529			
		μPB8284A				SM626				AD7592	(2424, 2462)			Raytheon	RC7529		
		μPD71084				PIC7508				AD7592	(2424, 2462)			AD	AD7530	(2470)	
		μPD71084C				PIC7526					AD7592	(2424, 2462)		GE/Intersil	AD7530	(2666)	
	OKI	MSM82C84				SM627					AD7592	(2424, 2462)			AD7530		
		UC82C84A				PIC7509					AD7592	(2424, 2462)		Maxim	AD7530		
		UC82C84A				PIC7527					AD7592	(2424, 2462)		MicroPwr	MP7530		
	Samsung	KS82C84A				SM635			PIC7513	TSC444	(3273)			National	AD7530		
	Unicorn	UC82C84A				SSI980				ADG200	(2471)			AD7530			
UM8288	VLSI Tech	VL82C84A	(2635)			M957				GE/Intersil	DG200	(2671)		Sanyo	LA7530		
	AMD	D82C88				AD636	(2432)				DG200	(2671)		AD	AD7531	(2470)	
	Calmos	CA82C88				SM636					DG200A			GE/Intersil	AD7531	(2666)	
	Fujitsu	MBL8288				SSI981			PIC7514	SM646				AS7531			
	Harris	CP82C88				M980				PIC646				Maxim	AD7531		
	Intel	82C88				M981				PIC7532				MicroPwr	MP7531		
		8288				SM637				SM647				National	AD7531		
	Mitsubishi	M5L8288				SM645				PIC647				PMI	PM7531		
		M5L82885				SM646				CD4016	(2639, 2653, 2655)			SiliconG	SM646		
	NEC	μPB8288				PIC7514				CD4066	(2639, 2655, 2658)			Unitrode	PIC646		
		μPD71088				PIC7532				MC14016	(2945)			PIC7514			
		μPD71088C				SM647				MC14066	(2945)			AD	AD7533	(2411, 2462)	
	OKI	MSM82C88				PIC7515					MC14066	(2945)			Datel	DAC7533	(2596)
	Samsung	KS82C88				SM655					CD4016			GE/Intersil	AD7533	(2666)	
	Unicorn	UC82C88				SM656					CD4066			Maxim	AD7533		
	UMC	UM82C88				PIC7517					F4016			MicroPwr	MP7533		
UM8326	VLSI Tech	VL82C88				SM657					F4066				MP7633		
	SMC	FDC92C36				PIC7518					LC4016			National	AD7533		
		FDC9216				AD7501	(2425, 2462)				LC4066			PMI	PM7533	(3019)	
	Unicorn	UC9216				MP7501											
	UMC	UM9216				AD7502	(2425, 2462)										
	Western	WD92C32				MP7502											
UM8737A	AMD	AM8237A				TA7502											
		D8237A				AD7503	(2425, 2462)										
		8237A					(2600)										
	Calmos	CA82C37A				Datel	MV808										
	Harris	CP82C37A				HybridSys	MUX201										
	Intel	8037A				MicroPwr	MP7503										
		8237				AD	AD741	(2427, 2462)									
		8237A-4															
		8237A-5															
	Mitsubishi	M5M82C37A				Fujitsu	MB3609										
		M5M82C37AP				Hitachi	HA17741										
	NEC	μPD8237				MicroPwr	MP0P02										
		μPD8237A				Motorola	MC1741	(2953, 2989)									
	OKI	MSM82C37A															
	S-MOS	SMC82C37AC-5															
	Samsung	KS82C37A															
(Continued)				(Continued)				(Continued)				(Continued)					

IC MASTER

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Unitrode (Cont'd)				UC1526A (Cont'd)				UC1844 (Cont'd)				UC2524A (Cont'd)			
UC137	IPS	IP137		LinearTech	LT1526			Unitrode	UC1844A			National	μA2524		
	LinearTech	LM137		Motorola	SG1526	(2964)		UC1844A	UC1845			SGS-Thomson	SG2524		
		LT137			SG3526	(2964)			UC1845A				UC2524A		
	MCE	MCELM137		SiliconG	SG1526				IP1844-45				SG2524		
	Motorola	LM137	(2962)		SG1526B				UC1844A			SiliconG	SG2524		
	National	LM137			SG3526				UC1845A				SG2524B		
	SGS-Thomson				SG3526								SG2524		
		LM137		Sprague	UC1526				UC1844-45			TI	SG2524		
	SiliconG	SG137		Unitrode	CS1527A				TSC18C44			Unitrode	UC2524		
UC140-05	National	LM140-05		Cherry Semi	IP1527A				TSC18C45			Cherry Semi	CS2525		
	SiliconG	SG140-05		IPS	IP1527A				TSC28C45				CS2525A		
UC140-12	IPS	IP140-12		LinearTech	LT1527A				UC1844				ELANTEC	EHA2525	
	Motorola	LM140-12	(2960)		SG1527				UC1845				EXAR	XR2525A	
	National	LM140-12		Motorola	SG1527A	(2964)			UC1845A				HARRIS	HA2525	
	SiliconG	SG140-12		SGS-Thomson	SG1527				IP1844-45				IPS	IP2525A	
UC140-15	IPS	IP140-15			SG1527A				UC1844A				LinearTech	LT2525A	
	Motorola	LM140-15	(2960)	SiliconG	SG1527				UC1845A				Motorola	SG2525A	(2964)
	National	LM140-15			SG1527A							SGS-Thomson	SG2525A		
	SiliconG	SG140-15		TI	TL1527				UC1844-45				SG2525		
UC150	IPS	IP150		Unitrode	UC1527A				TSC18C44			SiliconG	SG2525		
	Lambda	LLM150		Cherry Semi	CS1527A				TSC18C45				SG2525A		
	LinearTech	LM150		IPS	IP1527A				TSC28C45			TI	SG2525A		
		LT150		LinearTech	LT1527				UC1844				TL2525		
	Motorola	LM150	(2962)		SG1527A				UC1844A				CS2526		
	National	LM150		Motorola	SG1527A	(2964)			UC1845A				IP2526		
	SiliconG	SG150		SGS-Thomson	SG1527				IP1844-45				LT2526		
UC1524	Cherry Semi	CS1524			SG1527A				UC1844A				Motorola	SG2526	(2964)
	Exar	XR1524			SG1527A				UC1845A				SiliconG	SG2526	
	IPS	IP1524			SG1527A								Cherry Semi	CS2527	
		IP1524B		SiliconG	SG1527				UC1844-45					CS2527A	
	LinearTech	LT1524			SG1527A				TSC18C44				EXAR	XR2527A	
		SG1524		TI	TL1527				TSC18C45				IPS	IP2527A	
	National	μA1524		Unitrode	UC1527				TSC28C45				LinearTech	LT2527A	
	SGS-Thomson	LM1524		SiliconG	SG1532				UC1844				Motorola	SG2527A	(2964)
		SG1524			SG1532				UC1844A				SiliconG	SG2527A	
		SG1524A		UC1532	XR1543	(2619)			UC1845				TI	SG2527A	
		UC1524A		UC1543	IPS				UC1846				TL2527		
		SG1524			IP1543				DM54ALS468				UC2527A	CS2527	
	SiliconG	SG1524		UC1544	SG1543				DM54AS1034					CS2527A	
		SG1524B			SG1544								EXAR	XR2527A	
		UC1524A		UC1840	SGS-Thomson								IPS	IP2527A	
	Unitrode	UC1524A			UC1840								LinearTech	LT2527A	
UC1524A	Cherry Semi	CS1524			SG1840								Motorola	SG2527A	(2964)
	Exar	XR1524			UC1841								SiliconG	SG2527A	
	IPS	IP1524		UC1841	SGS-Thomson								TI	SG2527A	
		IP1524B			UC1840									TL2527	
	LinearTech	LT1524			SG1840									UC2527	
		SG1524			UC1840								Unitrode	SG2540	
	National	μA1524			Cherry Semi								SiliconG	SG2540	
	SGS-Thomson	LM1524			IPS								EXAR	XR2543	
		SG1524			LinearTech								IPS	IP2543	
		SG1524A			Motorola								SiliconG	SG2543	
		UC1524A			UC1842A								IPS	IP2544	
		SG1524			SGS-Thomson								SiliconG	SG2544	
		SG1524B			UC1842									UC2840	
		UC1524A			SG1842									SG2840	
	SiliconG	SG1524			TSC18C42									CS2842A	
		SG1524B			UC1842A									LS2842	
	Unitrode	UC1524			UC1842A									UC2842	
UC1525	Cherry Semi	CS1525A			Cherry Semi									SG2842	
	Exar	XR1525A			IPS									TSC28C42	
	IPS	IP1525A			LinearTech									CS2843	
	LinearTech	LT1525			Motorola									IP2843	
		LT1525A			UC1842A									UC2843	
		SG1525			SGS-Thomson									SG2843	
	Motorola	SG1525A	(2964)		UC1842									TSC28C43	
	SiliconG	SG1525			SG1842									UC2844	
		SG1525A			TSC18C42									UC2846	
	TI	TL1525			UC1842A										
	Unitrode	UC1525A			Cherry Semi										
UC1525A	Cherry Semi	CS1525A			IPS										
	Exar	XR1525A			LinearTech										
	IPS	IP1525A			Motorola										
	LinearTech	LT1525			UC1843A										
		LT1525A			SGS-Thomson										
	Motorola	SG1525A	(2964)		UC1843										
	SiliconG	SG1525			SG1843										
		SG1525A			TSC18C43										
	TI	TL1525			UC1843A										
	Unitrode	UC1525			Cherry Semi										
UC1526	Cherry Semi	CH1526			IPS										
	IPS	IP1526			LinearTech										
	LinearTech	LT1526			Motorola										
	Motorola	SG1526	(2964)		UC1844										
		SG3526	(2964)		IPS										
	SiliconG	SG1526			Motorola										
		SG1526B			UC1845A										
		SG3526			SGS-Thomson										
	Sprague	SG3526			UC1844-45										
	Unitrode	UC1526A			TSC18C44										
UC1526A	Cherry Semi	CH1526			TSC18C45										
	IPS	IP1526			TSC28C45										

* Discontinued

Bold face device numbers indicate manufacturers data is provided in the IC Master on the Pages noted.

ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Unitorde (Cont'd)				UC340-15 (Cont'd)				UC3527A				UC7812 (Cont'd)			
UC317	National	μA317	(Cont'd)	SGS-Thomson	SiliconG	μA7815	(2962)	Exar	Cherry Semi	CS3527	(2964)	Motorola	National	LM340-12	(2960)
		LM317				L7815				XR3527A				MC7812	
UC320-05	NEC	μPC317	(2714)	TI	Toshiba	SG340-15	(2619)	LinearTech	IPS	LT3527	(2964)	SiliconG	TI	μA7812	(2714)
		SGS-Thomson				SG7815				LT3527A				LM340-12	
UC320-12	National	IP120-5	(2714)	Motorola	Unitrode	SG7815A	(2651, 2657, 2659)	TI	Lambda	SG3527	(2964)	SGS-Thomson	TI	μPC7812	(2961)
		IP320-5				LM340-15				SG3527A				MC7812	
UC320-15	National	μA79M05	(2961)	National	LinearTech	LM350	(2651, 2659)	SGS-Thomson	Cherry Semi	LT350	(2964)	SiliconG	TI	μA7812	(2714)
		LM120				LM350				SG3527A				L7812	
UC320-15	SiliconG	LM320-05	(2714)	SGS-Thomson	Signetics	LM350	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	GoldStar	IPS	SG340-12	(2714)
		LM79M05				SG3524				SG3527A				SG7812	
UC320-12	National	SG120-5	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Cherry Semi	SG3527A	(2964)	Motorola	Lambda	SG7812A	(2960)
		SH12005				SG3524				SG3527A				SG7812AT	
UC320-15	SiliconG	LM320-12	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	μA7812	(2714)
		LM7915				SG3524				SG3527A				TA78012	
UC320-15	National	LM320T15	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-12	(2714)
		LM7915				SG3524				SG3527A				GL7815	
UC320-15	NEC	μPC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Cherry Semi	SG3527A	(2964)	National	Toshiba	IP140-15	(2714)
		MC7915				SG3524				SG3527A				IP7815	
UC320-15	Samsung	LM320-15	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	IP7815AC	(2960)
		MC7915				SG3524				SG3527A				LA51515	
UC320-15	Motorola	LM320T15	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM7915				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		MC7915				SG3524				SG3527A				IP7905	
UC320-15	Samsung	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		MC7915				SG3524				SG3527A				μA7815	
UC320-15	Motorola	MC7915	(2961)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Unitrode	UC340-15	(2961)
		μA7915				SG3524				SG3527A				IP7905	
UC320-15	National	LM320-15	(2714)	SGS-Thomson	TI	SG3524	(2651, 2659)	SGS-Thomson	Exar	SG3527A	(2964)	National	Toshiba	LM340-15	(2960)
		LM320T15				SG3524				SG3527A				μA7815	
UC320-15	NEC	μPC7915	(2714)	SGS-Thomson	TI	SG									

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Universal (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
• UM2332	SiliconG Supertex	SG3532 CM3200 23C32		• US574HC133	Mitsubishi	M5M5117 M5M5118 M58275 M58725		• US74HCT138	CTI GE/RCA	74HCT138 CD74HCT138 (2640)		• US74HCT195	GE/RCA	CD74HCT195 (2640)	
• UM2332	TI	D51C69 P51C69		• US574HC133	Motorola	MCM2016 MCM2016H MCM2018P MCM6116			National Plessey SGS-Thomson	MM74HCT138 MV74HCT138 74HCT138 (3057)		• US74HCT20	Signetics GE/RCA	74HCT195 (3057) CD74HCT20 (2640) 74HCT20 (3057)	
• UM2332	Toshiba	TMM333P VT2332		• US574HC133	National OKI	MSM2128 MSM5126 MSM5128 MSM5129		• US74HCT139	CTI GE/RCA	74HCT139 TC74HCT138A 74HCT139 CD74HCT139 (2640)		• US74HCT221	Signetics GE/RCA	74HCT221 (3057) CD74HCT221 (2640)	
• UM2333	Commodore	MPS2333 R09433		• US574HC133	Performance	P4C116 SMC6116 SSM6116		• US74HCT14	Signetics Supertex	74HCT139 (3057) 74HCT139 CD74HCT14 (2640)		• US74HCT237	Signetics GE/RCA	74HCT237 (2640) CD74HCT237 (2640)	
• UM2333-30	National	F3533 R09433 F3533 23C32 UM2333		• US574HC133	Saratoga SGS-Thomson	ET1218 MK2817 MK6116 LH5115 NE5517 CXK5814P UDN6116 STC2018 STC6116 SMJ68CE16 TC5517B TMM2015A TMM2018 TMM2018AP UM6116 V61C16 V62C16		• US74HCT147	Signetics GE/RCA	74HCT147 (3057) CD74HCT147 (2640)		• US74HCT240	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	MV74HCT237 74HCT237 74HCT237 SN74HCT237 74HCT240 CD74HCT240 (2640) HD74HCT240 MIC74HCT240 MC74HCT240 MM74HCT240 MV74HCT240 74HCT240 M74HCT240 74HCT240 (3057) 74HCT240 SN74HCT240 TC74HCT240A 74HCT241 CD74HCT241 (2640)	
• UM2532	Krueger	2532-350 2532-450 (2877)		• US574HC133	Sharp	NE5517 CXK5814P UDN6116 STC2018 STC6116 SMJ68CE16 TC5517B TMM2015A TMM2018 TMM2018AP UM6116 V61C16 V62C16		• US74HCT151	Signetics GE/RCA	74HCT151 (3057) CD74HCT151 (2640)		• US74HCT241	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT240 MIC74HCT240 MC74HCT240 MM74HCT240 MV74HCT240 74HCT240 M74HCT240 74HCT240 (3057) 74HCT240 SN74HCT240 TC74HCT240A 74HCT241 CD74HCT241 (2640)	
• UM2532	National	MM2532 NMC2532 TDA2530 TDA2532 TDA2530 SG2532		• US574HC133	TI	TMM2018 TMM2018AP UM6116 V61C16 V62C16		• US74HCT153	National Signetics	MM74HCT151 74HCT151 (3057) CD74HCT153 (2640)		• US74HCT242	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT241 MIC74HCT241 MC74HCT241 MM74HCT241 MV74HCT241 74HCT241 M74HCT241 74HCT241 (3057) 74HCT241 SN74HCT241 TC74HCT241A CD74HCT242 (2640)	
• UM2532	Plessey	SG2532		• US574HC133	Vitellic	V61C16 V62C16		• US74HCT154	National Signetics	MM74HCT153 74HCT153 (3057) CD74HCT154 (2640)		• US74HCT243	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT242 MIC74HCT242 MC74HCT242 MM74HCT242 MV74HCT242 74HCT242 M74HCT242 74HCT242 (3057) 74HCT242 SN74HCT242 TC74HCT242A CD74HCT243 (2640)	
• UM2732	AMD	AM2732 M2732 2732 2732A		• US574HC133	VLSI Tech	VT20C18 (3343, 3345, 3349)		• US74HCT157	National Signetics	MM74HCT157 74HCT157 (3057) CD74HCT157 (2640, 2653)		• US74HCT244	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT243 MIC74HCT243 MC74HCT243 MM74HCT243 MV74HCT243 74HCT243 M74HCT243 74HCT243 (3057) 74HCT243 SN74HCT243 TC74HCT243A CD74HCT244 (2640, 2653)	
• UM2732	Krueger	2732-250 2732-300 2732-350 2732-450 (2877)		• US74HCT00	GE/RCA	CD74HCT00 (2639, 2653)		• US74HCT161	National Signetics	MM74HCT160 74HCT160 (3057) CD74HCT161 (2640)		• US74HCT245	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT244 MIC74HCT244 MC74HCT244 MM74HCT244 MV74HCT244 74HCT244 M74HCT244 74HCT244 (3057) 74HCT244 SN74HCT244 TC74HCT244A 74HCT245 G74SC245 CD74HCT245 (2640, 2653)	
• UM2732	National	MM2732 NMC2732 MSM2732		• US74HCT04	Motorola	MC74HCT04 MM74HCT04 74HCT04 (3057) CD74HCT02 (2639) 74HCT02 (3057) CD74HCT04 (2639) MC74HCT04 MM74HCT04 SGS-Thomson		• US74HCT162	National Signetics	MM74HCT161 74HCT161 (3057) CD74HCT162 (2640)		• US74HCT251	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT245 MIC74HCT245 MC74HCT245 MM74HCT245 MV74HCT245 74HCT245 M74HCT245 74HCT245 (3057) 74HCT245 SN74HCT245 TC74HCT245A 74HCT251 CD74HCT251 (2640)	
• US74HCT133	GE/Intersil GE/RCA	IH6116 (2580) IH6116 (2670) CDM6116 (2644, 2653) CDM6116A (2644, 2653)		• US74HCT08	Motorola	MC74HCT08 MM74HCT08 74HCT08 (3057) CD74HCT10 (2640) 74HCT10 (3057) CD74HCT107 (2640)		• US74HCT163	National Signetics	MM74HCT162 74HCT162 (3057) CD74HCT163 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT246 MIC74HCT246 MC74HCT246 MM74HCT246 MV74HCT246 74HCT246 M74HCT246 74HCT246 (3057) 74HCT246 SN74HCT246 TC74HCT246A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	GoldStar	GM76C28 (2696, 2700)		• US74HCT10	GE/RCA	CD74HCT10 (2640) 74HCT10 (3057) CD74HCT107 (2640)		• US74HCT164	National Signetics	MM74HCT163 74HCT163 (3057) CD74HCT164 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT247 MIC74HCT247 MC74HCT247 MM74HCT247 MV74HCT247 74HCT247 M74HCT247 74HCT247 (3057) 74HCT247 SN74HCT247 TC74HCT247A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	Harris	HM6516 (2747) HM65162 (2747)		• US74HCT107	GE/RCA	CD74HCT107 (2640)		• US74HCT165	National Signetics	MM74HCT164 74HCT164 (3057) CD74HCT165 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT248 MIC74HCT248 MC74HCT248 MM74HCT248 MV74HCT248 74HCT248 M74HCT248 74HCT248 (3057) 74HCT248 SN74HCT248 TC74HCT248A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	Hitachi	HM6116 HM6716 HM6719 HY61C16A		• US74HCT109	GE/RCA	CD74HCT109 (2640)		• US74HCT166	National Signetics	MM74HCT165 74HCT165 (3057) CD74HCT166 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT249 MIC74HCT249 MC74HCT249 MM74HCT249 MV74HCT249 74HCT249 M74HCT249 74HCT249 (3057) 74HCT249 SN74HCT249 TC74HCT249A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	Hyundai	HY61C16A HY6116A (2778)		• US74HCT11	National Signetics	MM74HCT109 74HCT109 (3057) CD74HCT11 (2640) 74HCT11 (3057) CD74HCT112 (2640)		• US74HCT167	National Signetics	MM74HCT166 74HCT166 (3057) CD74HCT167 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT250 MIC74HCT250 MC74HCT250 MM74HCT250 MV74HCT250 74HCT250 M74HCT250 74HCT250 (3057) 74HCT250 SN74HCT250 TC74HCT250A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	Inmos	IMS1433 IDT6116 (2835) IDT6116A (2835) IDT6116L (2835) IDT6116S (2835) IDT6166 81C28		• US74HCT112	GE/RCA	CD74HCT112 (2640)		• US74HCT168	National Signetics	MM74HCT167 74HCT167 (3057) CD74HCT168 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT251 MIC74HCT251 MC74HCT251 MM74HCT251 MV74HCT251 74HCT251 M74HCT251 74HCT251 (3057) 74HCT251 SN74HCT251 TC74HCT251A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	Intel	81C28 2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116-200 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)		• US74HCT123	GE/RCA	CD74HCT123 (2640)		• US74HCT169	National Signetics	MM74HCT168 74HCT168 (3057) CD74HCT169 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT252 MIC74HCT252 MC74HCT252 MM74HCT252 MV74HCT252 74HCT252 M74HCT252 74HCT252 (3057) 74HCT252 SN74HCT252 TC74HCT252A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	Krueger	2128-100 (2877) 2128-120 (2877) 2128-150 (2877) 2128-200 (2877) 6116-120 (2877) 6116-150 (2877) 6116-200 (2877) 6116LP-120 (2877) 6116LP-150 (2877) 6116LP-200 (2877)		• US74HCT125	GE/RCA	CD74HCT125 (2640)		• US74HCT170	National Signetics	MM74HCT169 74HCT169 (3057) CD74HCT170 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT253 MIC74HCT253 MC74HCT253 MM74HCT253 MV74HCT253 74HCT253 M74HCT253 74HCT253 (3057) 74HCT253 SN74HCT253 TC74HCT253A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	Matra-Harris	HM6166 HM65161 HM65162 HM65163 HM65728 MT5C1608 MS8725 MSM116 MSM5116		• US74HCT126	GE/RCA	CD74HCT126 (2640)		• US74HCT171	National Signetics	MM74HCT170 74HCT170 (3057) CD74HCT171 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT254 MIC74HCT254 MC74HCT254 MM74HCT254 MV74HCT254 74HCT254 M74HCT254 74HCT254 (3057) 74HCT254 SN74HCT254 TC74HCT254A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	MicronTech	MT5C1608		• US74HCT127	GE/RCA	CD74HCT127 (2640)		• US74HCT172	National Signetics	MM74HCT171 74HCT171 (3057) CD74HCT172 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT255 MIC74HCT255 MC74HCT255 MM74HCT255 MV74HCT255 74HCT255 M74HCT255 74HCT255 (3057) 74HCT255 SN74HCT255 TC74HCT255A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
• US74HCT133	Mitsubishi	MS8725 MSM116 MSM5116		• US74HCT128	GE/RCA	CD74HCT128 (2640)		• US74HCT173	National Signetics	MM74HCT172 74HCT172 (3057) CD74HCT173 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT256 MIC74HCT256 MC74HCT256 MM74HCT256 MV74HCT256 74HCT256 M74HCT256 74HCT256 (3057) 74HCT256 SN74HCT256 TC74HCT256A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
		(Continued)		• US74HCT129	GE/RCA	CD74HCT129 (2640)		• US74HCT174	National Signetics	MM74HCT173 74HCT173 (3057) CD74HCT174 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT257 MIC74HCT257 MC74HCT257 MM74HCT257 MV74HCT257 74HCT257 M74HCT257 74HCT257 (3057) 74HCT257 SN74HCT257 TC74HCT257A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
				• US74HCT130	GE/RCA	CD74HCT130 (2640)		• US74HCT175	National Signetics	MM74HCT174 74HCT174 (3057) CD74HCT175 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT258 MIC74HCT258 MC74HCT258 MM74HCT258 MV74HCT258 74HCT258 M74HCT258 74HCT258 (3057) 74HCT258 SN74HCT258 TC74HCT258A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
				• US74HCT131	GE/RCA	CD74HCT131 (2640)		• US74HCT176	National Signetics	MM74HCT175 74HCT175 (3057) CD74HCT176 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT259 MIC74HCT259 MC74HCT259 MM74HCT259 MV74HCT259 74HCT259 M74HCT259 74HCT259 (3057) 74HCT259 SN74HCT259 TC74HCT259A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
				• US74HCT132	GE/RCA	CD74HCT132 (2640)		• US74HCT177	National Signetics	MM74HCT176 74HCT176 (3057) CD74HCT177 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT260 MIC74HCT260 MC74HCT260 MM74HCT260 MV74HCT260 74HCT260 M74HCT260 74HCT260 (3057) 74HCT260 SN74HCT260 TC74HCT260A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
				• US74HCT133	GE/RCA	CD74HCT133 (2640)		• US74HCT178	National Signetics	MM74HCT177 74HCT177 (3057) CD74HCT178 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT261 MIC74HCT261 MC74HCT261 MM74HCT261 MV74HCT261 74HCT261 M74HCT261 74HCT261 (3057) 74HCT261 SN74HCT261 TC74HCT261A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
				• US74HCT134	GE/RCA	CD74HCT134 (2640)		• US74HCT179	National Signetics	MM74HCT178 74HCT178 (3057) CD74HCT179 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT262 MIC74HCT262 MC74HCT262 MM74HCT262 MV74HCT262 74HCT262 M74HCT262 74HCT262 (3057) 74HCT262 SN74HCT262 TC74HCT262A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
				• US74HCT135	GE/RCA	CD74HCT135 (2640)		• US74HCT180	National Signetics	MM74HCT179 74HCT179 (3057) CD74HCT180 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT263 MIC74HCT263 MC74HCT263 MM74HCT263 MV74HCT263 74HCT263 M74HCT263 74HCT263 (3057) 74HCT263 SN74HCT263 TC74HCT263A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
				• US74HCT136	GE/RCA	CD74HCT136 (2640)		• US74HCT181	National Signetics	MM74HCT180 74HCT180 (3057) CD74HCT181 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT264 MIC74HCT264 MC74HCT264 MM74HCT264 MV74HCT264 74HCT264 M74HCT264 74HCT264 (3057) 74HCT264 SN74HCT264 TC74HCT264A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
				• US74HCT137	GE/RCA	CD74HCT137 (2640)		• US74HCT182	National Signetics	MM74HCT181 74HCT181 (3057) CD74HCT182 (2640)		• US74HCT255	Hitachi Micrel Motorola National Plessey Samsung SGS-Thomson	HD74HCT265 MIC74HCT265 MC74HCT265 MM74HCT265 MV74HCT265 74HCT265 M74HCT265 74HCT265 (3057) 74HCT265 SN74HCT265 TC74HCT265A 74HCT255 G74SC245 CD74HCT255 (2640, 2653)	
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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Universal (Cont'd)				US74HCT4017	GE/RCA	CD74HCT4017 (2641)		US74HCT541	(Cont'd)			US74HCT74	GE/RCA	CD74HCT74 (2640)	
US74HCT253	GE/RCA	CD74HCT253 (2640)		US74HCT4017	Signetics	74HCT4017 (3057)		National	MM74HCT541			National	MM74HCT74	74HCT74 (3057)	
	National	MM74HCT253		US74HCT4020	GE/RCA	CD74HCT4020 (2641)		Plessey	MV74HCT541			US74HCT75	GE/RCA	CD74HCT75 (2640)	
US74HCT257	GE/RCA	CD74HCT257 (2640, 2653)		US74HCT4024	Signetics	74HCT4020 (3057)		SGS-Thomson	M74HCT541			US74HCT76	Signetics	74HCT76 (3057)	
	National	MM74HCT257		US74HCT4024	GE/RCA	CD74HCT4024 (2641)		Signetics	74HCT541 (3057)			US74HCT85	GE/RCA	CD74HCT85 (2640)	
US74HCT259	GE/RCA	CD74HCT259 (2640)		US74HCT4040	Signetics	74HCT4024 (3057)		Supertex	74HCT541			US74HCT86	GE/RCA	CD74HCT86 (2640)	
	National	MM74HCT259		US74HCT4049	GE/RCA	CD74HCT4049 (2641)		TI	SN74HCT541			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT27	GE/RCA	CD74HCT27 (2640)		US74HCT4049	Signetics	74HCT4049 (3057)		Toshiba	TC74HCT541			US74HCT86	GE/RCA	CD74HCT86 (2640)	
	National	MM74HCT27		US74HCT4049	Signetics	74HCT4049 (3057)		CTI	74HCT563			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT273	GE/RCA	CD74HCT273 (2640)		US74HCT4049	Signetics	74HCT4049 (3057)		GE/RCA	CD74HCT563 (2641)			US74HCT86	GE/RCA	CD74HCT86 (2640)	
	National	MM74HCT273		US74HCT4049	Signetics	74HCT4049 (3057)		Micrel	MIC74HCT563			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT299	GE/RCA	CD74HCT299 (2640)		US74HCT4050	GE/RCA	CD74HCT4050 (2641)		National	MM74HCT563			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT299		US74HCT4050	Signetics	74HCT4050 (3057)		Plessey	MV74HCT563			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT30	GE/RCA	CD74HCT30 (2640)		US74HCT4051	GE/RCA	CD74HCT4051 (2641, 2655)		SGS-Thomson	M74HCT563			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT30		US74HCT4051	Signetics	74HCT4051 (3057)		Signetics	74HCT563 (3057)			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT32	GE/RCA	CD74HCT32 (2640)		US74HCT4051	Signetics	74HCT4051 (3057)		TI	SN74HCT563			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT32		US74HCT4051	Signetics	74HCT4051 (3057)		Toshiba	TC74HCT563			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT354	GE/RCA	CD74HCT354 (2640)		US74HCT4051	Signetics	74HCT4051 (3057)		CTI	74HCT564			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT354		US74HCT4051	Signetics	74HCT4051 (3057)		GE/RCA	CD74HCT564 (2641)			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT356	GE/RCA	CD74HCT356 (2640)		US74HCT4051	Signetics	74HCT4051 (3057)		Micrel	MIC74HCT564			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT356		US74HCT4051	Signetics	74HCT4051 (3057)		Motorola	MC74HCT564			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT365	GE/RCA	CD74HCT365 (2641)		US74HCT4051	Signetics	74HCT4051 (3057)		National	MM74HCT564			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT365		US74HCT4051	Signetics	74HCT4051 (3057)		Plessey	MV74HCT564			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT366	GE/RCA	CD74HCT366 (2641)		US74HCT4051	Signetics	74HCT4051 (3057)		SGS-Thomson	M74HCT564			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT366		US74HCT4051	Signetics	74HCT4051 (3057)		Signetics	74HCT564 (3057)			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT367	GE/RCA	CD74HCT367 (2641)		US74HCT4051	Signetics	74HCT4051 (3057)		TI	SN74HCT564			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT367		US74HCT4051	Signetics	74HCT4051 (3057)		Toshiba	TC74HCT564			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT368	GE/RCA	CD74HCT368 (2641)		US74HCT4051	Signetics	74HCT4051 (3057)		CTI	74HCT573			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT368		US74HCT4051	Signetics	74HCT4051 (3057)		GE/RCA	CD74HCT573 (2641)			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT373	Signetics	74HCT368 (3057)		US74HCT4051	Signetics	74HCT4051 (3057)		Micrel	MIC74HCT573			US74HCT86	Signetics	74HCT86 (3057)	
	CTI	74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		National	MM74HCT573			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT373	CMD Micro	G74SC373		US74HCT4051	Signetics	74HCT4051 (3057)		Plessey	MV74HCT573			US74HCT86	Signetics	74HCT86 (3057)	
	GE/RCA	CD74HCT373 (2641, 2653)		US74HCT4051	Signetics	74HCT4051 (3057)		SGS-Thomson	M74HCT573			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT373	Hitachi	HD74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		Signetics	74HCT573 (3057)			US74HCT86	Signetics	74HCT86 (3057)	
	Micrel	MIC74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		TI	SN74HCT573			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT373	Motorola	MC74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		Toshiba	TC74HCT573			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		CTI	74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT373	Plessey	MV74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		GE/RCA	CD74HCT574 (2641)			US74HCT86	Signetics	74HCT86 (3057)	
	SGS-Thomson	M74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		Micrel	MIC74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT373	Signetics	74HCT373 (3057)		US74HCT4051	Signetics	74HCT4051 (3057)		National	MM74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
	Supertex	74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		Plessey	MV74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT374	TI	SN74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		SGS-Thomson	M74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
	Toshiba	TC74HCT373		US74HCT4051	Signetics	74HCT4051 (3057)		Signetics	74HCT574 (3057)			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT374	CTI	74HCT374		US74HCT4051	Signetics	74HCT4051 (3057)		TI	SN74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
	CMD Micro	G74SC374		US74HCT4051	Signetics	74HCT4051 (3057)		Toshiba	TC74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT374	GE/RCA	CD74HCT374 (2641, 2653)		US74HCT4051	Signetics	74HCT4051 (3057)		GE/RCA	CD74HCT640 (2641)			US74HCT86	Signetics	74HCT86 (3057)	
	Hitachi	HD74HCT374		US74HCT4051	Signetics	74HCT4051 (3057)		Micrel	MIC74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT374	Micrel	MIC74HCT374		US74HCT4051	Signetics	74HCT4051 (3057)		National	MM74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
	Motorola	MC74HCT374		US74HCT4051	Signetics	74HCT4051 (3057)		Plessey	MV74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT374	National	MM74HCT374		US74HCT4051	Signetics	74HCT4051 (3057)		SGS-Thomson	M74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
	Plessey	MV74HCT374		US74HCT4051	Signetics	74HCT4051 (3057)		Signetics	74HCT574 (3057)			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT374	SGS-Thomson	M74HCT374		US74HCT4051	Signetics	74HCT4051 (3057)		TI	SN74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
	Signetics	74HCT374 (3057)		US74HCT4051	Signetics	74HCT4051 (3057)		Toshiba	TC74HCT574			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT377	Supertex	74HCT374		US74HCT4051	Signetics	74HCT4051 (3057)		GE/RCA	CD74HCT643 (2641)			US74HCT86	Signetics	74HCT86 (3057)	
	TI	SN74HCT374		US74HCT4051	Signetics	74HCT4051 (3057)		Micrel	MIC74HCT643			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT377	GE/RCA	CD74HCT377 (2641)		US74HCT4051	Signetics	74HCT4051 (3057)		National	MM74HCT643			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT377		US74HCT4051	Signetics	74HCT4051 (3057)		Plessey	MV74HCT643			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT390	GE/RCA	CD74HCT390 (2641)		US74HCT4051	Signetics	74HCT4051 (3057)		SGS-Thomson	M74HCT643			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT390		US74HCT4051	Signetics	74HCT4051 (3057)		Signetics	74HCT643 (3057)			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT393	GE/RCA	CD74HCT393 (2641)		US74HCT4051	Signetics	74HCT4051 (3057)		TI	SN74HCT643			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT393		US74HCT4051	Signetics	74HCT4051 (3057)		Toshiba	TC74HCT643A			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT4002	GE/RCA	CD74HCT4002 (2641)		US74HCT4051	Signetics	74HCT4051 (3057)		GE/RCA	CD74HCT646 (2641)			US74HCT86	Signetics	74HCT86 (3057)	
	National	MM74HCT4002		US74HCT4051	Signetics	74HCT4051 (3057)		Micrel	MIC74HCT646			US74HCT86	Signetics	74HCT86 (3057)	
US74HCT4002	Signetics	74HCT4002 (3057)		US74HCT4051	Signetics	74HCT4051 (3057)		National	MM74HCT646			US74HCT86	Signetics	74HCT86 (3057)	
	Signetics	74HCT4002 (3057)		US74HCT4051	Signetics	74HCT4051 (3057)		Plessey	MV74HCT646			US74HCT86	Signetics	74HCT86 (3057)	
	(Continued)			US74HCT4051	Signetics	74HCT4051 (3057)		SGS-Thomson	M74HCT646			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		Signetics	74HCT646 (3057)			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		TI	SN74HCT646			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		Toshiba	TC74HCT646A			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		GE/RCA	CD74HCT648 (2641)			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		Micrel	MIC74HCT648			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		National	MM74HCT648			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		Plessey	MV74HCT648			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		SGS-Thomson	M74HCT648			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		Signetics	74HCT648 (3057)			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		TI	SN74HCT648			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		Toshiba	TC74HCT648A			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		GE/RCA	CD74HCT688 (2641, 2649)			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		Micrel	MIC74HCT688			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		National	MM74HCT688			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		Plessey	MV74HCT688			US74HCT86	Signetics	74HCT86 (3057)	
				US74HCT4051	Signetics	74HCT4051 (3057)		SGS-Thomson	M74HCT688			US74HCT86	Signetics	74HCT86 (3057)	

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Universal (Cont'd)				(Cont'd)				(Cont'd)				(Cont'd)			
• US74HC112	SGS-Thomson	M74HC112	(3057)	• US74HC138	TI	SN74HC138	(3340)	• US74HC160	GE/RCA	CD74HC160	(2640)	• US74HC174	Motorola	MC74HC174	(2942)
		74HC112	(3057)		Toshiba	TC74HC138A	(3340)		Motorola	MC74HC160	(2942)		National	MM74HC174	(3057)
• US74HC113	GE/RCA	CD74HC113	(3340)	• US74HC139	GE/RCA	CD74HC139	(2640)		National	MM74HC160	(2942)		SGS-Thomson	M74HC174	(3057)
	Hitachi	HD74HC113	(2941)		Motorola	MC74HC139	(2945)		SGS-Thomson	M74HC160	(3057)		TI	SN74HC174	(3340)
	Motorola	MC74HC113	(2941)		National	MM74HC139	(3340)	• US74HC161	GE/RCA	CD74HC161	(2640)	• US74HC175	GE/RCA	CD74HC175	(2640)
	National	MM74HC113	(2941)		SGS-Thomson	M74HC139	(3057)		Hitachi	HD74HC161	(2942)		Hitachi	HD74HC175	(2942)
	SGS-Thomson	M74HC113	(3057)		TI	SN74HC139	(3340)		Motorola	MC74HC161	(2942)		Motorola	MC74HC175	(2942)
	Signetics	74HC113	(3057)	• US74HC14	GE/RCA	CD74HC14	(2640)		National	MM74HC161	(3057)		National	MM74HC175	(3057)
	TI	SN74HC113	(3340)		Hitachi	HD74HC14	(2940)		SGS-Thomson	M74HC161	(3057)		SGS-Thomson	M74HC175	(3057)
• US74HC123	GE/RCA	CD74HC123	(2640)		Motorola	MC74HC14	(2940)	• US74HC162	GE/RCA	CD74HC162	(2640)	• US74HC190	GE/RCA	CD74HC190	(2640)
	Hitachi	HD74HC123	(2640)		National	MM74HC14	(3340)		Hitachi	HD74HC162	(2942)		Hitachi	HD74HC190	(2640)
	Motorola	MC74HC123A	(2640)		SGS-Thomson	M74HC14	(3057)		Motorola	MC74HC162	(2942)		Motorola	MC74HC190	(2640)
	National	MM74HC123	(2640)	• US74HC147	GE/RCA	CD74HC147	(2640)		National	MM74HC162	(3057)		National	MM74HC190	(2640)
	SGS-Thomson	M74HC123	(3057)		Hitachi	HD74HC147	(2940)		SGS-Thomson	M74HC162	(3057)		SGS-Thomson	M74HC190	(3057)
	Signetics	74HC123	(3057)		Motorola	MC74HC147	(2940)	• US74HC163	GE/RCA	CD74HC163	(2640)	• US74HC191	GE/RCA	CD74HC191	(2640)
• US74HC125	GE/RCA	CD74HC125	(2640)		National	MM74HC147	(3340)		Hitachi	HD74HC163	(2942)		Hitachi	HD74HC191	(2640)
	Hitachi	HD74HC125	(2939)		SGS-Thomson	M74HC147	(3057)		Motorola	MC74HC163	(2942)		Motorola	MC74HC191	(2640)
	Motorola	MC74HC125	(2939)		TI	SN74HC147	(3340)		National	MM74HC163	(3057)		National	MM74HC191	(2640)
	National	MM74HC125	(2939)	US74HC151	GE/RCA	CD74HC151	(2640)		SGS-Thomson	M74HC163	(3057)	• US74HC192	GE/RCA	CD74HC192	(2640)
	SGS-Thomson	M74HC125	(3057)		Hitachi	HD74HC151	(2944)		TI	SN74HC163	(3340)		Hitachi	HD74HC192	(2640)
	Signetics	74HC125	(3057)		Motorola	MC74HC151	(2944)		TI	SN74HC163	(3340)		Motorola	MC74HC192	(2640)
	TI	SN74HC125	(3340)		National	MM74HC151	(3340)		Motorola	MC74HC163	(2942)		National	MM74HC192	(2640)
• US74HC126	GE/RCA	CD74HC126	(2640)		SGS-Thomson	M74HC151	(3057)		National	MM74HC163	(3057)		SGS-Thomson	M74HC192	(2640)
	Hitachi	HD74HC126	(2939)	• US74HC153	GE/RCA	CD74HC153	(2640)		SGS-Thomson	M74HC163	(3057)		Hitachi	HD74HC192	(2640)
	Motorola	MC74HC126	(2939)		Hitachi	HD74HC153	(2944)		TI	SN74HC163	(3340)		Motorola	MC74HC192	(2640)
	National	MM74HC126	(2939)		Motorola	MC74HC153	(2944)		TI	SN74HC163	(3340)		National	MM74HC192	(2640)
	SGS-Thomson	M74HC126	(3057)		National	MM74HC153	(3340)	• US74HC164	GE/RCA	CD74HC164	(2640)	• US74HC193	GE/RCA	CD74HC193	(2640)
	Signetics	74HC126	(3057)		SGS-Thomson	M74HC153	(3057)		Hitachi	HD74HC164	(2943)		Hitachi	HD74HC193	(2640)
	TI	SN74HC126	(3340)		TI	SN74HC153	(3340)		Motorola	MC74HC164	(2943)		Motorola	MC74HC193	(2640)
• US74HC132	GE/RCA	CD74HC132	(2640)		Motorola	MC74HC153	(2944)		National	MM74HC164	(3057)		National	MM74HC193	(2640)
	Hitachi	HD74HC132	(2937, 2940)		National	MM74HC153	(3340)		SGS-Thomson	M74HC164	(3057)		SGS-Thomson	M74HC193	(3057)
	Motorola	MC74HC132	(2937, 2940)	• US74HC154	GE/RCA	CD74HC154	(2640)		SGS-Thomson	M74HC164	(3057)		Hitachi	HD74HC193	(3340)
	National	MM74HC132	(2937, 2940)		Hitachi	HD74HC154	(2945)	• US74HC165	GE/RCA	CD74HC165	(2640)	• US74HC194	GE/RCA	CD74HC194	(2640)
	SGS-Thomson	M74HC132	(3057)		Motorola	MC74HC154	(2945)		Hitachi	HD74HC165	(2943)		Hitachi	HD74HC194	(2640)
• US74HC133	GE/RCA	CD74HC133	(2937)		National	MM74HC154	(3340)		Motorola	MC74HC165	(2943)		Motorola	MC74HC194	(2944)
	Hitachi	HD74HC133	(2937)		SGS-Thomson	M74HC154	(3057)	• US74HC166	GE/RCA	CD74HC166	(2640)		National	MM74HC194	(2944)
	Motorola	MC74HC133	(2937)		TI	SN74HC154	(3340)		Hitachi	HD74HC166	(2943)		SGS-Thomson	M74HC194	(3057)
	National	MM74HC133	(2937)		Motorola	MC74HC154	(2943)		National	MM74HC166	(3057)	• US74HC195	GE/RCA	CD74HC195	(2640)
	SGS-Thomson	M74HC133	(3057)	• US74HC157	GE/RCA	CD74HC157	(2640)		SGS-Thomson	M74HC166	(3057)		Hitachi	HD74HC195	(2944)
	TI	SN74HC133	(3340)		Hitachi	HD74HC157	(2944)		TI	SN74HC166	(3340)		Motorola	MC74HC195	(2944)
• US74HC137	GE/RCA	CD74HC137	(2640)		Motorola	MC74HC157	(2944)		Motorola	MC74HC166	(2943)		National	MM74HC195	(2944)
	Hitachi	HD74HC137	(2945)		National	MM74HC157	(3340)		National	MM74HC166	(3057)		SGS-Thomson	M74HC195	(3057)
	Motorola	MC74HC137	(2945)		SGS-Thomson	M74HC157	(3057)	• US74HC173	GE/RCA	CD74HC173	(2640)		TI	SN74HC195	(3340)
	National	MM74HC137	(2945)		TI	SN74HC157	(3340)		Hitachi	HD74HC173	(2942)	• US74HC20	GE/RCA	CD74HC20	(2640)
	SGS-Thomson	M74HC137	(3057)		Motorola	MC74HC157	(2943)		Motorola	MC74HC173	(2942)		Hitachi	HD74HC20	(2937)
	Signetics	74HC137	(3057)	• US74HC158	GE/RCA	CD74HC158	(2640)		National	MM74HC173	(3057)		Motorola	MC74HC20	(2937)
	TI	SN74HC137	(3340)		Hitachi	HD74HC158	(2944)		SGS-Thomson	M74HC173	(3057)		National	MM74HC20	(2937)
• US74HC138	GE/RCA	CD74HC138	(2640)		Motorola	MC74HC158	(2944)	• US74HC174	GE/RCA	CD74HC174	(2640)		SGS-Thomson	M74HC20	(3057)
	Hitachi	HD74HC138	(2945)		National	MM74HC158	(3340)		Hitachi	HD74HC174	(2942)		TI	SN74HC20	(3057)
	Motorola	MC74HC138	(2945)		SGS-Thomson	M74HC158	(3057)		National	MM74HC174	(3057)		Motorola	MC74HC20A	(3340)
	National	MM74HC138	(2945)		TI	SN74HC158	(3340)		SGS-Thomson	M74HC174	(3057)		TI	SN74HC20A	(3340)
	SGS-Thomson	M74HC138	(3057)		Motorola	MC74HC158A	(3340)		TI	SN74HC174	(3340)		Motorola	MC74HC20A	(3340)
	Signetics	74HC138	(3057)		SGS-Thomson	M74HC158A	(3340)		Hitachi	HD74HC174	(2942)		TI	SN74HC20A	(3340)
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• Discontinued

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Universal (Cont'd)				• US74HC4060	GE/RCA	CD74HC4060 (2641)		• US74HC4543	Performance P4C1682 (Cont'd)			• US74HC573	National	MM74HC573 (Cont'd)	
• US74HC4020	GE/RCA	CD74HC4020 (2641)		Motorola	MC74HC4060 (2943)			Saratoga	SSM6172			SGS-Thomson	MM74HC573		
Hitachi	HD74HC4020			National	MM74HC4060			SGS-Thomson				Signetics	74HC573 (3057)		
Motorola	MC74HC4020 (2943)			SGS-Thomson	M74HC4060			Signetics	74HC4543 (3057)			TI	SN74HC573		
National	MM74HC4020			Signetics	74HC4060 (3057)			Toshiba	TC74HC4543A (3340)			Toshiba	TC74HC573A (3340)		
SGS-Thomson	M74HC4020			TI	SN74HC4060			VLSI Tech	VT20C72 (3343, 3351)						
Signetics	74HC4020 (3057)			Toshiba	TC74HC4060A (3340)			GE/RCA	CD74HC51			• US74HC574	GE/RCA	CD74HC574 (2641)	
TI	SN74HC4020			• US74HC4066	GE/RCA	CD74HC4066 (2641)		Hitachi	HD74HC51			Hitachi	HD74HC574		
Toshiba	TC74HC4020 (3340)			Motorola	MC74HC4066 (2945)			Motorola	MC74HC51 (2938)			Motorola	MC74HC574 (2942)		
• US74HC4024	GE/RCA	CD74HC4024 (2641)		National	MM74HC4066			National	MM74HC51			National	MM74HC574		
Hitachi	HD74HC4024			SGS-Thomson	M74HC4066			SGS-Thomson	MC74HC51			SGS-Thomson	M74HC574		
Motorola	MC74HC4024 (2943)			Signetics	74HC4066 (3057)			Signetics	74HC51			Signetics	74HC574 (3057)		
National	MM74HC4024			TI	SN74HC4066			TI	SN74HC51			TI	SN74HC574		
SGS-Thomson	M74HC4024			Toshiba	TC74HC4066A (3340)			Toshiba	TC74HC51A (3340)			Toshiba	TC74HC574A (3340)		
Signetics	74HC4024 (3057)			• US74HC4075	Cypress	CY7C167 (2580)		Hitachi	HD74HC533			• US74HC58	Motorola	MC74HC58 (2938)	
TI	SN74HC4024			GE/RCA	CD74HC4075 (2641)			Motorola	MC74HC533 (2941)			National	MM74HC58		
Toshiba	TC74HC4024 (3340)			Inmos	IMS1400			National	MM74HC533			TI	SN74HC58		
• US74HC4040	GE/RCA	CD74HC4040 (2641)		Matra-Harris	HM65263			SGS-Thomson	M74HC533			• US74HC589	Motorola	MC74HC589 (2944)	
Hitachi	HD74HC4040			Motorola	MC74HC4075 (2937)			Signetics	74HC533 (3057)			National	MM74HC589		
Motorola	MC74HC4040 (2943)			National	MM74HC4075			TI	SN74HC533			TI	SN74HC589		
National	MM74HC4040			Panasonic	MM74HC4075			Toshiba	TC74HC533A (3340)			Hitachi	HD74HC590		
SGS-Thomson	M74HC4040			SGS-Thomson	MN74HC4075			GE/RCA	CD74HC534 (2641)			Motorola	MC74HC590		
Signetics	74HC4040 (3057)			Sharp	M74HC4075			Hitachi	HD74HC534			National	MM74HC590		
TI	SN74HC4040			Signetics	LH5167			Motorola	MC74HC534 (2942)			SGS-Thomson	M74HC590		
Toshiba	TC74HC4040 (3340)			STC	74HC4075			National	MM74HC534			TI	SN74HC590		
• US74HC4049	GE/RCA	CD74HC4049 (2641)		TI	SMJ61CD16			SGS-Thomson	M74HC534			• US74HC592	Toshiba	TC74HC590 (3340)	
Motorola	MC74HC4049 (2939)			SN74HC4075	TC74HC4075A (3340)			Signetics	74HC534 (3057)			Hitachi	HD74HC592		
National	MM74HC4049			VLSI Tech	VT20C68 (3343, 3350)			TI	SN74HC534			Motorola	MC74HC592		
SGS-Thomson	M74HC4049			Motorola	MC74HC4078 (2938)			Toshiba	TC74HC534A (3340)			National	MM74HC592		
Signetics	74HC4049 (3057)			National	MM74HC4078			GE/RCA	CD74HC540 (2641)			TI	SN74HC592		
TI	SN74HC4049			SGS-Thomson	M74HC4078			Hitachi	HD74HC540			• US74HC593	Toshiba	TC74HC592 (3340)	
Toshiba	TC74HC4049 (3340)			TI	SN74HC4078A			Motorola	MC74HC540 (2940)			Hitachi	HD74HC593		
• US74HC4050	GE/RCA	CD74HC4050 (2641)		Toshiba	TC74HC4078 (3340)			National	MM74HC540			Motorola	MC74HC593		
Motorola	MC74HC4050 (2939)			• US74HC42	GE/RCA	CD74HC42 (2640)		SGS-Thomson	M74HC540			National	MM74HC593		
National	MM74HC4050			Hitachi	HD74HC42			Signetics	74HC540 (3057)			SGS-Thomson	TC74HC593 (3340)		
SGS-Thomson	M74HC4050			Motorola	MC74HC42 (2945)			TI	SN74HC540			TI	SN74HC595		
Signetics	74HC4050 (3057)			National	MM74HC42			Toshiba	TC74HC540A (3340)			Motorola	MC74HC595 (3340)		
Toshiba	TC74HC4050 (3340)			SGS-Thomson	M74HC42			GE/RCA	CD74HC541 (2641)			• US74HC595	Toshiba	TC74HC595A (3340)	
• US74HC4051	GE/RCA	CD74HC4051 (2641, 2655)		Signetics	74HC42 (3057)			Hitachi	HD74HC541			National	MM74HC595		
Motorola	MC74HC4051 (2945)			Toshiba	TC74HC42A (3340)			Motorola	MC74HC541 (2940)			TI	SN74HC595		
National	MM74HC4051			Hitachi	HD74HC423			National	MM74HC541			• US74HC597	Vitelis	V61C62	
SGS-Thomson	M74HC4051			National	MM74HC423A			Signetics	74HC541 (3057)			VLSI Tech	CT64KS4		
Signetics	74HC4051 (3057)			TI	SN74HC423			TI	SN74HC541			GE/RCA	CD74HC597 (2641)		
TI	SN74HC4051			Toshiba	TC74HC423			Toshiba	TC74HC541A (3340)			Hitachi	HD74HC597		
Toshiba	TC74HC4051A (3340)			GE/RCA	CD74HC4514 (2641)			• US74HC563	GE/RCA	CD74HC563 (2641)		Motorola	MC74HC597 (2944)		
• US74HC4052	GE/RCA	CD74HC4052 (2641, 2655)		Hitachi	HD74HC4514			Hitachi	HD74HC563			National	MM74HC597		
Motorola	MC74HC4052 (2945)			Motorola	MC74HC4514 (2945)			Motorola	MC74HC563			SGS-Thomson	M74HC597		
National	MM74HC4052			National	MM74HC4514			National	MM74HC563			Signetics	74HC597 (3057)		
SGS-Thomson	M74HC4052			SGS-Thomson	M74HC4514			SGS-Thomson	M74HC563			TI	SN74HC597		
Signetics	74HC4052 (3057)			Signetics	74HC4514 (3057)			Signetics	74HC563 (3057)			Toshiba	TC74HC597A (3340)		
TI	SN74HC4052			Toshiba	TC74HC4514A (3340)			TI	SN74HC563			• US74HC640	GE/RCA	CD74HC640 (2641)	
Toshiba	TC74HC4052A (3340)			• US74HC4538	GE/RCA	CD74HC4538 (2641)		Toshiba	TC74HC563A (3340)			Hitachi	HD74HC640		
• US74HC4053	GE/RCA	CD74HC4053 (2641, 2655)		Motorola	MC74HC4538 (2641)			GE/RCA	CD74HC564 (2641)			Motorola	MC74HC640 (2940)		
Motorola	MC74HC4053 (2945)			National	MM74HC4538			Hitachi	HD74HC564			National	MM74HC640		
National	MM74HC4053			SGS-Thomson	M74HC4538			Motorola	MC74HC564 (2942)			SGS-Thomson	M74HC640		
SGS-Thomson	M74HC4053			Signetics	74HC4538 (3057)			National	MM74HC564			Signetics	74HC640 (3057)		
Signetics	74HC4053 (3057)			Toshiba	TC74HC4538A (3340)			SGS-Thomson	M74HC564			TI	SN74HC640		
TI	SN74HC4053			• US74HC4543	Cypress	CY7C172 (2580)		Signetics	74HC564 (3057)			Toshiba	TC74HC640 (3340)		
Toshiba	TC74HC4053A (3340)			GE/RCA	CD74HC4543 (2641, 2653)			TI	SN74HC564			• US74HC643	GE/RCA	CD74HC643 (2641)	
• US74HC4538	GE/RCA	CD74HC4538 (2641)		IDT	IDT1782			Toshiba	TC74HC564A (3340)			Hitachi	HD74HC643		
Motorola	MC74HC4538 (2946)			• US74HC4543	MicronTech	MT5C1607		• US74HC573	GE/RCA	CD74HC573 (2641)		Motorola	MC74HC643		
National	MM74HC4543			Motorola	MC74HC4543 (2946)			Hitachi	HD74HC573			National	MM74HC643		
(Continued)				(Continued)				Motorola	MC74HC573 (2941)			SGS-Thomson	M74HC643		
								(Continued)				Signetics	74HC643 (3057)		
												(Continued)			

• Discontinued

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ALTERNATE SOURCE DIRECTORY

Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Universal (Cont'd)				US75HCT574 (Cont'd)				V61C16 (Cont'd)				V61C64 (Cont'd)			
♦ US74HC643		(Cont'd)		TI		SN74HCT574		Saratoga		SSM6116		Performance		P4C164	
Toshiba		TC74HC643A		Toshiba		TC74HCT574		SGS-Thomson		ET2128		S-MOS		P4C188	
♦ US74HC646	GE/RCA	CD74HC646	(2641)	V51C105	NEC	μPD424258		Sharp		MK2817		Samsung		SRM2064	(3036)
Hitachi		HD74HC646		Samsung		KM44C256		Signetics		MK6116		Sharp		SRM2264	(3036)
Motorola		MC74HC646	(2940)	Sharp		LH64256		Sony		LH5115		Sony		LM6264	(3036)
National		MM74HC646		Fujitsu		MBM100470A		Sprague		LD5165				LM6264A	(3036)
SGS-Thomson		M74HC646		Inmos		MB100470		STC		LD5165				LM6264A	(3036)
Signetics		74HC646	(3057)	NEC		IMS2800		TI		LD5165				LM6264A	(3036)
TI		SN74HC646		Vitellic		IMS2801		Toshiba		LD5165				LM6264A	(3036)
Toshiba		TC74HC646A	(3340)	V51C257	Fujitsu	MBM100470A				LD5165				LM6264A	(3036)
♦ US74HC648	GE/RCA	CD74HC648	(2641)	Inmos		MB100470		UMC		LD5165				LM6264A	(3036)
Hitachi		HD74HC648		NEC		IMS2800		Vitellic		LD5165				LM6264A	(3036)
Motorola		MC74HC648	(2940)	Vitellic		IMS2801		VLSI Tech		LD5165				LM6264A	(3036)
National		MM74HC648		Hitachi		μPB100470		Hitachi		LD5165				LM6264A	(3036)
SGS-Thomson		M74HC648		Hyundai		V51C256		Inmos		LD5165				LM6264A	(3036)
Signetics		74HC648	(3057)	MicronTech		MB81461		IDT		LD5165				LM6264A	(3036)
TI		SN74HC648		Mitsubishi		HM53461		MicronTech		LD5165				LM6264A	(3036)
Toshiba		TC74HC648 (3340)				HM53462		Mitsubishi		LD5165				LM6264A	(3036)
♦ US74HC73	GE/RCA	CD74HC73	(2640)	NEC		HY51C261		Motorola		LD5165				LM6264A	(3036)
Hitachi		HD74HC73		TI		HY51C264		National		LD5165				LM6264A	(3036)
Motorola		MC74HC73	(2941)	Motorola		MT42C4064		NEC		LD5165				LM6264A	(3036)
National		MM74HC73		Cypress		MB81461		S-MOS		LD5165				LM6264A	(3036)
SGS-Thomson		M74HC73		Hitachi		M5M4C264		Saratoga		LD5165				LM6264A	(3036)
Signetics		74HC73	(3057)	Hyundai		μPD41264		SGS-Thomson		LD5165				LM6264A	(3036)
TI		SN74HC73		TI		TMS4461	(3326)			LD5165				LM6264A	(3036)
Toshiba		TC74HC73A (3340)		Motorola		MCM6665		Sony		LD5165				LM6264A	(3036)
♦ US74HC74	GE/RCA	CD74HC74	(2640)	Cypress		CY6116		Toshiba		LD5165				LM6264A	(3036)
Hitachi		HD74HC74		GE/Intersil		CY7C128	(2580)	VLSI Tech		LD5165				LM6264A	(3036)
Motorola		MC74HC74 (2941)		GE/RCA		IH6116	(2670)	Dense-Pac		LD5165				LM6264A	(3036)
National		MM74HC74				CDM6116	(2644, 2653)	Exar		LD5165				LM6264A	(3036)
SGS-Thomson		M74HC74		GoldStar		CDM6116A	(2644, 2653)	Fujitsu		LD5165				LM6264A	(3036)
Signetics		74HC74	(3057)	Harris		GM76C28	(2696, 2700)			LD5165				LM6264A	(3036)
TI		SN74HC74		Hitachi		HM6516	(2747)			LD5165				LM6264A	(3036)
Toshiba		TC74HC74A (3340)		Hyundai		HM65162	(2747)			LD5165				LM6264A	(3036)
♦ US74HC75	GE/RCA	CD74HC75	(2640)	Inmos		HM6116				LD5165				LM6264A	(3036)
Hitachi		HD74HC75		IDT		HM6719				LD5165				LM6264A	(3036)
Motorola		MC74HC75 (2941)				HY61C16A	(2778)			LD5165				LM6264A	(3036)
National		MM74HC75				IMS1433				LD5165				LM6264A	(3036)
SGS-Thomson		M74HC75				IDT6116	(2835)			LD5165				LM6264A	(3036)
Signetics		74HC75	(3057)			IDT6116A	(2835)			LD5165				LM6264A	(3036)
TI		SN74HC75				IDT6116L	(2835)			LD5165				LM6264A	(3036)
Toshiba		TC74HC75A (3340)				IDT6116S	(2835)			LD5165				LM6264A	(3036)
♦ US74HC76	GE/RCA	CD74HC76	(2640)			IDT6166				LD5165				LM6264A	(3036)
Hitachi		HD74HC76				81C28				LD5165				LM6264A	(3036)
Motorola		MC74HC76 (2941)				2128-100	(2877)			LD5165				LM6264A	(3036)
National		MM74HC76				2128-120	(2877)			LD5165				LM6264A	(3036)
SGS-Thomson		M74HC76				2128-150	(2877)			LD5165				LM6264A	(3036)
TI		SN74HC76				2128-200	(2877)			LD5165				LM6264A	(3036)
Toshiba		TC74HC76A (3340)				6116-120	(2877)			LD5165				LM6264A	(3036)
♦ US74HC85	GE/RCA	CD74HC85	(2640)			6116-150	(2877)			LD5165				LM6264A	(3036)
Motorola		MC74HC85 (2946)				6116-200	(2877)			LD5165				LM6264A	(3036)
National		MM74HC85				6116LP-120	(2877)			LD5165				LM6264A	(3036)
SGS-Thomson		M74HC85				6116LP-150	(2877)			LD5165				LM6264A	(3036)
Signetics		74HC85	(3057)			6116LP-200	(2877)			LD5165				LM6264A	(3036)
TI		SN74HC85								LD5165				LM6264A	(3036)
Toshiba		TC74HC85A (3340)								LD5165				LM6264A	(3036)
♦ US74HC86	GE/RCA	CD74HC86	(2640)							LD5165				LM6264A	(3036)
Hitachi		HD74HC86								LD5165				LM6264A	(3036)
Motorola		MC74HC86 (2938)								LD5165				LM6264A	(3036)
National		MM74HC86								LD5165				LM6264A	(3036)
SGS-Thomson		M74HC86								LD5165				LM6264A	(3036)
Signetics		74HC86	(3057)							LD5165				LM6264A	(3036)
TI		SN74HC86								LD5165				LM6264A	(3036)
Toshiba		TC74HC86 (3340)								LD5165				LM6264A	(3036)
♦ US75HCT574	CTI	74HCT574								LD5165				LM6264A	(3036)
GE/RCA		CD74HCT574	(2641)							LD5165				LM6264A	(3036)
Micrel		MIC74HCT574								LD5165				LM6264A	(3036)
National		MM74HCT574								LD5165				LM6264A	(3036)
Plessey		MV74HCT574								LD5165				LM6264A	(3036)
SGS-Thomson		M74HCT574								LD5165				LM6264A	(3036)
Signetics		74HCT574	(3057)							LD5165				LM6264A	(3036)
Supertex		74HCT574								LD5165				LM6264A	(3036)
(Continued)				(Continued)				(Continued)				(Continued)			

♦ Discontinued

The manufacturers report their devices can be used as direct replacements.
Performance details often differ, so compare the specifications considering your requirements.

♦ Discontinued

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◆ Discontinued

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Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page	Manufacturer Device	Replacement Source	Device	IC Master Page
Waferscale Integration (Cont'd)				WS5C49	Fujitsu	(Cont'd)		WS57C256F	(Cont'd)			WS57C45	AMD	AM27S45 AM27S45A AM27S47 CY7C245 (2585) MB7238 MB7238RA PLE11RA8 PLE11RS8 53RA1681 53RA1681AS 53RS1681 53RS1681S 63RA1681 63RA1681AS 63RS1681 63RS1681AS 63RS1681S	
WS27C210L	(Cont'd)					MB7144 MB7144H HM76641 HM76641A 27CX641 (2875) 32Z565 93Z565 93Z665			SGS-Thomson	TS27C256 27C256 CXK54256P SMJ27C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)			Cypress		
Intel	27010				Harris				Signetics	27C256					
Mitsubishi	MSM23C1000 MSM27C101K MSM27C102 MSM27C102K				ICT				Sony	SMJ27C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)			MMI		
National	NMC27C1023 μPDC1024 μPD23C1010				National				Toshiba	TC54256 TC57256 VT27C256					
NEC	MSM271000 MSM271024 SMM63100				Raytheon	29VP864			VLSI Tech	WS57C256 (3390) WS7C256 (3390)					
OKI	TMS27C010 (3326) TMS27C210 (3326) TMX27C210				Waferscale	WS5C49B			Waferscale						
S-MOS					AMD	AM27S49 27S49			Fujitsu	MB3603 27C202					
TI	TMS27C010 (3326) TMS27C210 (3326)				Cypress	CY7C264 (2585)			Intel	μA741 AM27S191 AM27S191SA 27S191					
Toshiba	TC541000 TC571024				Fujitsu	MB7143 MB7144 MB7144H HM76641 HM76641A			National	CY7C291 (2585) CY7C292 (2585) CY7C292A (2585) CY7C292AL (2585)			Signetics	N82HS187 (3232) N82HS197 N82HS199 S82HS187	
WS27C256					Harris				Cypress	HN25169 82S191 53S1681 MCM76101 MCM76160 DM77S191 DM87S191 DM87S291 DM87S291A DM87S291B 93Z510 93Z511 93Z512 93Z511			Atmel	AT27HC641 CS203	
AMD	AM27C256 AT27C256				ICT	27CX641 (2875) 32Z565 93Z565 93Z665			Hitachi	HN25169 82S191 53S1681 MCM76101 MCM76160			Cypress	CY7C261 (2585) CY7C263 (2585) CY7C264 (2585) CD22203 (2645) 27CX641 (2875) 27CX642 (2875) 27HC641 (2908)	
Atmel	MBM27C256A (2628)				National				Intel	DM77S191 DM87S191 DM87S291 DM87S291A DM87S291B 93Z510 93Z511 93Z512 93Z511			GE/RCA	CD22203 (2645) 27CX641 (2875) 27CX642 (2875) 27HC641 (2908)	
Fujitsu	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256				Raytheon	29VP864 N82S641 WS5C49 CY7C251 (2585)			Motorola	DM77S191 DM87S191 DM87S291 DM87S291A DM87S291B 93Z510 93Z511 93Z512 93Z511			Microchip	93Z667 LH5749 LH5762 27HC641 SSI203	
Hitachi	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256				Signetics	N82S641 WS5C49 CY7C251 (2585)			National	DM77S191 DM87S191 DM87S291 DM87S291A DM87S291B 93Z510 93Z511 93Z512 93Z511			National	93Z667 LH5749 LH5762 27HC641 SSI203	
Intel	M27C256 27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256				Waferscale	WS5C49B			TI	TBP38166 TBP38S166 WS57C291 (3390) AM27C256 AT27C256 MBM27C256A (2628)			Sharp	93Z667 LH5749 LH5762 27HC641 SSI203	
Krueger	27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256				AMD	AM27S191 AM27S291 AM27S291A AM27S291SA CY7C291 (2585) MB7138 MB7138E MB7138H 63S1681 63S1681A MCM76 DM878291 93Z511 29683A TBP38A166 TBP38S166 WS57C291 (3390) AM27C256 AT27C256 MBM27C256A (2628)			Waferscale	WS57C291 (3390)			Microchip	93Z667 LH5749 LH5762 27HC641 SSI203	
Microchip	27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256				Fujitsu	MB7138 MB7138E MB7138H 63S1681 63S1681A MCM76 DM878291 93Z511 29683A TBP38A166 TBP38S166 WS57C291 (3390) AM27C256 AT27C256 MBM27C256A (2628)			AMD	AM27C256 AT27C256 MBM27C256A (2628)			National	93Z667 LH5749 LH5762 27HC641 SSI203	
Mitsubishi	MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256				Hitachi	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256			Fujitsu	MB7142 27CX321 (2875) 53S3281 63S3281 DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			Sharp	93Z667 LH5749 LH5762 27HC641 SSI203	
National	NMC27C256 μPD27C256A MSM27C256 27C256				Intel	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256			MMI	53S3281 63S3281 DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			Signetics	93Z667 LH5749 LH5762 27HC641 SSI203	
NEC	μPD27C256A MSM27C256 27C256				Krueger	27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256			National	DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			WaferScale	93Z667 LH5749 LH5762 27HC641 SSI203	
OKI	MSM27C256 27C256				Microchip	27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256			Raytheon	DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			Microchip	93Z667 LH5749 LH5762 27HC641 SSI203	
SGS-Thomson	TS27C256 27C256 CXK54256P SMJ27C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)				Mitsubishi	MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256			Signetics	DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			National	93Z667 LH5749 LH5762 27HC641 SSI203	
Toshiba	TC54256 TC57256 VT27C256 WS57C256 (3390) WS57C256F (3390)				National	NMC27C256 μPD27C256A MSM27C256 27C256			TI	TBP38166 TBP38S166 WS57C291 (3390) AM27C256 AT27C256 MBM27C256A (2628)			WaferScale	93Z667 LH5749 LH5762 27HC641 SSI203	
VLSI Tech	WS57C256 (3390) WS57C256F (3390)				NEC	μPD27C256A MSM27C256 27C256			Waferscale	WS57C291 (3390)			GE/RCA	93Z667 LH5749 LH5762 27HC641 SSI203	
WS27C512L					OKI	MSM27C256 27C256			AMD	AM27C256 AT27C256 MBM27C256A (2628)			ICT	93Z667 LH5749 LH5762 27HC641 SSI203	
Atmel	AT27C512 Fujitsu				SEEQ	27C256			Fujitsu	MB7142 27CX321 (2875) 53S3281 63S3281 DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			Microchip	93Z667 LH5749 LH5762 27HC641 SSI203	
Fujitsu	MBM27C512 Hitachi				SGS-Thomson	TS27C256 27C256 CXK54256P SMJ27C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)			MMI	53S3281 63S3281 DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			National	93Z667 LH5749 LH5762 27HC641 SSI203	
Hitachi	IDT7M856S IDT71256 (2837) IDT8M824 (2872) MD27512 27C512-200 27C512-250 27C512 (2914) MSL27512 μPD27C512 μPD27C512D TMS27C512 SMJ27C512 (3286) TMS27C512 (3326) TMS27PC512 (3326)				TI	TMS27C256 (3326) TMS27PC256 (3326)			National	DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			WaferScale	93Z667 LH5749 LH5762 27HC641 SSI203	
IDT	IDT71256 (2837) IDT8M824 (2872) MD27512 27C512-200 27C512-250 27C512 (2914) MSL27512 μPD27C512 μPD27C512D TMS27C512 SMJ27C512 (3286) TMS27C512 (3326) TMS27PC512 (3326)				Toshiba	TC54256 TC57256 VT27C256 WS27C256 (3390) WS57C256F (3390)			Raytheon	DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			Microchip	93Z667 LH5749 LH5762 27HC641 SSI203	
Intel	MD27512 27C512-200 27C512-250 27C512 (2914) MSL27512 μPD27C512 μPD27C512D TMS27C512 SMJ27C512 (3286) TMS27C512 (3326) TMS27PC512 (3326)				VLSI Tech	TC54256 TC57256 VT27C256 WS27C256 (3390) WS57C256F (3390)			Signetics	DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			National	93Z667 LH5749 LH5762 27HC641 SSI203	
Krueger	27C512-200 27C512-250 27C512 (2914) MSL27512 μPD27C512 μPD27C512D TMS27C512 SMJ27C512 (3286) TMS27C512 (3326) TMS27PC512 (3326)				Fujitsu	MBM27C64 M27C64 27C64 87C64 27C64-200 27C64-250 27C64-300 27C64 (2911) MSM27C64 SPM27C64			TI	TBP38166 TBP38S166 WS57C291 (3390) AM27C256 AT27C256 MBM27C256A (2628)			WaferScale	93Z667 LH5749 LH5762 27HC641 SSI203	
Microchip	27C64 27C64-200 27C64-250 27C64-300 27C64 (2911) MSM27C64 SPM27C64				Hitachi	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256			Waferscale	WS57C291 (3390)			Microchip	93Z667 LH5749 LH5762 27HC641 SSI203	
Mitsubishi	MSL27512 μPD27C512 μPD27C512D TMS27C512 SMJ27C512 (3286) TMS27C512 (3326) TMS27PC512 (3326)				Intel	HN27C256 M27C256 27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256			AMD	AM27C256 AT27C256 MBM27C256A (2628)			National	93Z667 LH5749 LH5762 27HC641 SSI203	
NEC	μPD27C512 μPD27C512D TMS27C512 SMJ27C512 (3286) TMS27C512 (3326) TMS27PC512 (3326)				Krueger	27C256 27C256-200 27C256-250 27C256-300 RO9256 27C256 (2913) MSL27256 NMC27C256 μPD27C256A MSM27C256 27C256			Fujitsu	MB7142 27CX321 (2875) 53S3281 63S3281 DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			WaferScale	93Z667 LH5749 LH5762 27HC641 SSI203	
Ricoh	TMS27C512 SMJ27C512 (3286) TMS27C512 (3326) TMS27PC512 (3326)				SGS-Thomson	TS27C256 27C256 CXK54256P SMJ27C256 (3286) TMS27C256 (3326) TMS27PC256 (3326)			MMI	53S3281 63S3281 DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			Microchip	93Z667 LH5749 LH5762 27HC641 SSI203	
TI	TMS27C512 (3326) TMS27PC512 (3326)				TI	TMS27C256 (3326) TMS27PC256 (3326)			National	DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			National	93Z667 LH5749 LH5762 27HC641 SSI203	
Toshiba	TC54512 TC57512 VT27C512 MBM27C64 M27C64 27C64 87C64 27C64-200 27C64-250 27C64-300 27C64 (2911) MSM27C64 SPM27C64				Toshiba	TC54256 TC57256 VT27C256 WS27C256 (3390) WS57C256F (3390)			Signetics	DM77S321 DM87S321 R29671D 29671A N82H321 WS57C43B (3390) WS57C43D (3390) AM27PS43 AM27S43 AM27S43A 27S43			WaferScale	93Z667 LH5749 LH5762 27HC641 SSI203	
VLSI Tech	WS57C256 (3390) WS57C256F (3390)				VLSI Tech	TC54256 TC57256 VT27C256 WS27C256 (3390) WS57C256F (3390)			Waferscale	WS57C291 (3390)			Microchip	93Z667 LH5749 LH5762 27HC641 SSI203	
Fujitsu	MBM27C64 M27C64 27C64 87C64 27C64-200 27C64-250 27C64-300 27C64 (2911) MS														

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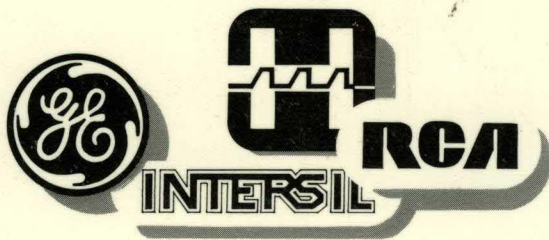
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